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Message from the Editor-in-Chief

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TOJET welcomes you. TOJET looks for academic articles on the issues of educational technology and may address assessment, attitudes, beliefs, curriculum, equity, research, translating research into practice, learning theory, alternative conceptions, socio-cultural issues, special populations, and integration of subjects. The articles should discuss the perspectives of students, teachers, school administrators and communities. TOJET contributes to the development of both theory and practice in the field of educational technology. TOJET accepts academically robust papers, topical articles and case studies that contribute to the area of research in educational technology.

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This journal was initiated in October 2002 to share knowledge with researchers, innovators, practitioners, and administrators of education. We are delighted that more than many researchers, practitioners, administrators, educators, teachers, parents, and students from around the world have visited all issues for twenty-one years. It means that TOJET has diffused successfully new developments on educational technology around the world. We hope that this volume seven issue one will also successfully accomplish our global educational goal.

I am always honored to be the editor in chief of TOJET. Many persons gave their valuable contributions for this issue. I would like to thank the guest editor and the editorial board of this issue.

TOJET, Sakarya University, Ohio University, and other international universities will organize the International Educational Technology Conference (IETC 2024, www.iet-c.net) in August 2024 in Boston, USA.

The guest editor of this issue is Assoc. Prof. Dr. Dilan Çiftçi. TOJET thanks the guest editor and the editorial board of this issue: Prof. Dr. Aytekin İşman, Prof. Dr. Orhan Çiftçi, Prof. Dr. Mehmet Çağlar, Assoc. Prof. Dr. Mustafa Öztunc, Assoc. Prof. Dr. Nesrin Akıncı Çötok and Assist. Prof. Dr. Dönay Kara.

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January 01, 2024

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A Theoretical Suggestion on Testing Measurement Invariance in Adapting Parametric Measurement Tools

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Abstract
This research paper investigated the importance of conducting measurement invariance analysis in developing measurement tools for assessing differences between and among study variables. Most of the studies, which tended to develop an inventory to assess the existence of an attitude, behavior, belief, IQ, or an intuition in a person's characterological profile, ignored testing measurement invariance for equivalency between comparable variables. With this finding, measurers lack in true validity and reliability and suffer methodological bias and have little or no chance to figure out the true differences between variables being studied. This article, therefore, explains the necessity and use of measurement invariance analysis when a researcher wanted to develop a new measurement tool or adapt a tool from one source language to another target language. The types of measurement invariance levels mentioned in this study are configural-invariance, scalar invariance, metric invariance and structural invariance analysis. The approaches used to conduct those invariance models and the way they have been interpreted were all discussed in great detail with a robust collection of supportive literature.

Introduction
The variations between groups formed/formed according to criteria like culture, gender, class level, and socioeconomic status are explored in terms of unique psychological structures in various research studies undertaken in the domains of Educational Sciences and Psychology (Lucke, 2005; Gödelek, 2005). The purpose of these investigations is to determine whether there are any variations in the psychological structures of interest between the groups listed, and if so, to draw conclusions regarding the kind and extent of those differences. Group comparisons in these studies primarily rely on measurements (observed scores) associated with the pertinent psychological structure (Wicherts, 2007). Nevertheless, proof that the pertinent metrics possess appropriate psychometric qualities is necessary for the validity of these comparisons to hold. This data frequently bolsters the assumption that a measurement, like Yi, represents an underlying latent structure, like η, within the framework of the Classical Test Theory (CTT) (Vandenberg & Lance, 1998;Vandenberg & Lance, 2000). Consequently, this calls for trust in a metric such as Yi as an indicator of η. In fact, this statement highlights the fact that measuring invariance analysis is a necessary step before group comparisons can be made. Measurement invariance is the formal assessment of a psychological measurement instrument's homogeneity in psychometric qualities among several groups, according to Herdman (1998). To demonstrate measurement invariance, Vandenberg and Lance (2000) provide a five-stage logical process and methodologies for hypothesis testing (Schraw, Dunkle, & Bendixen, 1995). A hypothesis concerning the degree of measurement invariance is successively examined at each of these phases (Schommer, 1990). Each model in this method is built at a certain stage using the model from the stage before it. As a result, measurement invariance at a given stage is investigated by contrasting the model's fit with the data at that stage with the model's fit from the stage before. The phases that the researchers have suggested also point to several kinds of measurement invariance (Salzberger, Sinkovics, & Schlgelmich, 1999)
1. Configural Invariance: This step involves testing a hypothesis about the equality or invariance of a psychological assessment instrument's factor structure between groups. This is known as configuration invariance. If configural invariance is proven, then the assessment instrument's items must reflect the same psychological structure across all groups (Vandenberg and Lance, 1998).(see Fifure 1A and 1B).
2. Metric Invariance: Here, a hypothesis about the equality or invariance of the factor loadings (lambda: λ), or regression slopes, of the items that make up a psychological assessment tool between groups is evaluated (Ravindran, Greene, & DeBacker, 2005). While a substantial difference implies item bias, the absence of a statistically significant difference in the factor loadings for the items between comparison groups suggests that the meanings of the items may be similar or equivalent for these groups (see Figure 1 C and 1D).
3. This step involves testing a hypothesis about the equality or invariance of the constant term (tau: τ) in the regression equations developed for the items that make up the psychological measuring tool (Mark, & Wan, 2005). This is known as scalar invariance. Equal intercepts and metric invariance are prerequisites for scalar invariance in the measuring process (see Figure 1 E and 1 F) (Vandenberg and Lance, 2000). It is said that two scores from Group A assessed in Group B must equal one another for the measurement sources to be equal. It is suggested that there might be bias if the two scores in Group A are equal to three points in Group B (Fleck, Poirier-Littre, M.F., Guelfi, Bourdel, & Loo, 1995). This bias would show up as a difference in the intercepts (Salzberger et al., 1999;

Wicherts, 2007). Two categories of item bias are defined in this regard: (1) Uniform Bias: Items in a measurement instrument that have factor loadings that are invariant between groups but different intercepts for each group are said to display uniform bias and (2) Nonuniform Bias: When a measurement tool has nonuniform bias, different groups have different factor loadings and intercepts of the item types (Eroğlu, & Güven, 2006). The low predicted amount of scores in this case, observed in the group when the τ value is relatively low, depends on both the true value of η and the τ value (Crocker & Algina, 1986; Chan, 2003).
4. Invariant Uniqueness: In this stage, a hypothesis is tested on the equality/invariance of specific variances, i.e., error terms, of the items forming the measuring instrument across comparison groups. Furthermore, it should be mentioned that this test is also regarded as a test of the invariance of the indicators' reliability if proof of the invariance of factor variances is found (Vandenberg and Lance, 2000).
5. In this phase, a hypothesis about the equality or invariance of factor variances among comparison groups is examined (Bryne, & Watkins, 2003). The purpose of this hypothesis test is to ascertain whether the conceptual structure of the construct that the psychological assessment tool is meant to measure, with equal ranks, is the same for the comparison groups with regard to how they react to its indicators (Brown, 2006; Mark and Wan, 2005).

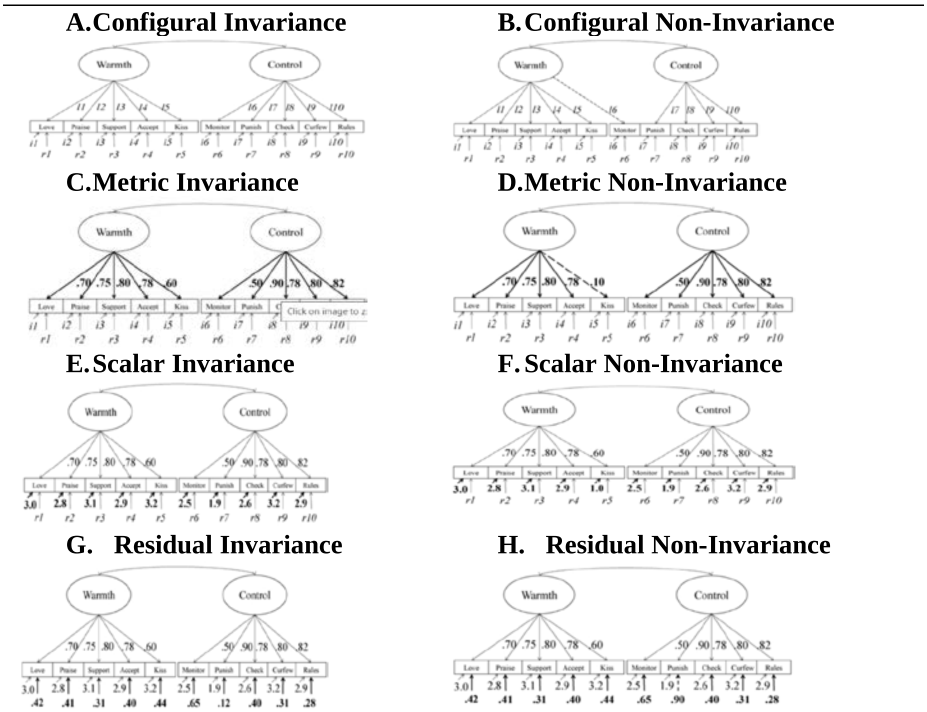

Figure 1. Invariance models in terms of their free estimation levels

Specifically, in this article, those 5 important invariance models are discussed and made invaluable contributions in to how can a study of measurement tool development study can benefit out of its suggestions. This was so crucial since the research into the related literature showed that the majority of studies conducted to develop measurement tools lack in terms of its misuse of statistical techniques and methodology (Bell, 2007). Nevertheless, most of the measurement tools developed in Turkey for assessing a psychological construct have not considered conducting measurement invariance analysis to see if the differences measured are due to true differences or differences that occurred because they were not equivalent. For this purpose, the first issue that need to be discussed in this regard will be the issue of equivalency.

Equivalency in Test Adaptation

Studies pertaining to scale adaptation often involve two primary phases: the analysis of psycholinguistic characteristics (language adaptation) and the assessment of psychometric attributes (reliability and validity). According to many sources (Aksayan and Gözüm 2002; Esin 2014; De Lima Barroso et al. 2018; International Test Commission 2018; Thammaiah et al. 2016; World Health Organization 2018), each of these stages also requires a number of procedures to be completed. These steps are covered in detail in the section that follows, and as a valuable resource, the International Test Commission's (ITC) Guide for Translating and Adapting Tests. Due to variations in conceptualization and expression, a scale's initial structure may alter while being translated into a different language. The scale items must be thoroughly examined, the required translations must be made to assure meaning in the target language, and the scale must be standardized in accordance with the norms of those who use the target language in order to minimize this shift. The scale's psychometric (reliability and validity) scores could be poor if this process doesn't receive the necessary attention. Thus, during the translation process, much consideration should be paid to the choice of translators and the translation methodology (Aksayan and Gözüm 2002). In the current international literature, it is frequently recommended to follow the sequence of the four processes below for adapting a scale to a different language and culture and ensuring linguistic validity (Beaton et al. 2000; De Lima Barroso et al. 2018; International Test Commission 2018; Thammaiah et al. 2016; WHO 2018). Scale adaptation is the process of modifying scales created in any language and culture for use in a different language and culture (Aksayan and Gözüm 2002; Esin 2014). In addition to saving researchers time when creating a new scale, translating and utilizing internationally recognized scales into Turkish facilitates communication and yields information that is comparable to results from other societies. Furthermore, obtaining accurate, valid, and thorough measurement results can be achieved affordably and effectively by employing these standardized measuring instruments during the data collecting process (De Lima Barroso et al. 2018; Esin 2014). Additionally, obtaining accurate, valid, and thorough measurement results can be achieved affordably and effectively by employing standardized measurement instruments during the data collecting process (De Lima Barroso et al. 2018; Esin 2014). Furthermore, translating scales into Turkish could facilitate the process for researchers who lack the skills and expertise to create a scale and increase access to a wider variety of measuring tools for study. A methodical research procedure, scale adaptation can cause confusion if the researcher is unfamiliar with the topic. Consequently, training and advice on the issue may be advantageous for the researcher.

Process of Test Adaptation

Group translation
Using the group translation method, two or more people who are fluent in both languages translate the scale from the originating language into the target language. With this approach, members of the group should translate more freely in order to relieve pressure to persuade one another and come to a compromise. To prevent the use of particular jargon in the relevant sector, it is advised to consider individuals with education from a variety of fields when choosing translators. To prevent the use of particular jargon in the relevant sector, it is advised to consider individuals with education from a variety of fields when choosing translators. Members of the translation team should also have understanding of and experience with research methods, the translation process, and the local culture. Furthermore, researchers must perform follow-up interviews and take part in the writing of the final article rather than serving as translators. Then, researchers and members of the translation group come to a consensus together to create a single text (Esin 2014; International Test Commission 2018; World Health Organization 2018).

Back Translation Method
The second important phase in the language validation process is back translation, which is a suggested way to confirm that an original language translation to the target language is accurate. This phase ensures that conceptual flaws and inconsistencies are understood and acts as a quality control activity. It facilitates comprehending the semantic correspondence between the source and translated texts. The best translators for the back translation process are those who are not affiliated with the research team and are not conversant with the research's subject matter (Beaton et al. 2000; International Test Commission, 2018; World Health Organization, 2018).

Experts View on the Phenomenon Being Studied
This group consists of researchers, translators, and participants from the field who were involved in earlier investigations. The scale owner may be asked to assist in elucidating any differences (if any) that are seen between the original and target versions, or they may be asked to join the expert panel if they are fluent in the language. The adaption of scales discusses the idea of equivalency in language and meaning. The technique of conceptual equivalency is advised for adapting the scale to Turkish, as there may be difficulties in precisely translating some terms and concepts from the original scale to match the linguistic and cultural characteristics of the target language. For this reason, getting professional advice is also recommended. Conveying the same meaning with words and sentences that are culturally specific is taken into consideration in conceptual equivalency. Some elements from the original scale can be translated into the target language utilizing multiple items when it is thought essential. In this instance, the most relevant item may be selected in the item selection stage of the scale's reliability and validity assessment (Aksayan and Gözüm 2002; Esin 2014; WHO 2018).

Initial Application of the Tool Being Adapted
At this point, the scale is usually delivered to a sample of 30 to 40 members of the target audience, and the participants' thoughts and input are used to evaluate the items' acceptability and clarity. Researchers can determine whether the scale is straightforward, intelligible, appropriate for the setting, and simple using this procedure.

Furthermore, this step aids researchers in making sure that the translation is done using appropriate language and expressions that are culturally neutral (Beaton et al. 2000; International Test Commission 2018; World Health Organization 2018).

Assessment of the Psychometric Properties of the Tool Being Adapted
In the second phase of scale adaptation research, the psychometric characteristics of the scale modified for the target language—that is, its validity and reliability—must be investigated. Every measurement instrument is designed to measure a certain property precisely, under a given set of circumstances, and with respect to a particular group of people. It is inappropriate to use a measuring tool that is unable to produce precise measures or, if it does, is not acceptable for the purpose for which it was designed. As a result, it's important to take both measuring tool validity and dependability into account. The literature provides some explanations on the significance of sample size determination in reliability and validity investigations. First, the total number of items can be used to establish the sample size in validity and reliability investigations. Working with a sample size that is five to ten times the total number of items is often advised when using this strategy (Esin 2014). Conversely, validity refers to how well a measurement instrument fulfills its intended use and specifies what and how precisely/accurately it measures (Erkuş 2003; Esin 2014). A scale's validity and reliability can be ascertained using a variety of techniques. Table 2 lists these techniques. It is generally advised to utilize at least two methods for each purpose when verifying the validity and reliability of a measurement tool (Erkuş 2003).

Validity and Reliability Issues
In order to determine if the scale as a whole and its sub-dimensions measure the intended domain and whether there are different concepts beyond the intended domain, scope/content validity analysis is carried out (Gözüm and Aksayan 2002). Although content validity is really a procedure that needs to be done when developing a new scale, some literature reports that it may also be used when adapting an existing scale (Gözüm and Aksayan 2002; Esin 2014; Ljungberg et al. 2014). Nonetheless, content validity in this particular setting is not expressly addressed in current international standards (De Lima Barroso et al. 2018; International Test Commission 2018; Thammaiah et al. 2016; WHO 2018). Is content validity still required if there are no items being added or withdrawn from the scale at this time? Five scale adaptation studies in nursing and five in other professions that were completed in the last few years were reviewed in order to investigate this subject.

Conclusion
When a test was adapted from one language to another, measurement invariance must be tested following the adaptation process. This is due to one important reason and it is that the true difference can only be seek between equivalent groups. If the groups are not equivalent with one another that the differences are biased differences and they do not show the truth in advance. The tests that are conducted to test the differences between variables are also limited to the degree of invariance achieved at different levels. For instance, if the measurement model did not display a metric invariance so group-wise mean comparisons cannot be conducted between groups since their distributions are not equivalent. The same is valid through all invariance models. In addition, if there is no factorial variance invariance achieved then no regression analysis should be conducted since there are non-invariant groups. Although correct procedures have been followed through adaptation process, cultural bias may occur due to many tacit knowledge that cannot be directly assessed. Measurement invariance in addition to confirmatory factor analysis need to be thought. Otherwise, they are not considered as comparable measurement models.

References

Bell, P.D. (2007). Predictors of college student achievement in undergraduate asynchronous web-based courses. Education. 127 (4), 523-533. 20 Şubat 2008’de http://web.ebscohost.com/host/pdf?vid=8hid=3&sid=79a809cb-8dbe-48d4-9e0664743b6db9bd%40sessionmgr7

Brown, T. A. (2006). Confirmatory factor analysis for applied research. New York: The Guilford Press.

Bryne, B. M. & Watkins, D. (2003). The ıssue of measurement ınvariance revisited. Journal of Cross-Cultural Psychology. 34, (2), 155-175. 10 Aralık 2004’de http://jcc.sagepub.com/cgi/reprint/34/2/155.pdf

Chan, K. (2003). Hong Kong teacher education students’ epistemological beliefs and approaches to learning. Research in Education. 69, 36-50. 26 Mayıs 2007’de http://web.ebscohost.com/ehost/pdf?vid=23&hid=105&sid=4084c36f-9029-439fa5c89de957c13c3a%40sessionmgr109

Crocker, L. & Algina, J. (1986). Introduction to Classical and Modern Test Theory. Orlando: Harcourt Brace Jovanovich Inc.

Eroğlu, S. E. & Güven, K. (2006). Üniversite öğrencilerinin epistemolojik inançlarının bazı değişkenler açısından incelenmesi. Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 16, 295-312.

Fleck, M.P., Poirier-Littre, M.F., Guelfi, J.D., Bourdel, M.C. & Loo, H. (1995). Factorial structure of the 17-item Hamilton Depression Rating Scale. Acta Psychiatr, 92, 168172. Web: http://www3.interscience. wiley.com/cgibin/fulltext/119231102/PDFSTART?CRETRY=1& SRETRY=0

Mark, B. A. & Wan, T.T.H (2005). Testing measurement equivalence in a patient satisfaction instrument. Western Journal of Nursing Research, 27 (6), 772-787. 14 Ekim 2005'de http://wjn.sagepub.com/cgi/reprint/27/6/772.pdf

Marzooghi, R., Fouladchang, M. & Shemshiri, B. (2008). Gender and grade level differences in epistemological beliefs of ıranian undergraduate students. Journal of Applied Sciences, 8 (24), 4698-4701. 16 Mart 2009'da http://scialert.net/qredirect.php?doi=jas.2008.4698.4701& linkid=pdf

Ravindran, B., Greene, B.A. & DeBacker, T.,K. (2005). Predicting preservice teachers' cognitive engagement with goals and epistemological beliefs. The Journal of Educational Research, 98 (4). 18 Aralık 2008'de http://web.ebscohost.com/ehost/pdf?vid=11&hid =7&sid= a63c1a96-d15a-4695-aa3562626af53d0f%40sessionmgr109

Salzberger, T., Sinkovics, R. R. & Schlgelmich, B. B. (1999). Data equivalence in crosscultural research: A comparison of classical test theory and latent trait theory based approaches. Australasian Marketing Journal, 7 (2), 23-38. 18 Haziran 2007'de http://www.personal.mbs.ac.uk/rsinkovics /pubs/1999-AMJ-Equiv.pdf

Schommer, M. (1990). Effects of beliefs about the nature of knowledge in comprehension. Journal of Educational Psychology, 82, 498-504.

Schraw, G., Dunkle, M. E. & Bendixen, L. D. (1995). Cognitive processes in well-defined and ıll defined problem solving. Applied Cognitive Psychology, 9, 523-538. 10 Nisan 2006'da http://web.ebscohost.com/ehost/pdf?vid=13&hid=105&sid=a63c1a96d15a-4695-aa35-62626af53d0f%40 sessionmgr109

Vandenberg, R.,J & Lance, C.E. (1998). A Summary of the issues underlying measurement equivalence and their implications for interpreting group differences. Research Methods Forum. 25 Ekim 2005'de http://www.aom.pace.edu/rmd/1998_forum_equiv_group_ differences.html

Vandenberg, R.J. & Lance, C.E. (2000). A Review and synthesis of the measurement ınvariance literature: Suggestions, practices, and recommendations for organizational research. Organizational Research Methods, 3 (1), 4-70. 24 Ekim 2005'de http://orm.sagepub.com/cgi/ reprint/3/1/4.pdf

Wicherts, J. M. (2007). Group differences in ıntelligence test performance. Unpublished dissertation, University of Amsterdam. 16 Ocak 2008'de http://www.repository.naturalis.nl/document/ 44999

Gödelek, K. (2005). Güç iktidar bağlamında kadına yönelik şiddet. Muğla Üniversitesi Sosyal Bilimler Enstitüsü Dergisi (İLKE) G, 15, 97-107.

Lucke, J. F. (2005). The alpha and mean of Congeneric Test Theory: An extension of reliability and internal consistency to heterogeneous tests. Applied Psychological Measurements. 29 (1),65-81.

Analysis of National Identity and Cultural Education in the Turkish Series Sector: Magnificent Century Series

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Abstract
Many values and values that are founded on culture and culture play an essential role in understanding societies and transferring the existence of those societies to future generations. There are national heroes of each culture with valuable points, differences, and similarities from its history or its history to the present day. With these similarities, differences and cultural values, each society carries itself to a different point from other societies.
There are various methods in the cultural education of societies, and the success of these methods gives results in proportion to the number of people they can achieve. Television programs and television play an essential role in mass education.
The Turkish series sector usually carries traces of national identity and cultural values. Turkish series often reflect Turkey's historical, cultural and social values. Turkish series reflecting local traditions and customs usually offer cultural education to the audience. Traditional clothes, language use, and food culture elements are frequently processed in series. In addition, the transfer of historical events and cultural heritage is frequently included in these series. In these aspects, Turkish series play an important role in increasing the cultural awareness of society and protecting national identity.
The Turkish series sector and cultural education, together with the traces of identity and cultural education in terms of the Magnificent Century series descriptive analysis and indicator scientific method, were examined with examples. When scientific methods examine descriptive analysis and indicators, many elements such as historical events, cultural structures, clothes, language use and traditional lifestyles are found. This study will discuss the educational relationship by analyzing the' Magnificent Century' series.
Keywords: Culture, Identity, Cultural Education, Turkish Series Sector and Magnificent Century.

Introduction

Suppose it is necessary to explain the word culture briefly. In that case, it is known as the whole of the material and spiritual values produced and produced by society for a historical process. Culture and cultural values are essential in our society, as in every society. In other words, it is an essential and valuable point in Turkish society. The features are that Turkish culture is located at a different point from other cultures, with our unique differences examined.
Education has significant effects from birth to the end of life; it plays a decisive role in success, emotional integrity, and social relations. Learning and teaching, a human activity known, is increasingly more critical in terms of the happiness and success of people, especially in modern societies. The word education has a valuable place in our society with its significant details in terms of meaning in terms of meaning.
The visual communication adventure, which started with the invention of television, has influenced people for many years and directed the people they face. Therefore, it plays a vital role as a cinema in visual communication. It is known that the issue of cultural education has gained a great place in the series sector and that the series is also presented to the audience with essential works in terms of identity and cultural traces. In particular, historical victories and heroism, which have an essential place in Turkish culture, often emerge and aim to educate our cultural values by transferring our cultural values to new generations.
These series often process traditional Turkish family structure, moral values, historical events and social relations. The concept of national identity is often emphasized in these series and is adopted by a broad audience.
National identity contains both cultural and political unity. Therefore, it is positioned in the cultural community as well as in the political community. Political actions, such as drawing geopolitical maps or combining political regimes and states, are also necessary when creating national identity. In this context, it may be necessary to mention the existence of a particular political community in the case of national identity. For a political community to exist, for each individual who constitutes this community, common institutions must have laws that determine or control individual rights and duties. In addition, there are also specific social environments in which individuals belonging to this community will feel and identify themselves, and more importantly, the existence of a piece of

land with clear boundaries and prominent lines (Smith, 1991). In the context of national values, considering the historical past, a shared sense of nation in society is collectively created, and the nation's individual unites itself with an identity of this nation. The individual shares his personality in this direction by equipping with the characteristics associated with national elements, thus gaining a national identity (Ay and Güllü, 2020).
Historical series narratives contribute to the search for a new identity with the recently rising Ottoman influence. According to Oskay (2014), the audience in the historical series is not historical events but the present day. Because the expectations of today's people adapt history, this is not a reminder, but forget the suggestion. In this context, most of the historical narratives on television make it more likely to confront and progress with it rather than to settle with the past (Bilis, 2013).
Historical references are essential in creating a social consciousness and in the creation of identity in ideological terms. In order to make a new view or thought accepted by society, it is necessary to connect with the past and try to show that it is rooted and durable. This aims to show that the new idea does not exist and continues the past. These narratives may affect the perception of history and society's identity and cause a particular perspective of history to come to the forefront (Oter, 2021).
In today's conditions and the search for a new identity, the "Magnificent Century" series has significantly impacted Turkey. Series, fashion, decoration, museum visits, and book printing have influenced many fields. The influence of the "Magnificent Century" spreading social life and the discussions initiated by historians, politicians and critics around the series have attracted attention to how history is used in fictional narratives. Has raised the current discussions. Although the events and characters in the series are separated from historical reality in some sizes, discussions throughout the series emphasize the fine line between history and fiction (Oter, 2021).
The series offers the audience many details about this period by dealing with the historical period of the Ottoman Empire. Reflections of historical characters, palace atmosphere, and important events of that period provide historical information to the audience. Costume and space designs are enriched with original details of that period. Ottoman culture and traditional lifestyles are presented from a universal perspective and offer a different perspective to the audience. However, establishing characters in the series on universal human emotions and relationships helps viewers get ideas about the cultural structures of the period.
Such productions may strongly affect the formation of social awareness about historical figures and events and create a specific identity. However, the fictional narrative of history should be carefully handled with different perspectives and interpretations, and its effects on society should be evaluated. It should consider how such productions affect social, cultural, and political dynamics and at what point they are separated from historical reality. In this context, the Magnificent Century Knee examined national identity and cultural education traces.
This study examines the traces of national identity and cultural education in the Magnificent Century series. In this context, the content and presentation of the array have been focused on how it impacts the perception of national identity and how cultural education is processed. The study investigated how the national identity of the Ottoman period was represented through the series and the effects of this representation on the audience.

National Identity, Cultural Education and Television Series
The concept of identity refers to the self-identification of an individual or a community. A combination of personal characteristics at the individual level and the typical characteristics of a group or community at the social level forms this definition. According to Kemikli (2009), the concept of identity can be seen as an individual's definition of his existence. In forming human and social identities, national identity is combined with national culture. National identity emerges with elements such as that community's shared history, traditions, language and other cultural characteristics (Citizen, 2004). This definition defines *national identity* as a nation or community's uniqueness and cultural identity. On the other hand, culture is an identity that includes the lifestyle and values of society. According to Kunaz (2009), culture is the totality of a society's behaviour patterns, art, beliefs, traditions and other social elements. Therefore, culture reflects the unique identity of a society and contains features that distinguish it from other societies. These concepts constitute an essential basis for understanding the relationship between a person's identity and social identity and societies' uniqueness, cultural diversity and idiosyncrasies. Dec.
In the Ottoman Empire, there was a transition from a national system based on religion to one based on ethnic origin. II. It took place during the constitutional period. Until this period, the meaning of the word "nation" has generally been identified with the possessed religion (Eroğlu, 1992). The word nation is a concept that contains language, religion, ethnicity, homeland and shared values and expresses the unity of these elements. Akçura (2007) stated that the definition of a nation is different for each nation depending on the current conditions and goals and made the following definition with a more conciliatory understanding: a nation is a human community that forms unity and solidarity in its social conscience, arising from the fundamental unity of race and language. This point of view emphasizes that a nation is not only a religious concept but also a social unity formed by the combination of different elements such as language, race and social conscience. Dec. This shows that cultural and ethnic characteristics, as well as religion, are influential in the formation of the nation, and social solidarity is based on different factors.

The national identity that is evident in the establishment of the Republic of Turkey is the Turkish identity. During the 1920s, Kemalism shaped the Turkish definition by developing it based on the land, independent of religion. In the 1924 Constitution, the definition of Turkish was expressed as "Turkish people can be 'adopted' as a citizen without any difference between religion and race". Mustafa Kemal proposed to call the Turkish people who founded the Republic the "Turkish nation." In the Decrees of the CHP in 1927, the party stated that the strongest bond between citizens is unity in language, feelings and ideas. As a result of this union, it was thought that non-Turkish Muslim immigrants could stay out, and then the emphasis on unity in religion came to the fore. This emphasis has left non-Muslims out of the homogeneous society in a sense. Çağaptay (2007) has defined a three-stage approach to Turkishness based on these Turkish definitions. The farthest tier is the land-based approach, while the second tier is the religious approach, and the third is the ethnic approach that is closest to the centre. In this context, it has been suggested that individuals at the religious level have shifted towards ethnic identity over time, while individuals at the land-based level have been pushed out. When evaluated, it turns out that an understanding inherited from the Ottoman Empire exists in the identity construction of the newly established state. In the Ottoman Empire, each religion pointed to a separate nation. In this context, the "Turkish" ethnic identity was processed together with the Muslim emphasis in the establishment of the Republic of Turkey. The ideal homogeneous structure has been shaped as a Turkish-Muslim one. Individuals outside this structure have either had to choose the state's identity as a superior identity or come into conflict with the state.

Culture is a somewhat controversial concept because it is considered by different people in different contexts (Nieto, 1999). This concept is one of the concepts that has the most comprehensive use in sociology studies. The meaning of culture has a wide variety of interpretations and definitions. Culture is generally divided into three main groups: aesthetic, ethnographic and symbolic (Edles, 2005). Aesthetic definitions treat culture as an expression of art, beauty and aesthetic expressions.

On the other hand, ethnographic definitions consider culture as a society's lifestyle, traditions, beliefs and social structures. Symbolic definitions, on the other hand, perceive culture as meaning systems expressed through symbols, rituals, language and communication. These different definitions show that culture is a multifaceted and complex concept. Culture includes many elements that shape human behaviour, beliefs, values and social structure, and it has a wide range of meanings when viewed from various disciplines. Therefore, cultural research progresses through different perspectives and definitions (Şahin, 2019).

Cultural education aims to teach and provide individuals with an understanding of a society's culture, values, history, art and other cultural elements. This type of education helps individuals to understand their cultural identity and culturally diverse issues (Bilgin and Oksal, 2018). Cultural education teaches individuals the lifestyles, beliefs, traditions, and other cultural elements of a particular society or community while emphasizing respect, tolerance, and understanding (Erdem and Işbaşi, 2001). This education can occur in schools, art and cultural centres, museums, within the family, and through curricula in other components of society. Cultural education encourages individuals to become aware of different cultural aspects, understand cultural diversity and promote Decultural interaction. This type of education is essential to increase understanding and harmony in social relations, protect cultural heritage and enable individuals to communicate better globally (Özkan, 2006).

There are various opinions about the effects of television on society. Because television is an original means of communication with its own literature and commercial structure, it has a different tradition and functioning from other means of communication. With the advancement of technology, since it entered the homes, television has not only fulfilled its purpose of providing information. However, it has also become an essential part of visual culture along with the entertainment element. Instead of seeing individuals only as a source of information, he defined them more subjectively and made a classification of objects where media and communication tools are presented. Television can affect the audience in many ways. It can influence the viewers' thinking, social norms, cultural values and even political preferences through programs. The characters, stories and content presented in the programs can impact the viewers' identities, perceptions and preferences. However, there are different opinions about the effects of television. Some people think that television creates adverse effects in society, especially violent content or content that questions values, which can lead to negative behaviour in society. On the other hand, television can positively contribute to society through educational, informative and entertaining content (Akova, 2014).

Television broadcasts usually offer limited interaction opportunities. Programs are either on the air or not; the user's interaction is usually limited to turning the screen on and off or changing channels (Timisi, 2003). This may lead to the user passively consuming the content. The new culture and the post-prefixed way of life are formed not by a sudden change but by a process involving conceptual arrangements, oral and written culture elements, codes that address consciousness, and the transition to visual culture. In other words, this change took place over a certain period under the influence of visual media. Adorno's statement (2009) emphasizes that the audience can often predict movies' ending, reward and punishment elements from the beginning. In light music, listeners can anticipate the song's development. This situation shows that the typical media structures can lead the audience to certain expectations and predictions.

Significant increases have been observed in our country, especially in the production of domestic series. This situation and the increase in series productions have led to discussions about the effects of series on the public. The series' subjects, actors, music, venues and visual festivals have caused millions of people to spend hours in front of the TV; at the same time, this situation has encouraged academics and researchers to conduct studies on the effects of series productions. This has become a fascinating topic in the context of academic studies. In his statement, Geçer (2013) draws attention to the fact that television series, like other television programs, decide to continue from the audience. Series tend to continue as long as the audience likes them, and their liking can determine the series' continuity. High viewing rates of television series provide high incomes to television institutions, series producers and employees, and their impact on the audience is worth examining. TV series' social, cultural, and psychological effects on society can potentially guide viewers' perceptions and lifestyles. For this reason, research on the social effects of TV series is fundamental.

TV series and films are considered cultural products today and have become essential tools to influence societies and shape opinions. From this perspective, TV series can influence viewers' thoughts in the countries where they are broadcast, and the lives designed in the series scenarios turn into the viewers' desires. In particular, some Turkish TV series reflect Turkish culture and traditions by introducing Turkey's historical and cultural values and beauties to the viewers in their broadcast countries. This situation can contribute to Decoupling different nationalities and increasing cultural interaction. In addition to providing direct foreign exchange input to export Turkish TV series, these productions promote Turkish products and culture. This situation also helps Turkey to achieve an effective increase in the field of services and exports. TV series and films play an important role in international relations by mediating the promotion of Turkey in the international arena and the sharing of its cultural riches (Cengiz and Çakın, 2022).

The Magnificent Century Series

The Magnificent Century is a historical drama about the period of Sultan Süleyman the Magnificent in the Ottoman Empire, which started on Show TV from 2011 to 2014 and then aired on Star TV. The series lasted four seasons and appeared on the screen in 139 episodes. It has also been marketed abroad, reaching over 200 million viewers in 45 countries. He covered the process from the beginning of the reign of Sultan Suleyman the Magnificent until his death. He attracted significant attention in 5 million households, with an average of 20 million viewers in Turkey (Oter, 2021).

The Magnificent Century is produced by TIMS Production company and produced by Timur Savci. Yağmur Taylan and Durul Taylan directed the series. It has been an important work that has increased the interest in history, especially Ottoman history, especially in Turkey. This series has led to a massive increase in interest in historical sites, museums and publications throughout the country. Deniz Esemenli and Günhan Börekçi undertook the historical consultancy of the series, while Latife Tekin also provided consultancy. After Meral Okay's death on April 9, 2012, the script was started to be written by Yilmaz Şahin (Murat, 2019).

The screenwriter of the series and the name that has been the focus of intense discussions has been Meral Okay. Meral Okay participated in the 45 Minutes program with Mehmet Barlas broadcast on CNN Turk on March 8, 2012, and shared some details about the series production process. Okay, he stated that he decided to make the series two years ago, and then Timur Savcı liked the project and asked him to write the script. An office was allocated for Okay, and regular meetings were held with historical consultants. Okay, he stated that he anticipated that they would receive a reaction when starting the project, but he did not expect to encounter such a big reaction. She stated that after the series project started, she faced death threats as well as negative criticism (Aytaş, 2016).

In an interview with Ezgi Başaran, he emphasized that the reactions started with the series' trailers that have not yet been released. He also stated that signature campaigns were made for the cancellation of the series, a "death fatwa" was issued against him by some sects, and therefore he had to request protection from the state. He emphasized that conservative circles glorify essential figures in Ottoman history, especially Fatih Sultan Mehmet, Yavuz Sultan Selim and Kanuni Sultan Süleyman, and especially that it creates discomfort for a woman to handle these figures (Oter, 2021).

Method

Descriptive analysis defines, describes and analyses specific characteristics, structures and contents of an observed, studied object, situation, event or text. This type of analysis aims to explain, define and understand an object or a subject in detail. In descriptive analysis, the elements of the object or subject under study are explained in detail, and the characteristics of these elements are expressed by supporting them with examples. In particular, the focus is on visual or written expressions such as language, colour, form, and textures. In this analysis, the properties, parts or elements of the object or subject are observed in detail, explained and tried to understand how it functions. This analysis aims to provide a detailed, comprehensive and complete picture of what is being studied (Yıldırım and Şimşek, 2003).

An *indicator* is a sign, symbol, or instrument that expresses a specific meaning or situation. *The indicator scientific method* is a method that aims to confirm or support a study, claim, or fact by using indicators in the research process. This method involves making analyses and inferences based on indicators to understand, explain a scientific topic, or prove a particular phenomenon. The indicator scientific method covers the analysis of observed data by specific rules and scientific methods. This process aggregates the data from each other and tests theses and dr inclusions. The indicator scientific method is used for analyzing and interpreting quantitative and qualitative data (Çağlar, 2012).

Analysis of the Magnificent Century Series in Terms of National Identity and Cultural Education

"The Magnificent Century" is a Turkish television series about the process from the accession to the throne of Sultan Suleyman the Magnificent, one of the most brilliant periods of the Ottoman Empire, until his death. The series, as a historical drama, deals with the life of Suleyman the Magnificent, his reign, his love life and the general atmosphere of the empire. The main focus is on the political intrigues, wars, love affairs and the empire's power during Sultan Suleiman's reign. The series dealt with historical events and people, such as Hürrem Sultan's entry into the life of Sultan Süleyman and his influence, palace intrigues, war strategies and details of state administration. The events usually occur inside the palace and try to convey the period's cultural, political and social structure to the audience in detail. While it contains rich details about the important events and characters of this period, love, betrayal, rivalry, and power struggles are the main elements of the series. Themes such as the relationships between the main characters, political intrigues and the rise of the empire have attracted the audience's attention. Dec. This series has reached a broad audience by telling historical events and characters from a modern point of view.

Suleyman the Magnificent inherited the throne from his father, Yavuz Sultan Selim when he was 26. His ultimate goal then was to become stronger than Alexander the Great, expand the borders and make the Ottoman Empire invincible. In 1520, young Süleyman, returning from a hunting trip after receiving the news of his father's death, left his wife Mahidevran and his young son Şehzade Mustafa in his palace in Manisa and came to Topkapi Palace with his close friend Pargalı Ibrahim. This was the beginning of the reign of Suleyman the Magnificent, which would last for 46 years. Upon his arrival at the Topkapi Palace, Süleyman first met his concubine Alexandra, who would write his name in history as Hürrem and give him five children. Hürrem Sultan played an essential role in the Ottoman Empire's history and significantly impacted the life of Suleyman the Magnificent. Hürrem Sultan, of Ukrainian slave origin, is one of the most famous sultans in Ottoman history.

While Sultan Süleyman was fighting the Safavid Empire in the East, he also faced the Roman Empire in the West. During this period, Hürrem Sultan struggled with several obstacles to gain a permanent place in the Ottoman dynasty. This struggle of Hürrem Sultan was also intertwined with Süleyman's harem and his rivals, such as Princess Isabella Cortuna and Firuze Hatun, who came from other kingdoms and fell in love with Süleyman. However, Hürrem Sultan's great love overcame all difficulties and always returned to Süleyman.

Mahidevran, who was Süleyman's first favourite, was impressed by the presence of Hürrem Sultan but was disturbed by Hürrem's rising influence. In October, in addition to Mahidevran, Süleyman's mother, Valide Hafsa Sultan, and his sister, Hatice, also felt uncomfortable with Hürrem's increasing influence. Sultan Süleyman paid the price of this passionate love by executing his Grand Vizier Ibrahim and ordering the death of his sons. The critical thing for Hürrem Sultan was to win power, and all kinds of sacrifices were accepted for the sake of this goal.

While Sultan Süleyman is known as "Kanuni" in the East due to his just administration, he has received the title of "Magnificent" in the West from an innovative point of view. The Ottoman Empire was at a critical turning point politically and culturally during this period. Suleyman's leadership took essential steps to expand the empire's power and influence.

The "Magnificent Century" Series in the Context of National Identity

The magnificent Century series is notable for having a large cast. This series makes a significant impact by bringing a historical period into today's popular culture. History is becoming popular with increasing social interest through series such as The Magnificent Century. While it is expected that this popular historical understanding will become more widespread, it is foreseen that sometimes discourses supporting ideological goals may emerge (Bilis, 2013). The research results on how the series affects the historical structure gain meaning when evaluated in the context of the ads studied. The fact that it achieved high viewing rates with the publication of The Magnificent Century has affected cultural life and led to the emergence of advertising texts related to the palace theme in the advertising world.

Traditions and customs are an essential part of a society's cultural identity. These elements include the unwritten norms of a society, such as its habits, values and social norms. Traditions and customs form the cultural structure of a society and are one of the characteristics that distinguish that society from others. Most of the time, these customs and traditions also guide the legal regulations of society. Written laws usually regulate certain rights and punishments, while customs and traditions determine the forms of social interaction within society. For example, social relations such as apologizing, greeting, showing respect, and attending invitations are based on traditions and customs. The customs and traditions of societies are formed over time and are usually difficult to change.

Transferring these elements to new generations helps society maintain its continuity and identity. This situation explains how, in series such as "The Magnificent Century", the traditions and customs of that period try to show the viewer the lifestyle and social relations of that period by reflecting society's social structure and cultural characteristics. It expresses that traditions and customs are essential to society's cultural history and continuity.

In the series "Magnificent Century", it is seen that the traditions and customs of the Ottoman period are an integral part of Turkish culture. Great importance is attached to traditions and customs within the family and in the palace environment; personal wishes are usually subjected to these traditions. This situation shows that interpersonal relationships, behaviours, and ceremonies are shaped based on traditions and decrees. Customs such as respect for the elders, not opposing their ideas, and kissing their hands are shown as examples of traditions. In addition to the traditions of Turkish culture, the show also shows the traditions specific to the Ottoman Empire in the series, sometimes supporting each other and sometimes revealing differences. For example, in Turkish culture, age is an essential element in interpersonal relations; decadent members, whether young or old, are held in a superior position to other individuals in the Ottoman tradition, and non-dynastic members are expected to respect and bow down to them. This essential element emphasizes the hierarchical structure of traditions and customs in society, the culture of respect and the privileged position of family or dynasty members. In this series, an effort is observed to reflect how the traditions of the Ottoman period interacted with Turkish culture and sometimes differed.

The ceremony of the weddings of Sultan Süleyman's sisters, Hatice Sultan and Ibrahim Pasha and the wedding are religious and traditional indicators. During the Ottoman period, the circumcision weddings of the sultans' boys and the ceremonies performed at the marriage weddings of their daughters or sisters were called Sur-ı Hümayun. The marriage ceremony is included in the social ceremonies. The sultans were very willing to marry their daughters, sisters or the daughters of their deceased brothers. It is said that the money and gifts from the groom and other state dignitaries helped the Sultan close some deficits. The weddings were fun and spectacular.

Wedding entertainments of Hatice Sultan and Ibrahim Pasha (17. Section)

In Turkish culture, the ritual of asking for a girl is traditionally a ceremony in which the groom's family asks for their daughter from the bride-to-be's family. This is considered the first step in the process of getting married. Traditionally, the groom-to-be and his family formally announce his intentions to the bride-to-be's family and express that he wants his daughter for marriage. However, in the series "The Magnificent Century", this tradition has been handled in a different way within the series. Mihrünnisa's request from her father, Barbaros, is made by Mustafa. This situation is far from the traditional functioning of asking for a girl. Usually, this request is made by the groom's family. In the series, it is seen that this situation has been customized for the fiction and story of the series and departs from the actual historical tradition.

Mustafa's conversation with Mihrünnisa (110. Section)

During the Ottoman period, preparations for the birth of a baby were usually made in advance. The rituals and preparations for the birth were quite significant. In the palace, as the birth approached, the people who were the sole judges of the harem, such as the monarch's mother, took care of the preparations necessary for the baby's birth. These people planned and arranged in advance the dresses to be made, jewellery to be bought and other necessary items for the birth of the child to be born. As the moment of birth approached, one of the large rooms in the harem would be reserved for childbirth. The midwife assisting in the birth process and the wet nurse breastfeeding the child were determined in advance. The delivery room was usually equipped with bedding decorated with pearls and sequins (Baykal, 2008). The mosquito net hung over the bed was made of atlas fabric embroidered with rubies, emeralds and pearls. These details show that careful preparations were made for the birth then, and the delivery room was decorated specially. This shows that birth was considered an essential event during the Ottoman period, and this process was managed with care and sensitivity. While the naming ceremony for Selim's son was being held in Manisa, a traditional practice in the Ottoman period was explained.

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The Ceremony of Naming Selim's Son in Manisa (113. Section)

Naming a child was a meaningful ceremony in Ottoman culture. The child was given a name three days after birth. During this ceremony, if the child has a father, grandfather or grandmother, one of them takes ablution and comes to his room. After asking about the state and memory of the puerperal period, he would turn his face to the Qibla side, sit on his knee, and the child would be given to him swaddled. After the ablution performed by his father or grandparents, the child is brought swaddled and placed on his knees. That person would first recite the adhan-ı şerif in the child's ear, then say the name that the child would receive three times, and then inculcate the Word-ı şehadet three times.

That is how the child was named. Then, the puerperal lady would be given a gift such as a ring, a watch, and a diamond needle. This tradition reflects the naming of the child in Ottoman culture and how this special ritual was performed.

During the Ottoman period, ferace emphasizes covering women's outer clothing, such as yashmak and niqab. These clothes attracted the attention of Western travellers and formed certain prejudices and imaginations about Eastern culture. In particular, the veil was considered in Western perceptions as a symbol that evaluated the East as a field surrounded by mystery, full of secrets and marginalized Eastern women. The veil has become a symbol that Westerners consider the Eastern woman hidden and inaccessible not only physically but also mentally and emotionally. From the Western point of view, there has always been an element of curiosity about what is behind the veil. It has been thought that these veiled women are in a kind of resistance or secrecy against the Western gaze, and according to Western perception, Eastern women have an element of mystery (Yeğenoğlu, 1996).

During the Ottoman period, clothing and clothes were essential elements that expressed personal preferences and society's social hierarchy, status, and specific label rules. *Clothing* is a tool related to aesthetics or personal tastes and expresses position within the social structure and belonging in society. This emphasizes the importance given to the construction of clothes, their design, the type of fabric used and their decorations. From the Western point of view, Eastern clothes have often been treated as fantastic, exotic, fascinating and mystical. However, according to Himam's statement, Ottoman clothing styles were used not only as clothes that covered the body but also as a means of determining a person's status and social position. Symbols such as the veil, which Westerners focus on Eastern clothes, have usually been treated only in a mysterious and one-dimensional way and cannot be studied from a broad perspective of Eastern culture (Himam, 2013).

In the "Magnificent Century" series, especially in the harem scenes, the fact that concubines have cleavage in their clothes has been a subject that has attracted attention and criticism. Although some historians argue that concubines wore low-cut dresses because there was an area in the harem where men could not enter, this issue is still controversial. The use of such clothing has caused criticism about whether it reflects the period and the clothing culture of that period. The portrait of Hürrem Sultan was not presented as a sex object, especially in orientalist works, even though her hair and neck were exposed. However, in the "Magnificent Century" series, the character of Hürrem Sultan took place with all its openness. This has been criticized for portraying a historical character in a way that is far from reality and risks not reflecting historical reality to the audience. Also, the use of items that do not belong to the period has been criticized. In the series, the use of objects such as tables, chairs, candlesticks, curtains, as well as items that are shown as belonging to the sixteenth century, which began to be used in the eighteenth century, in a way that is incompatible with the historical period, has been criticized for creating an anachronism. This situation included the risk that the period was incompatible with historical reality and presented a misleading image to the audience.

During In the Ottoman period, there was a particular order in men's and women's clothing. Different headgear or skullcaps were used in men's clothes according to the profession. Although the skullcaps that offer differences have become a particular model over time, the headgear has become indispensable in the Ottoman Empire. Wearing a headdress expresses respect for the person before him, and those who do not comply with this tradition are seen as disrespectful.

In the same way, growing a beard has also created a tradition; those without beards have yet to be employed in government jobs or dismissed from their professions. However, although it is accepted that a prince can claim the throne by growing a beard, it is generally not considered suitable for princes to grow beards.

The Series "The Magnificent Century" in the Context of Cultural Education

The "Magnificent Century" series has an essential function in the context of cultural education. The series reflected the history and culture of the Ottoman Empire and provided the audience with the opportunity to present many elements of this critical period visually.

Furniture designs of the period were usually noted for their woodwork and decorations. High, wood-carved, embroidered, richly patterned beds were used at that time. The walls were often patterned, and the patterns were often decorated with handwork. Carpets, tapestries and pillows would also often be colourful and patterned. The tables were usually low-level and usually had round or oval shapes. Also, candlesticks and other lighting elements hanging on the walls were usually made of silver or precious metals. The curtains on the windows were usually made of expensive fabrics and embroidered with rich patterns. In addition, items such as silver trays and plates belonging to the tableware culture of that period were also crucial in domestic decorations and displays. All these elements are essential indicators reflecting that period's aesthetic understanding, economic situation and visual culture.

In the Ottoman period, mourning ceremonies were necessary, and mourning clothes were worn. Usually, black colour was preferred during the mourning period. During this mourning process, people wore black clothes and preferred this colour to symbolize the mourning process associated with the funeral. This practice may have been reflected similarly with Fatma Sultan and other women wearing black mourning dresses in the series after the death of Mustafa Pasha. Black clothes held an essential place in Ottoman society as an expression of respect for the mourning process during the mourning period.

Nazenin's desire to have a child expresses longing for a child, and this condition can first be considered a religious indicator. Praying is a religious act to fulfil someone's wish or ask Allah for help. In addition, the status of motherhood is a status that is usually achieved through a person's efforts, desire and the fertility process. Especially under the conditions of the Ottoman period, the fact that a woman was a mother could provide a superior status among other concubines in the harem. Dec. This situation, especially in the case of the birth of a boy, that is, the mother of a prince, could radically change the status of a woman. At the same time, this situation could increase the possibility of his son becoming the Ottoman Sultan and even the chance of becoming a valid Sultan. This, according to the social norms of the period, may reflect motherhood and the desire to achieve social status and power.

During the Ottoman period, births were important, especially in the Sultan's family and around the palace, and were celebrated with social ceremonies. When a sultan's child was born, it was greeted with enthusiasm in the palace and even throughout society. When Sultan Süleyman's favourite, Nazanin Hatun, gives birth to her child, this event is celebrated and congratulated. Those in the palace usually shared this joyful news, and social ceremonies were held to announce the birth of the Sultan's child. The artillery January was located by the sea, firing their cannons. They fired seven cannon shots when a boy was born; when a girl was born, they fired three times. These cannon shots would announce the good news that the birth was celebrated to the public and government officials. At the same time, celebrations and Decrees were held between the rooms and the servants in the palace to celebrate the birth. Such events were part of the social and ceremonial events in the Ottoman Empire.

Too many of these examples can be given in the series. As a result, the "Magnificent Century" series deals with a prosperous period through the expansion of the Ottoman Empire, political intrigues, cultural riches and historical events. This series has presented many cultural, historical and social teachings to the audience, entertainingly presenting a historical period.

Social Norms and Values

The series reveals the period's social norms, moral values and human relations. This provides a window to understand the values and social norms specific to that period. The series "The Magnificent Century" deals with that period's social norms, moral values and human relations in detail and provides the audience with an opportunity to understand the values and social norms specific to that period. The series reflects the social structure and values of that period. Important values such as respect, obedience, family ties and hierarchy are emphasized in society. People's social status, moral norms and expectations are shaped around these norms. At the same time, the relationships between the characters in the series, the family dynamics and the roles in society reveal these norms Decently. The relationships between the members of the dynasty, the decision-making processes of the Sultan, the competition between the women in the harem and the domestic conflicts reflect the effects of the social norms of that period. Decatur Decatur. The series shows the gender roles, family values, and social conventions of that period's social structure. Male-female relations, the functioning of marriages and family structure, social expectations and restrictions are evaluated within these norms. In this way, the "Magnificent Century" series provides viewers with an essential resource for understanding the complexity and structure of Ottoman society unique to that period by sincerely conveying the social norms, values and human relations.

The Nature of Man and the History of Humanity

The series "The Magnificent Century" offers general teachings on the depths of human nature and history through the characters' decisions, strategies, emotional reactions and power searches. The characters' internal conflicts and motivations reflect man's complex nature. The series offers in-depth insights into human psychology through the emotional conflicts, ambitions, joys and pains experienced by the characters.

Human power pursuits, ambitions and strategic decisions point to power struggles in human history and ambitions in human nature. The series shows the complexity of human nature and its influence on the social structure through the characters' efforts to achieve leadership, power and power. In addition, the ethical and moral decisions of the characters in the series reflect human inner conflicts and questioning of personal values. This case also deals with similar situations in human history, focusing on ethical and moral issues related to human nature. In this context, the "Magnificent Century" series tells the audience about the diversity of human nature and the universal nature of similar situations in human history through the characters' decisions, emotional reactions, searches for power and ethical inquiries.

Conclusions And Recommendations

The "Magnificent Century" series is an essential example of a subject where traces of national identity and cultural education are examined in the Turkish TV series sector. This series has left many traces in Turkish television regarding national identity and cultural education by covering the historical period of the Ottoman Empire.

National identity, the "Magnificent Century", the 16th century of the Ottoman Empire. While reviving the century, he has reflected the time's values, traditions, clothing styles and lifestyles on the screen. This allowed the Turkish audiences will get to know the historical richness and cultural heritage of the Ottoman Empire more closely. However, the series has caused controvers by combining historical reality and some fictional elements, exposing the perception of national identity to different perspectives. Dec.

Cultural education, "The Magnificent Century", conveyed to the audience the palace life, intrigues, political struggles and cultural elements of the period during the Ottoman period. The series presented a cultural education to the viewers by bringing the historical texture, architecture, music and dance culture, Ottoman language and lifestyles of the period to the screen. However, some have criticized the combination of historical reality and fictional elements regarding cultural education.

In particular, this series is essential in examining how the concept of national identity is processed through television series and how it plays a role in forming social memory. This analysis provides an opportunity to reveal more detail how the Turkish TV series sector impacts national identity and cultural education and its effects on viewers.

References

Adorno, T. W. (2009). Cultural industry: cultural management. Istanbul: Communication Publications

Akçura, Y. (2007). Turkism, the historical development of Turkism. Istanbul: Interest Culture and Art Publications.

Akova, P. (2014). The effects of Turkish TV series in the Balkans (Sample of Serbia, Montenegro and Bosnia and Herzegovina), Doctoral Thesis, Maltepe University Institute of Social Sciences.

Ay, T. S., & Gullu, P. (2020). National holiday ceremonies from the past to the present in a social studies course context: An ethnographic research. Western Anatolian Journal of Educational Sciences, 11(1), 145-168.

Aytaş M., (2016). Visual narrative and aesthetic structure of Ottoman period TV series broadcast on Turkish television channels, Doctoral Thesis, Ege University Institute of Social Sciences.

Scholar, A., & Oxal, A . (2018). Cultural identity and education. Academy Journal of Educational Sciences, 2(1), 82-90.
Bilis, A. (2013). The Deconstruction of History in the Example of the Magnificent Century Series from the Popular Television Series. Istanbul University Journal of Communication Faculty, (45), 19-38.
Cebeci, P. (2008). The relationship between religion and culture in the context of national identity. Journal of Academic Reviews, 3(2), 1-11.
Genghis, M. F., & Cakin, D. (2022). Quantitative research on Turkish series in the Kingdom of Morocco. Journal of the Institute of Social Sciences of Bingol University, (24), 15-33.
Cagaptay, P. (2007). Transition to Turkishness: migration and religion, citizenship and ethnic conflict in modern Turkey, Istanbul: Metis publications.
The Ages, B. (2012). Semiotics as a form of communication. LAU Journal of Social Sciences, 3(2), 22-34.
Virtue, F., &Job, J. D. (2001). Perceptions of organizational culture and student subculture in educational institutions. Akdeniz IIBF Journal, 1(1), 33-57.
Eroglu, H. (1992). Atatürk and nationalism. Ankara: TTK Publishing House.
It Passes, E. (2013). Media and popular culture; serials, television and society, Istanbul: Metamorfoz Publishing.
Bony, B. (2009). Sufi literature and our identity. Istanbul: Ötuken Publications
Cunning, C. (2009). Divan literature and Turkish identity. Istanbul: Ötuken Publications.
Murat, F. (2019). Representation of history in media: an example of the series "Magnificent Century" and "Payitaht Abdulhamid", Master's Thesis, Gaziantep University Institute of Social Sciences.
Oskay, U. (2014). Let us be children who do not want to bathe, Istanbul: Yapı Kredi Publications.
Oter, L. (2021). Historical period series and Ottoman narratives on television: A Magnificent Century example, Doctoral Dissertation, Ankara University Institute of Social Sciences.
Ozkan, H.. H. (2006). Popular culture and education. Kastamonu Journal of Education, 14(1), 29-38.
Smith, A. D. (1991). National identity. (Trans. B. S. Şener), Istanbul: Communication Publications.
Shahin, M. (2019). Cultural exchanges and education. Journal of Educational Theory and Application Research, 5(3), 458-466.
Taraghi, C. (2014). Chapter Four The Magnificent Century Or The Magnificent Disgrace: Controversies surrounding the television series The Magnificent Century. ContemporaryTelevision Series: NarrativeStructuresandAudiencePerception, 41.
Timisi, N. (2003). New communication technologies and democracy. Ankara: Dost Bookstore.
Citizen, C. (2004). The Birth of Turkish nationalism. Istanbul: Açıklım Publications
Lightning, A., & Lightning, H. (2003). Qualitative research methods in social sciences. Ankara: Distinguished Publications.

Artificial Intelligence Software in the Context of Educational Process

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Abstract
Artificial intelligence is a popular technology that affects many fields today. Its impact is noticeable daily, especially in education, design, and other essential areas. This technology, which stands out with the convenience it creates for users and its help in organizing the workflow, will play a critical role in our lives in the future. This study is aimed to touch upon the innovations provided by artificial intelligence in the field of education and some of its basic features. Some software, especially ChatGPT, is included based on the potential of language models and their essential usage areas. In addition, in the study, it is mentioned how artificial intelligence can be evaluated as a material in text and visual form, the essential functions of artificial intelligence technologies, which are rapidly changing today, are explained in this article, and stimulating points about the current situation are mentioned for those who will work in the field.

Introduction

Artificial intelligence, as an essential sub-branch of computer science, is a concept that has been frequently studied since the second half of the 20th century. This technology has allowed machines to imitate and develop human-specific abilities. Thanks to this feature, it has become a frequently preferred technology in different areas where it can create advantages (Russell & Norvig, 2009). Due to the diversity of areas it affects, it is possible to come across many definitions of artificial intelligence in the literature (Doğan, 2002). Artificial intelligence, which has broken new ground in many fields today, has also begun to attract attention with its pioneering work in the field of education. However, when we look at the history of artificial intelligence, the use of this technology and systems is not very new. It is known that artificial intelligence is a technology that emerged because of many studies conducted by Turing and his contemporaries in the early 1950s. With the developing technology and the exponential increase in the processing power of computers, artificial intelligence has shown itself in significant developments in many fields (LeCun et al., 2015).

Many different definitions have been made about artificial intelligence. However, in general terms, it can be expressed as the skills that require intelligence specific to humans that machines can also perform. This expression includes artificial intelligence collecting information, interpreting it, expressing it with data, performing new learning in the light of this data, and successfully fulfilling the assigned tasks. It has been emphasized that machines can be learning devices as they can independently complete the tasks assigned to them without any help. In another definition, artificial intelligence is machine learning (Blumenthal, 2017). It is seen that the expression machine learning is used as a synonym for artificial intelligence in many sources. However, machine learning is just one component of artificial intelligence. Machine learning generally drives learning by recognizing patterns in data sets, making predictions, and making decisions. These processes it is considered a complementary element of artificial intelligence technology. Machine learning and deep learning concepts are used as artificial intelligence tools in many areas of our daily lives. For example, in autonomous vehicle driving, machine learning sees the surrounding data through cameras and sensors, analyzes it, makes decisions, and autonomous driving takes place. Search engines and recommendation systems that analyze users' past behavior and offer helpful content are also within the scope of machine learning.

Today, artificial intelligence manifests itself in almost every field and can be used usefully with field-specific tools. One of the best areas that should be examined in this regard and where the effects of the current situation can be seen is the field of education. The field of education is experiencing a radical transformation with the emergence of artificial intelligence. This transformation is expected to change and propose new alternatives to educational goals, processes, learning materials, methods, assessment, and evaluation.

Technology has progressed by solving the problems experienced in the most essential elements in every field it affects. For example, in the field of education, technology has managed to show itself with the monitoring and management of the student's current status, the spread of digital content, and the introduction of smart devices into the educational environment. However, it is known that using these technologies in the classroom is considered insufficient, as technology at this stage cannot respond to the needs of individuals in the school in an individualized manner (Linn et al., 2023; Zhai, 2021). The contributions of these essential technological tools and systems for students cannot be ignored. However, compared to the opportunities offered by artificial intelligence, these technologies remain at the initial level.

Artificial intelligence has a comprehensive potential, especially in education, due to its working mechanism. Because artificial intelligence has the opportunity to analyze human language, structure, and images, with these features alone, artificial intelligence will lead to many advances in the field of education.

ChatGPT is the output of artificial intelligence that has reached the most comprehensive end-user base today. ChatGPT broke new ground as the only artificial intelligence and technology application to get its first million users on the fifth day of its publication. Looking at current data, this language processing model developed by OpenAI was used approximately 1.6 billion times monthly. This represents a 160% increase from 1 billion in February 2023 and is about seven times higher than the 266 million visits in December 2022 (Duarte, 2023). In light of these data, the ChatGPT language model is the most preferred in the world. For this reason, in this study, education and artificial intelligence are associated in the context of ChatGPT.

ChatGPT is a sophisticated pre-trained natural language processing model released by the US-based company OpenAI on November 30, 2022. This model reveals human-like behaviors in comprehending the texture and sequence of language, producing text, and answering questions. Some studies have shown that this language model exhibits a high level of performance in question generation, academic writing, and other academic skills. This performance is, of course, directly proportional to how well the user at the computer manages this language model. Because this language model is pre-trained and uses an existing database, individuals who control it must be able to direct it correctly to benefit from it to the highest degree.

The powerful functions that ChatGPT offers, such as interaction, reasoning, questioning, and feedback, provide new opportunities for educational transformation. The emergence of artificial intelligence, such as ChatGPT, can improve the effectiveness and quality of learning and advance the distribution of educational resources and the supervision of academic quality. Considering that education has achievements such as improving individuals' careers, ensuring that they adapt to society and become valuable people, and prioritizing social needs, it is possible to use language models for these purposes. Because language models can enable individuals to reinforce certain behaviors related to these acquisitions, it will be inevitable for individuals who are familiar with artificial intelligence technologies and can use them beneficially to focus on the social gains of this system and produce solutions.

Considering the social needs that may be required in the future, artificial intelligence and similar systems can provide high benefits in achievements such as learning knowledge, fundamental skills, and writing, which are the center of traditional education. The transfer of knowledge, skills, and methods in conventional education takes place between teacher and student under the guidance of various approaches. Language models, as a tool, can be beneficial in managing this process more effectively. Today, although artificial intelligence has just met the end user, it can produce high-quality content even in its current form. These contents may only meet the needs at some levels in all areas. However, considering that language models are a clear road map for development, it is clear that they can be a tool that will help people with many problems in the future.

With ChatGPT, technical questions can be answered, software codes can be created, and satisfactory texts can be produced. These texts are answer-oriented and can be used as an educational road map. Today, any user can gain basic knowledge about any field or learn the solution to a problem using ChatGPT. However, it should be remembered that since artificial intelligence is a language model trained by users, the accuracy of the answers received from this language model may not always be satisfactory. Because, like similar language models, ChatGPT carries out the process by analyzing the content on the internet base and creating meaningful sentences or operations. Moreover, only the content produced on these platforms can be made functional in the education process by being verified by the authorities.

When the literature is scanned, research on artificial intelligence has revealed that artificial intelligence technology can increase working and learning efficiency but cannot wholly replace human creative thinking skills (Zhai, 2022). Another finding generally expressed in research is that the ability to make decisions using experience, emotion, and knowledge has yet to develop in artificial intelligence models.

Language models such as ChatGPT can support the educational process followed by traditional methods and encourage project-based learning. Formal education defines the educational process in which the teacher guides and directly transfers information. However, it is also known that different individuals at the same level in learning environments may have different needs or learning levels. From today's perspective, it is predicted that future education will be a project-based, more individual, and open-to-interpretation process in which knowledge and skills are used for production. Thanks to the language models to be developed, students can learn information faster and in a way that suits their needs and can use it as a tool to support their learning. There are better approaches to adapting the ChatGPT language model to the future in its current form. As mentioned before, the data obtained using artificial intelligence currently needs verification. However, when a language model is asked a question on a particular subject, it quickly and effectively scans the relevant literature, providing a possible prediction of what potential these language models can reach.

In the Context of Teacher and Student

Emerging language models such as ChatGPT can enable the discovery of new methods in conventional educational processes. These language models can perform beyond expectations by understanding the skills acquired through experience, such as understanding the language, communicating effectively, mastering the field, and quality content. Artificial intelligence technologies and applications allow students to create learning plans and methods appropriate to their learning styles and levels. This way, individualized programs can be implemented, or projects can be carried out based on the student's readiness levels. Students can use ChatGPT to answer their questions about the course or learn more about the learning material. This technology can also guide on issues such as resource research for projects. For example, students can get help from a language model by stating their needs on how to proceed with their projects or studies.

At this point, students' ability to specify their personal needs and obtain a personalized road map accordingly can increase their performance. As mentioned, artificial intelligence can provide surprising results in creating meaningful content. Students can make their course schedule based on focus time, specify their specific needs, and be guided by artificial intelligence to achieve better performance. This process is directly focused on the student's self-awareness. The language model can create a helpful road map by starting the process with a pre-test that determines the students' deficiencies, focusing on where the weaknesses are. Various evaluation scales can be used within this road map to create a more effective process management. At this point, teachers may need to be guided so students can use this system better.

It should be remembered that language models can be considered as guides and assistants not only for students but also for teachers. Automation that will ease teachers' workload by checking students' homework, evaluation processes, and question solution suggestions can be provided with artificial intelligence. By assisting teachers in student management and analysis, artificial intelligence can help teachers carry out a more practical education process. In addition, course materials can be created for students with language models. Especially for students who are learning a language, it is possible to produce fast and high-quality content with the ChatGPT tool. In this way, students can improve their language skills with a language model. With a class-specific artificial intelligence pool, individualized plans can be created according to the class's average level, progress information, and readiness levels. It is estimated that many processes will run faster and easier with this technology, intended to increase teachers' focus. Conversely, teachers may be motivated to use artificial intelligence as a tool that allows them to carry out the process more comfortably.

Artificial intelligence software, designed to increase the motivation of its users and improve their performance, is preferred by teachers and the students they guide, who follow the technology and want to benefit from it. To talk about these artificial intelligence tools;

Gradescope

Gradescope is an artificial intelligence tool developed by Turnitin company, which is known to be used only under license by the Middle East Technical University in our country. This tool offers AI-assisted grading for educators at the higher education level. Gradescope software helps users seamlessly manage and grade exams, assignments, and all assessments from instructors online or in the classroom. Gradescope offers many different features to accomplish variable-length tasks (problem sets and projects) and fixed-template assignments (worksheets, tests, optical answer sheets, and exams) (Middle East Technical University, 2023). According to the example taken from the software's website and shown in Figure 1, teachers who scan students' exam papers and use the software can automatically grade the correct answers, errors, and alternative solutions to the exam questions. Gradescope stands out, especially in science, mathematics, chemistry, biology, and economics.

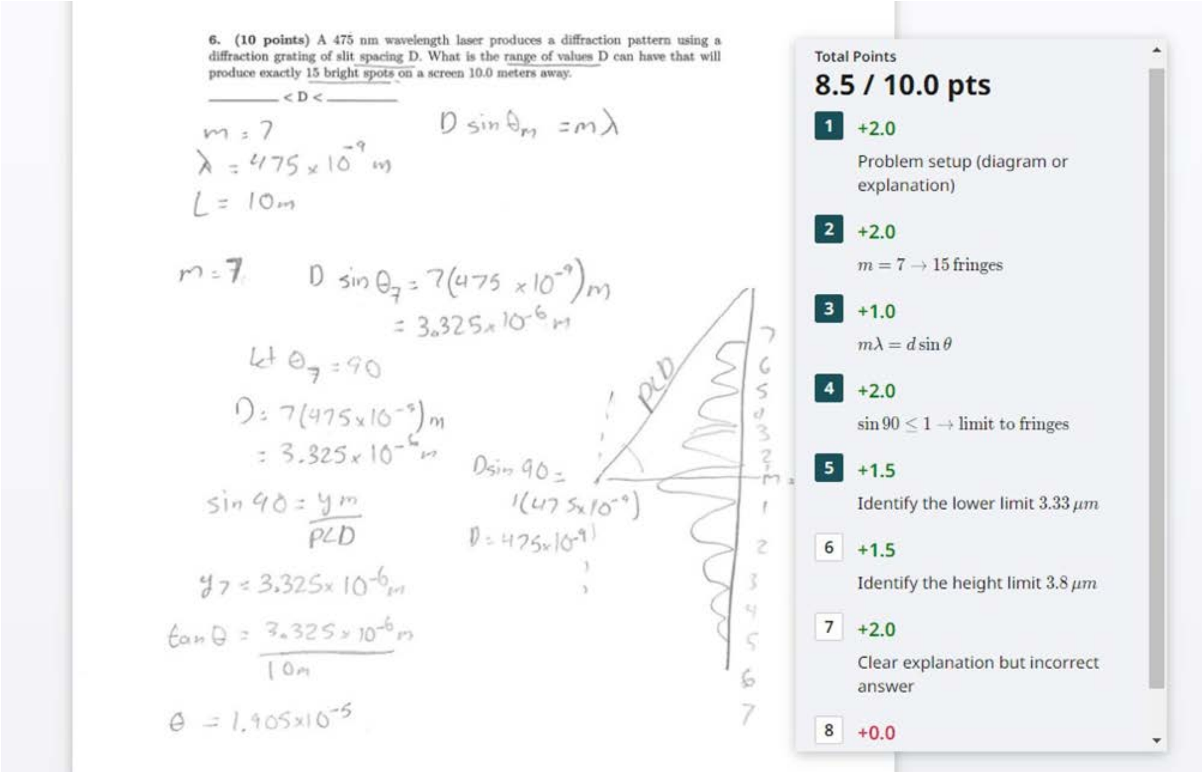

Figure 1. An exam paper analyzed by GradeScope.

Lessonplans.ai
LessonPlans.ai is an AI-powered lesson plan generator developed by teachers specifically for teachers. It is designed to make lesson planning more efficient and accessible for educators. This software offers various tools that may be useful to the teacher while producing material on the relevant subject. It aims to add exciting activities to the lesson plan that will enable students to understand better the issue to be covered. What is expected at this point is that the teacher defines the profiles of the students to the artificial intelligence. This way, it is possible to produce appropriate content for each student.

TeacherMatic
Teachermatic is an artificial intelligence-supported platform specially designed for educators to reduce their workload and focus more on the educational process. It uses GPT-3 technology in teaching, learning, and evaluation. Teachermatic offers a variety of AI-generated tools to ease the burden on educators, including lesson planning help, multiple choice question generators, study plan generators, rubric generators, and classroom question generators. With AI support, it makes it easy to create high-quality resources for the classroom, such as worksheets, lesson plans, and activities, using advanced language processing algorithms. Teachers can easily create various learning objectives based on the six cognitive learning domains of Bloom's taxonomy and develop engaging and relevant questions for their students using the classroom question generator. Many educators have provided positive feedback on Teachermatic after using it, stating that it can improve staff well-being, reduce workload, and simplify tasks while encouraging teachers to be more creative in their classrooms (Wileman, 2022).

Juji
Juji is a cognitive AI learning assistant and is used as a chatbot. The main difference between this cognitive artificial intelligence bot and other bots is that it is strengthened with human social skills. Like a psychologist, Juji cognitive AI assistants extract the user's unique characteristics, such as their needs, interests, and personality, from a real-time conversation and establish an empathetic relationship with the user. According to the information in Juji's promotional content, students' online success is directly related to their class participation and personality traits. This software can serve as students' learning assistant as a chatbot with human social skills. Thus, it offers counseling at an individualized level for each student.
New artificial intelligence software is released almost daily, but these are generally artificial intelligence-supported software with features that facilitate operation. It will take a little while for new software to be produced that will surpass the mentioned software in terms of performance and effectiveness, thus, for users to improve themselves.

In the Context of Educational Material

The number of digital content used in learning environments is increasing daily. It is known that the main reason for this situation is the developing and widespread technology. However, although the number of materials used is growing, it is seen that the integration of technology into the classroom education environment is low, especially in foreign language education (Başal, 2016). This situation is expected to be better considering the potential of digital materials in language learning-teaching fields. It is known that the use of technology in the classroom is more important when comparing language education with other areas of social sciences (Kartal, 2005). So much so that teachers, especially those teaching foreign languages, have assumed the role of a content producer in this field. Because teachers who provide language education prepare or develop content for their students according to their needs and levels (Başal, 2016). At this point, language models such as ChatGPT have become one of the prominent language models, especially for preparing materials in language education.

Thanks to artificial intelligence, teachers can prepare needed materials for their students. These contents, which will meet the different needs of students throughout their learning process, can be produced effectively in a very short time. The method the teacher will use when making these contents may be exams or educational adventure content that they can develop independently. Language teachers and teachers in different fields can create interesting stories, poems, or other types of literary works with language models. Fill-in-the-blank, multiple-choice, or matching-style leveling tools can be customized for each student using artificial intelligence. Nowadays, this process requires a long and challenging preparation that requires teachers to prepare different content for each student individually. Teachers can reduce the time needed to create compelling material and increase the diversity of educational activities with artificial intelligence tools.

When a mathematics teacher wants to develop material on any subject, he can create many different contents using ChatGPT. For example, for a ten-person multiple-choice exam to be given in a class of ten students, each student can organize an exam with a total of one hundred questions, with different numbers on their paper. This can be done by providing the artificial intelligence with specific keywords and sample questions that indicate the difficulty level of the question. It is known that ChatGPT is one of the most preferred tools for language modeling today. However, ChatGPT is an open-source project, and different applications can use this artificial intelligence model. For example, Notion is an application that can be preferred, especially by users who perform numerical operations and require tabulation. Thanks to Notion, large data sets can be analyzed, and the basic inferences made by commonly used statistical programs can be output as tables and graphs. The Notion is just one of dozens of applications that use artificial intelligence infrastructure in this field. Since it is impossible to use the potential of language models in a single application in today's technology, artificial intelligence-supported applications are being developed for almost every field. Language models and artificial intelligence tools are designed explicitly for areas such as mathematics, social sciences, literature, and linguistics.

Textbooks are among the most frequently used materials in education. These textbooks can be supported with artificial intelligence-supported games, platforms, and software. In this way, some materials can be obtained to motivate students to learn. Many language models, such as ChatGPT, can provide learning material ideas based on their personalized needs. The process of students using these materials and the experience of creating them with artificial intelligence-supported software can trigger their learning motivation. This material creation process can target any topic or outcome the teacher covered in class that day. Within the framework of these achievements, students can diversify different contents thanks to language models. Students and teachers can also use creative processes or explore other tools for these achievements.

Artificial intelligence software can provide students and teachers with materials on every subject. However, satisfactory results may still need to be obtained regarding the level of materials provided by this software. When examining the field, many software programs do not go beyond producing information cards that claim to provide adequate work. However, this may open the door to making predictions about artificial intelligence materials that will be shaped in the future. Students and teachers can obtain basic instructional materials using software such as Retinello, Yippity, Study Squeeze, and To Teach AI. This software can use people's lecture notes or texts on websites to create content and information cards that summarize these texts. In this way, students can develop materials such as exercises and worksheets to test themselves and teachers to evaluate students.

As it is known, materials contain written content and visual elements. Visual materials are common, and artificial intelligence has made significant progress in this regard recently. With the development of technology, the visual content production process has completely changed. First, traditional methods were replaced by digital tools; today, digital tools have begun to evolve to a different point. Today, thanks to artificial intelligence and deep learning technologies, it has become possible for the browser to create the image and process an existing image by writing a text that describes the desired image. Midjourney and Dall-E are the most up-to-date software examples on this subject. With these software, which can be used through the browser, users can convert the text into an image by writing a text that describes the image they want to create.

Software that works with artificial intelligence, such as Midjourney and Dall-E, do not produce these images by combining images available on the internet but are made using image processing technology called diffusion. Users do not need drawing skills for this process, which takes about a minute. The desired composition can be produced with the desired technique. This is directly related to the level of education at which the material to be developed will be applied. Artificial intelligence visual processing software may not always produce the desired results. However, creating content close to the selected graphic with effective commands is possible. For example, for visuals to be used in a material to be developed for the primary education level, visuals can be created using keywords such as "children's book, small age group, or suitable for ages 7" in addition to the text. In addition to the text, these keywords can be changed for older age groups. The results can be tested with different techniques, and keywords and visuals can be produced until the desired level is reached.

In this way, teachers can create visual content for the images and new materials they want to manipulate. At this point, teachers may need to intervene in the visuals produced by artificial intelligence. Because these images are created by writing a text, and their content needs to be verified. The expected behavior here is for teachers to find visuals suitable for the material they will prepare or to change the visuals they see. Teachers can enrich their materials by taking these images produced by artificial intelligence as a reference, or they can get ideas and make their materials using traditional methods. The originality of the material and its orientation towards individual needs can directly affect students' educational motivation.

Artificial intelligence offers unlimited opportunities to evaluate all kinds of possibilities. Using ChatGPT and Midjourney software together can be given as an example of this situation. It may take work to reach the desired content. However, thanks to language models, the visuals to be depicted can be described more qualifiedly. The text created with ChatGPT, which contains many descriptive elements, can produce more effective results in software with visual content, such as Midjourney, because the richness of the graphic's graphic description is directly proportional to the closeness of the image to be produced to the desired one. The visual content obtained here can be converted into evaluation material in a different artificial intelligence software, or the text created with ChatGPT can serve another purpose with additional artificial intelligence software. At this point, any incentive to explore the possibilities of artificial intelligence can play an essential role in improving the quality of education.

In the Context of Quantification and Consideration

Just as there are artificial intelligence tools, there are also many artificial intelligence-supported software that teachers can benefit from for measurement, evaluation, and monitoring. Traditional measurement and evaluation methods are generally based on exams and teacher observations. This may cause individual learning needs to be ignored. To minimize these problems, it is thought that future evaluation tools will be supported by artificial intelligence (Zhai et al., 2023). Artificial intelligence tools can be designed with a process experience that will not only evaluate the relevant exam but also consider the student's performance during the process; thus, students will be able to receive comprehensive and individual-specific feedback.

In addition, as it is known, higher education entrance exams are carried out by the Student Selection and Placement Center (ÖSYM) in our country. Artificial intelligence will be included in the exam process, the questions will be written by artificial intelligence, and the exam evaluation will be carried out by artificial intelligence (Kasap, 2023). As mentioned before, artificial intelligence software, in which data is entered only for a classroom environment, can analyze all the students' data and produce meaningful results or evaluate the variables with millions of different options. In this way, teachers can create an automatic student monitoring and evaluation tool.

Artificial intelligence is a tool with many potentials that can be used not only for the benefit of teachers, students, and the education process but also by students effectively. However, this may cause students to prefer artificial intelligence tools to get effortless results in homework and exams and may lead to unethical behavior. For example, ChatGPT can quickly complete writing and open-ended questions, which may lead students to use these AI software to complete assignments (Stokel-Walker, 2022). At this point, using various plagiarism detection software may be possible.

Checking the answers given by teachers, as well as preparing exams or worksheets, is a process that requires intense effort in itself. There are many applications, such as GradeScope, to manage this process, but there are few reliable sources regarding the plagiarism level of the answers given. Today, plagiarism control applications such as Turnitin and iThenticate, frequently used by academics, scan specific libraries and perform the scanning process by assuming that a human wrote all texts. For this reason, these applications may experience problems distinguishing content created with artificial intelligence. According to a study conducted in Canada, CopyLeaks software is the software that provides the most accurate results today in detecting artificial intelligence plagiarism (Storm, 2023). In a period when artificial intelligence language models are used so widely, it may be the right step for teachers to use artificial intelligence-supported plagiarism software for measurement and evaluation. Thus, students will spend less energy and time to obtain more efficient and ethical results.

Conclusion and Recommendations

Artificial intelligence technologies will undoubtedly be an essential tool in training future scientists, engineers, and individuals who will be employed in many professional professions. With a correctly designed artificial intelligence-supported curriculum, students can be equipped with skills such as collecting data, analyzing and conducting experiments with artificial intelligence, and the process of influencing students' academic performance with innovative scientific developments can be carried out successfully. Students who receive education with this curriculum will be successful in the professions of the future, and states will make this a policy and shape their future education plans in this context.

The widespread inclusion of artificial intelligence in general education processes is not possible soon. Although its advantages are unlimited and the conveniences it brings, today's education processes are not yet ready for artificial intelligence technology in the context of relevant curricula, expert personnel, and technological infrastructure. This is considered the case, at least for our country. Because, as far as is known, work has yet to be developed on an artificial intelligence auditing or verification software or information pool filter related to the field of education. First, it is necessary to train and employ a team of educators who are experts in artificial intelligence in relevant departments and to develop artificial intelligence software by individuals who have gained expertise in this field. Because the content that fills the artificial intelligence information pool used today is information found on the internet and needs to be verified, the content that a teacher or student creates using artificial intelligence must also be checked by software developed for this field. Otherwise, the accuracy of the information obtained should be approached with suspicion. Therefore, when producing content, the person making the content must have mastery of this field. Digital materials built with artificial intelligence must be checked before being presented to the student. At this point, teachers who save time for content production will have to check the accuracy of this content, so there will be a waste of time. This situation is similar to our perspective on the Wikipedia site in the early 2000s.

There are some ethical issues arising from working with and using artificial intelligence. These ethical situations bring with them many professional uncertainties. Therefore, teachers and students need to be informed on specific issues. First, it should be examined that text or visual content produced by artificial intelligence should not be used as is. In particular, students should be enlightened that AI-supported chatbots are developed as a language model, not an interactive encyclopedia resource. To avoid blunting the critical thinking skills of students with artificial intelligence, it should be explained that the first answer on the research subject is insufficient, and the diversity of ideas on this subject should be increased through different research. In particular, students need to be aware that they use artificial intelligence only as a tool. Language models such as ChatGPT should be encouraged to give ideas at the starting point of research, and it should be prioritized that the student's individual and critical thinking structure is more valuable than any artificial intelligence-supported language model.

Artificial intelligence does not always provide accurate information. Due to the working system, content is created based on how much the same information is repeated on the internet and its impact rather than the accuracy of the information. For this reason, although artificial intelligence may seem like a valuable and innocent tool at the first stage, it may produce some stereotypes and biased, non-objective, inaccurate content found on internet resources. To give an example that any user can experience, When chatting with AI and asking it to create a human profile, it tends to come up with stories and scenarios where people in high-paying jobs have white skin tones and people in low-paying jobs have dark skin tones. In short, when language models such as ChatGPT are wanted to be used, teachers and students must have developed a particular perspective.

Language models such as ChatGPT are software that is vulnerable to privacy violations. The information given to this software is no longer private or personal. For example, as soon as the author of this text submits the exact text to ChatGPT as data, the software saves this data in the system and improves the learning behavior. This text's language structure, sentence analysis, and meaningful relationships are data for language models. Suppose a researcher, teacher, or student who wants to work with education and artificial intelligence in the future continues this process using ChatGPT. In that case, he may come across some of the data in this text. Each user is deemed to have accepted the relevant declaration when registering to the system to use this language model. For this reason, researchers must use ChatGPT consciously about the subjects they will study.

There are also fundamental skills that teachers need to acquire in creating visuals with artificial intelligence. The most important of these skills is prompt engineering. Although this term creates the impression of a professional branch of business, such a type of engineering has yet to become widespread today. However, companies that want to get accurate and effective results by using artificial intelligence will soon carry out many recruitment processes for this position because artificial intelligence is not a technology that can yield effective results alone or with inefficient guidance. The quality of the information given to artificial intelligence - the information to be prompted - ensures that the result is accurate and meaningful. Successfully performing this engineering skill will be a challenging process for students. It may be considered to add artificial intelligence training units appropriate to the student's level to the curriculum for students to keep up with future education processes and work efficiently.

Critical thinking and social and emotional development are vital skills that a machine cannot entirely teach. Although artificial intelligence has high development potential, it will never fully replace a teacher. Artificial intelligence, which has shown rapid development in project monitoring, evaluation, and material production, can be an excellent supporting tool. However, teachers must refrain from assuming their role in the classroom and analyzing the cognitive levels and emotional intelligence of students as well as a teacher. Artificial intelligence is an excellent opportunity for efficient and effective learning and will be used more frequently in the future education system. Those who will achieve this best will be teachers who have improved themselves in this field.

References

Başal, A. (2016). Project of DIJMAT. English teachers' perceptions on digital teaching material development. 25th International Conference on Educational Sciences, Antalya, Turkey.
Blumenthal, D. (2017). Data Withholding in the Age of Digital Health. Milbank Quarterly, 95(1), 15–18.
Demirel, Ö. (2002). The art of teaching from planning to evaluation. Ankara: Pegem Publishing.
Doğan, A. (2002). Artificial Intelligence. Istanbul: Kariyer Publishing.
Duarte, F. (2023, 13 Temmuz). Number of ChatGPT Users (2023). Exploding Topics. https://explodingtopics.com/blog/chatgpt-users
Elmas, Ç. (2018). Artificial Intelligence Applications. Ankara: Seçkin Publishing.
Kartal, E. (2005). Information-Communication technologies and language teaching industry. The Turkish Online Journal of Educational Technology - TOJET, 4 (4), 82–87.
Kasap, S. (2023, 6 Ekim). ÖSYM, sınav süreçlerinde "yapay zekâ"ya geçiş çalışmalarına başladı. Anadolu Ajansı. https://bit.ly/48EeKMF
LeCun, Y., Bengio, Y. & Hinton, G. Deep learning. Nature 521, 436–444 (2015). https://doi.org/10.1038/nature14539
Linn, M. C., Gerard, L., Ryoo, K., McElhaney, K., Liu, O. L., and Rafferty, A. N. (2014). Computer-guided inquiry to improve science learning. Science, 344(6180), 155-156.
Middle East Technical University. (2023, May). Licensed Software: GradeScope. Frequently Asked Questions. https://faq.cc.metu.edu.tr/tr/gradescope
Russell, S., & Norvig, P. (2009). Artificial Intelligence: A Modern Approach (3rd ed.). Upper Saddle River, NJ: Prentice Hall.
Storm, D. (2023, 28 Temmuz). ChatGPT detectors still have trouble separating human and AI-generated texts. SiliconAngle. https://bit.ly/46h6iBg
Wileman, S. (2022). South Staffordshire College. Teachermatic.https://teachermatic.com/blog/
Zhai, X., (2022). ChatGPT User experience: Implications for education. Available at SSRN: http://dx.doi.org/10.2139/ssrn.4312418.
Zhai, X., Yin, Y., Pellegrino, J. W., Haudek, K. C., & Shi, L. (2020). Applying machine learning in science assessment: a systematic review. Studies in Science Education, 56(1), 111-151.

Candidates' Use of New Media and Social Media as Technology Tools in the TRNC 2020 Presidential Election Process

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Abstract
New communication technologies express the transformation of traditional communication technologies in parallel with technological development. New media tools, such as propaganda tools in political elections, have become widespread in recent years. The use of social media in political elections has gained significant importance in recent years. Social media platforms provide an environment where political campaigns, candidates and voters can interact, and information sharing occurs quickly and widely.
Candidates and political parties use social media platforms to deliver campaign messages, announce their policies, and communicate with voters. Through visual and written content, videos, live broadcasts and posts, candidates directly interact with voters and mobilize their supporters. Social media is an effective tool for spreading political propaganda and reaching large audiences with political information. Candidates and their supporters share various social media content to influence voters, defend their policies and persuade voters. Social media platforms gauge voters' opinions and preferences through surveys and feedback. Candidates and political parties seek feedback on social media to identify voters' expectations and concerns, shape their campaigns accordingly, and improve their policies.
TRNC 2020 Presidential Elections is an essential topic for political science and international relations thesis studies. These elections provide a rich source for examining the political atmosphere of the Turkish Republic of Northern Cyprus, the election process, competition between candidates, election results, and political transformations. By discussing the use of social media in the 2020 TRNC Presidential elections, this research examined how the candidates used social media channels and what the reflections were by revealing the political communication languages of the propaganda and the differences it created in social perception. Qualitative research methods and scanning models will be used in the research. The candidates' use of social media in the 2020 TRNC Presidential elections was examined with their propaganda languages and statistics obtained in new media.
Keywords: TRNC 2020 Presidential Elections, Social Media, New Media, Political Propaganda, Mustafa Akıncı, Ersin Tatar.

Introduction
The Turkish Republic of Northern Cyprus plays a vital role in politics and democracy. The TRNC is a state established in 1983 with the support of Turkey and is located in the north of the island of Cyprus. Its political system is based on parliamentary democracy. The political structure in the TRNC is based on a multi-party system. Various political parties compete in elections, and the people's preferences form the government. Political parties may have different ideologies and policies. There are usually nationalist, left, right or center-oriented parties. Politics and democracy play an essential role in the TRNC. Elections are held with the participation of political parties and the public.
With the rapid development of the Internet and technology, modern technologies have started to develop and change (Doğan, 2017). The Internet has been the most critical element in the effective development of new communication technologies. The area that is fed the most from Internet technology is new media (Çakır, 2014). The concept of social media covers websites and online tools that allow people to interact with each other by sharing their opinions, interests and information. In addition, social media allows companies to reach target audiences they have difficulty accessing, spread their messages, and take action easily (Zeybek, 2016). Social media tools effectively make internal communication open and fast for participation.
The term new media, which is one of the crucial developments of the era and is gradually increasing in importance, has a reasonably broad scope. New media includes all of the latest communication technologies and is defined as" environments that" guide the interactive transformation of existing media into digital data in general and provide production, distribution and sharing through computers" (Taş, 2017). Wi" h the emergence of new media, all traditional media models have become integrated with digital technology. New media has provided accessibility

to a broad audience thanks to the partnership formed by its digital technology together with 0's and 1's. In addition, 1'song with digital technologies and the Internet, the circulation of images, voice, information and data has gradually accelerated (Güngör, 2018).

A social networking site or social network is "a place where users can make friends or communicate with their friends interactively, organize various events, share videos and pictures, and give personal news about themselves". Social network" ng networks are firstly GTalk, Messenger, e-mail (electronic mail communication), etc. he has created a virtual communication environment through applications such as. Facebook, YouTube, Twitter, Swarm, and other applications have made it possible to communicate and get together Decently in recent years (Çakır, 2014).

These virtual platforms, which have emerged thanks to the innovations brought by the Internet, have enabled individuals to come together with users on different profiles and share their common interests (Kalaman, Dec. 2019). Social media platforms have some features that are different from traditional media. Among several features of social media tools Dec; "immediacy, decent" realization, interactionism, the user instead of a follower, private space, the intricacy of production and consumption, grittiness of public space, intertwined virtual reality, disregard of hierarchical relationships, intertwined public spaces, economic formation" are included. O" e of the main features that distinguishes social media tools from traditional media is the interaction feature. The interaction feature of social media tools allows the internet user to communicate and share with different users on the interface by Decoupling them from a passive position (Özçetin, 2018). It may be possible for many other users to contribute to the production taking place on the social media network by adding comments.

This approach, which is a technological determinist, assigns entirely positive meanings to specialized tools (Gücdemir, 2017). Ignoring such issues as economic and social inequality and power structures Creates an equal future under the shadow of technological tools. However, another of the opportunities provided by the Internet is that it has a structure that is far from control, has a liberating effect, brings the person who is the information producer to the forefront and eliminates limitations such as time and space (Çakır, 2014). In other words, the Internet has a character that reverses traditional media's restrictive and top-to-bottom information flow.

On the other hand, the concept of a global village is finding a response thanks to the Internet and social media today (Bostancı, 2019). Due to the structural features of the Internet and social media, everyone is everywhere at any time, and people can be aware of each other as if they lived in a small village (Kalman, 2019). Marshall McLuhan states that electronic media provides equality with the global village conceptualization, reunites humanity, eliminates the phenomena of place and time and transforms them into a single state of consciousness. Electricity has also been very influential on the qualities of the media. Thanks to electricity, the press has gained features such as continuity and speed, making information accessible to everyone in the electronic age (Güngör, 2018).

The use of new media is essential in the 2020 TRNC Presidential elections. The Dec 2020 TRNC Presidential election was held to determine the TRNC President who will serve between 2020 and 2025. October 11, 2020, the election's first and second rounds were held on October 18, 2020. The election went to the second round after all 11 candidates were at most 50% of the vote. Ersin Tatar, who finished in first place with 32.3% of the vote, and Mustafa Akinci, who finished in second place with 29.8% of the vote, took part in the second round. In the second round, the Republican Turkish Party supported Akinci, the Democratic Party and the Rebirth Party supported Tatar. As a result of the presidential election, Ersin Tatar, who received 51.7% of the votes, was elected President. Mustafa Akıncı ran as an independent candidate in the 2020 TRNC Presidential elections, while the National Unity Party candidate was Prime Minister Ersin Tatar. The other candidates in the election are Republican Turkish Party candidate Tufan Erhürman, Deputy Prime Minister Kudret Özersay, independent candidate Serdar Denktas and Rebirth Party candidate Erhan Arıklı.

The ultimate goal of political advertising is to enable the target audience to work toward the ideological idea of the political party in question and to support that party (Kabasakal, 2019). Political ads have a significant place among the tools that political parties or candidates have used to convey to voters the promises they should state, their attitudes towards the issues on the agenda and the plans they want to implement. Thus, the voter, on the one hand, recognizes the political party or candidates through political ads, while on the other hand, he meets the need for political information. Parties prepare many formats and publish advertisements in various advertising generations while transmitting their ideologies to society during political elections. Therefore, the study aims to examine the Use of New Media in the 2020 TRNC Presidential Elections.

The Use of New Media and Social Media as a Technology Tool

20. since the middle of the century, the world has experienced very significant advances in technological expression. Thus, technological advances have affected the information and communication world (Şengül, 2018). The Internet, one of the world's most independent and free communication systems produced due to a military operation, has provided essential services to humanity by influencing it in a social, institutional and personal sense and has entered a new change (Vardarlier, 2019). The Internet has Deconstructed the boundaries between local

and global and has paved the way for daily business to be online by opening new and different channels of communication and interaction.
The invention of new communication and media technologies has resulted from the advancement of computer technologies and their change in communication. The emergence of Internet technology into today's technology has been formed at the end of about 50 years (Özçetin, 2018). During this time, the main ideas of the Internet were first developed and started to be implemented together with software elements. At first, individuals using the Internet, which consists of fixed sites, were given one-way and one-device information and communication was provided to them. Selected pages on the Internet have been a feature of traditional media tools. The influence of the person using the Internet, along with interactive pages on technology, has led to the development of Web 2.0 (Doğan, 2017). With the existence of interactive pages, individuals have also turned to these pages.
New media, a concept that has affected our lives with the advances in communication and media technologies that have become quite important since 1990, has also become an important phenomenon that forms the structure of identity in a social sense (Eraslan, 2018). New media is explained as an active communication environment that sits based on a digital coding system, has the characteristics of modularity and hyper-textuality, and allows individuals to interact one-on-one (Ünal, 2020). New media is taking a step forward in the form of the most essential tool of the modern information age. The difference between new and convection/traditional media expresses digitized media, interacting and converging media, Internet networks, communication technologies and media. The new media concept includes social and social organizations that develop media and communication technologies using tools that increase communication skills with social associations and are formed around communication practices (Eraslan, 2018).
With the establishment of the printing press in communication, technological advances have reached so far with the telegraph, newspaper, radio, photography, film, television, satellites, Internet and communication networks (Hiksik, 2018). Castells emphasized that new technologies changed the mass communication universe in the 1980s. Castells also gave some examples of this situation: newspapers such as La Figaro, The New York Times and The International Herald Tribune can be printed in different parts of the world, and the device named Walkman turns a personally selected song into a standard audio medium, the thematic radio has changed the world of mass communication (Sengul, 2018). In addition, the spread of VCRs all over the world and becoming an alternative to official publications, the change in the one-way flow of images by people producing images on their own, the spread of video movies with video technology and the development of local broadcasting have also set an example for this change (Vardarlier, 2019). However, decisive progress has been made in the proliferation and increase of television channels.
Emphasizing that the essential feature of new media technologies is not new temporally, Başaran stated that it is unique because it has been put in front of mass communication technologies that have brought colour to new communication environments and caused the birth of an environment called communication, which has led to the grounding of areas such as sociology, political science, psychology (Kabasakal, 2019). It collects computers, networks, Internet, recorders, mobile phones, technology users and communicators, which are part of the body and soul, which are increasingly finding wide usage applications as part of everyday life, transforming them, increasing their use due to the requirements of social life, all digital and communication technologies in the concept of new media.
When we look at the research and studies on new media to date, it is seen that every concept has yet to be defined; different researchers and authors evaluate the subject from various aspects or highlight other qualities. Focusing on the idea of" new Media", Dilmen emphasized that it is expressed by thinkers and academics who conducted social, psychological, economic, political and cultural research in information and communication-based studies in the 1970s (Zeybek, 2016). However, the meaning stated in the 1970s gained a significant acceleration in the 1990s and became widespread with computer and Internet technology and various formats were accessed. During this period, the environments created by new communication technologies were ultimately called new media (Ünal, 2020). New media is a two-sided hybrid media system that includes computer-related practices on one side and forms specific to communication tools on the other. For this reason, the term new media describes the communication and media tools unique to our era.

Social Media and Social Media Channels
Social media are digital platforms on the Internet where users can share content, interact and communicate with other users. Social media enables individuals, communities, brands and institutions to express their opinions, share information and experiences, follow the news and communicate (Şengül, 2018). Social media significantly impacts societies in terms of communication and interaction. People follow the news through social media, exchange ideas about current events, communicate with friends and share content (Güçdemir, 2017). In addition, social media platforms also play an essential role in enterprises' marketing strategies, political campaigns, and activism activities. Social media channels refer to various platforms on the Internet where users can share content, interact and communicate. Social media platforms offer the potential for political actors to spread their propaganda messages quickly and to a broad audience. Platforms such as Facebook, Twitter, and Instagram allow politicians

to interact directly with voters and mobilize their supporter base. Propaganda messages can influence political views through viral content, impressive visuals and emotional stories (Odabaşı, 2020). The most widely used platforms worldwide and the most frequently used in political propaganda are YouTube, Instagram, Facebook, TikTok, Twitter (X), LinkedIn, Vimeo, and Vkontakte.

The Impact of Social Media on Political Communication

Social media is essential in shaping political behaviour (Kolektif, 2019). In particular, photos, videos and articles with political content shared on social networks such as Instagram, TikTok, Facebook, Twitter, and YouTube enable individuals to be interested in politics and gain knowledge in this field. Through this information, individuals can develop new political behaviours or re-evaluate their current political views and behaviours. For this reason, political leaders and their representatives are intensively sharing political information with party supporters on social media. Each piece of information aims to convey a convincing political message to the user, that is, to the voter (Hiktık, 2018). Social media has essential functions, such as increasing public support and positively influencing undecided voters. The most important feature of this is that it is interactive. Social media has shaped political communication by combining traditional communication tools with new technologies (Taş, 2017). It uses interactivity to create public support and provide support by providing the opportunity to communicate bi-directionally with the target audience.

Reaching a Wide Audience: Social media allows politicians and political groups to reach a broad audience. This allows political messages to spread to a wider audience and provide interaction.

Interaction and Communication: Social media encourages direct interaction between politicians and voters. Dec. This allows politicians to establish more direct and personal communication with voters (Vardarlier, 2019).

Fast News Sharing: Social media allows news to spread quickly. Politicians can soon inform voters by sharing about political events and developments.

Campaign Management: Social media enables the effective management of political campaigns. Politicians and political groups can create content that will interest voters, share campaign messages, and interact with their supporters.

Activism and Social Movements: Social media also contributes to the rise of social movements and activism (Yeniçıkdık, 2017). Users can share their ideas, make protest calls and interact with groups seeking support for social change through social media platforms.

Effects of Social Media Usage on Voter Behavior

Social media offers voters a comprehensive source of information. Individuals follow political news, analysis and interpretations today from social media platforms (Orallı, 2014). Because social media channels allow voters to access information faster and faster, this effect helps voters make more conscious decisions on political issues. Social media encourages voters to interact and discuss political issues (Yeniçıktı, 2017). Users can directly communicate with politicians and other voters, share their ideas, and participate in political discussions. This allows voters to understand different views and perspectives and helps them make more conscious decisions. Social media encourages voters to participate actively in political activism (Kalman, 2019). Users can express their demands for social change through social media platforms, participate in political campaigns and support them. Social media enables voters to be more involved in political processes and make their voices heard for political change (Gökşin, 2017).

Method

Qualitative research methods and screening models were used in the research. The use of social media in the 2020 TRNC Presidential elections was examined with propaganda language and statistics taken in the new media. The qualitative research method is a research approach that aims to understand, interpret and conduct an in-depth analysis. Qualitative research is used in social sciences, Education, psychology and other disciplines. Qualitative research focuses on understanding the participants' views, attitudes, values, and behaviours to understand their meanings and experiences. Qualitative research examines complex phenomena, discovers people's thoughts, emotions and experiences, and understands society's cultural, social and behavioural aspects.

The screening model is a technique used to recognize critical information in a text or document, find specific concepts, or obtain information for a particular purpose. This method, called text scanning or scanning, allows computers to analyze large amounts of text data automatically. Scanning models are often used in areas such as text mining, information recall or information removal. These models use techniques such as language processing, natural language processing and machine learning to understand the content of texts. Scanning models can be used for many different purposes, such as automatic data extraction, information classification or trend analysis in extensive text collections or websites. These models are valuable tools to analyze text data quickly and effectively and find important information. Reflections on social media in the 2020 TRNC Presidential Elections were carried out with Social Media Analysis Tools SMARARWEB, Google Analytics, Google Trends, Marketo Social Media Analytics, Buffer and Sprout Social vehicles.

TRNC 2020 Presidential election process of candidates' propaganda process and analysis of reflections on social media

2020 TRNC Presidential Elections

The Turkish Republic of Northern Cyprus (TRNC) was held on 2020 October 11 2020. This election was held to determine the President of the TRNC, the highest political task. In the first round, a candidate could be at most 50 per cent of the voting rate. In the second round, the two candidates who received the most votes, Ersin Tatar and Mustafa Akıncı, came across the voters. Ersin Tatar appeared as the winner in the second round and was elected as the new President of the TRNC.

Social Media Analysis of Candidates

Mustafa Akıncı

The TRNC presidential elections have been a process in which social media has played an important role. Mustafa Akıncı actively used social media during the election campaign. He shared his election promises, policies and vision through personal social media accounts and supporters. The campaign has targeted the active segment, especially young voters and digital platforms. Among the strategies of Akıncı on social media are:

Content Diversity: Akıncı shared content in different formats such as videos, visuals, and text. This aims to reach different audiences and attract their attention.

Direct Interaction: He interacted with his followers through social media accounts and answered questions and support messages. This is one of his essential moves to strengthen his ties with his supporters and establish personal communication.

Using hashtags and trends: It aims to create a sense of unity and solidarity between its supporters and followers by creating specific hashtags and campaign slogans. Although it provides more visibility on digital platforms than its competitors, the debate initiated on social media with some politicians in the AK Party administration hurt the election results.

Mustafa Akıncı's use of social media positively impacted its supporters, but the election campaign was unsuccessful. However, the election results usually occur due to the interaction of many factors. Social media shots of the politicians in the AK Party administration have determined the fate of the election.

Mustafa Akıncı, in the Turkish President's 2020 Presidential elections, carried out his election campaign with various strategies and messages. Akıncı has carried out a campaign under the main headings below during the election process:

Peace and Solution-Oriented Approach: Mustafa Akıncı focused on solving the Cyprus problem during the election campaign. He emphasized his efforts to ensure a permanent and fair solution on the island and stated that he would take steps towards the peace process. This message aims to mobilize supporters by emphasizing the candidate's commitment to peace and reconciliation.

Economic Development and Employment: Mustafa Akıncı also emphasized economic development and employment issues in the election campaign. Its policies emphasized strengthening the TRNC economy, encouraging investments and increasing job opportunities. In this way, it aims to raise hope in ensuring economic prosperity among voters.

Participation and Education of Young People: Mustafa Akıncı encouraged young people to have more active involvement in the political process and demonstrated the policies of young people to solve the problems of young people. Improvements in Education, providing more opportunities to young people, and creating platforms for them to make their voices heard have been focused.

Social Justice and Social Inclusion: Mustafa Akıncı emphasized the importance of the principle of equality and equality principle of ensuring social justice in the election campaign. It focused on issues such as preventing discrimination on the island, supporting disadvantaged groups and protecting human rights.

Sustainable Environmental Policies: Mustafa Akıncı also emphasized environmental protection and sustainability issues. Discourses were found on the protection of natural resources on the island, the implementation of environmentally friendly policies and the use of clean energy resources.

Ersin Tatar
Ersin Tatar's use of social media during the TRNC Presidential Elections was essential to the campaign strategy. He has been actively involved in social media platforms through his supporters and himself. Tatar's social media strategies include:
Policy -and Promise-oriented Communication: Social media accounts emphasized Tatar's political vision, promises, and policies. It aims to access voters directly through videos, graphics, and texts.

Determination of the target audience: It aimed to address different demographic groups in the TRNC. This included many voters, from young to old and from other social and economic groups.

Criticism of the Opposition: Criticisms of rival candidates or views of the opposition have also been frequently included on social media platforms. Tatar and its supporters shared content criticizing opposition on different platforms.

Hashtag and Campaign Slogans: It aims to create a sense of unity and solidarity among its supporters by creating unique hashtags and campaign slogans.
The effect of social media on the election results gave the name Tatar positive results. Using social media increased Tatar's visibility, motivated the supporter audience and had a particular impact. Ersin Tatar, in the Presidential Elections of the TRNC 2020, carried out his election campaign with various strategies and messages. Tatar has carried out a campaign under the following main headings in the election process:

Emphasis on Nationalism and Identity: Ersin Tatar emphasized Turkish Cypriot nationalism and identity during the election campaign. It has highlighted its policies to protect the rights of the Turkish Cypriot people, to protect national values and to strengthen their identity. This message aims to mobilize its supporters by addressing nationalist emotions among voters.

Collaborative Approach: Ersin Tatar emphasized its cooperation with Turkey in its election campaign and its support of the Turkish Republic of Northern Cyprus. It has demonstrated its policies on continuing solid relations with Turkey and deepening cooperation in economic and political fields. In this way, it aimed to emphasize the importance of addiction to Turkey and sympathy among supporters.

Economic Development and Investment: Ersin Tatar also emphasized economic development, investment and employment issues in the election campaign. It highlighted its policies on strengthening the TRNC economy, creating new job opportunities, and encouraging investments. In this way, it aimed to revive the hopes to ensure economic welfare among voters and solve the unemployment problem.

The superiority of justice and law: Ersin Tatar also focused on ensuring justice in the election campaign, protecting the rule of law and fighting against corruption, strengthening the justice system on the island, and ensuring transparency and determination in the fight against corruption.

Education and Health Services: Ersin Tatar stands out in improving Education and health services in the election campaign.

Conclusions And Recommendations
Social media provides direct communication and information sharing between political candidates and voters. Candidates can bring their political views and promises to a large audience through social media, interact with voters and answer questions. This enables political messages to spread rapidly and reach more people. Social media can affect the public by using political candidates and supporters. Candidates' policies, rallies and other events can be shared through social media, and discussions can be initiated. New communication technologies refer to the transformation of traditional communication technologies in parallel with the development of technology. Technology, which has been the dominant actor of transformations in social practices throughout history, has inevitably brought some transformations and innovations in the field of communication. These innovations include innovations that emerged due to an infrastructural transformation of traditional communication technologies and the concepts of computers and the Internet that occurred within the information society. Every technology that emerges temporally is considered new. The communication technologies that appear in the current period, which is called the information society, are also accepted as unused.

TRNC 2020 Presidential elections are a process in which social media plays an important role. Social media platforms have been used as practical tools for executing election campaigns and spreading messages by candidates and supporters. All candidates have carried out their election campaigns via social media. The official accounts and pages of the candidates have been actively used via popular social media platforms such as Facebook, Twitter and Instagram. Through social media platforms, candidates directly sent messages to voters, shared their policies and interacted. Candidates and supporters produced visual and video content for election campaigns and published it through social media. This content included images from the rallies, election trips, speeches and other activities of the candidates. Such content was used to show voters candidates' approaches, policies, and leadership skills. Social media platforms enable voters to interact with candidates and convey their feedback.

In the 2020 TRNC Presidential elections, social media has been a platform where discussions and polemics took place in the election process. The features of Mustafa Akıncı's supporters and conflicts are reflected in social media channels. In this process, there was an intense political debate and controversy on social media, and its effects were reflected in the election results.

References

Berzah, M. O., (2017). Political guidance and media. Ankara: Image Publishing.

Bostancı, M., (2019). Social Media: Yesterday-Today-Tomorrow. Istanbul: Palet Publications.

Buluk, B., Equal, B. and Boz, M., (2017). Objectives of Social Media: A Research on the Use of Social Networks in the Communication Services Industry. Global Media Journal, 2 (4), 102-117.

Büyükaslan, A. and Kırık, A. M., (2015). Social media research, socializing individuals. Istanbul: Cartoon Bookstore.

Çağıl, A., (2017). Digital marketing with social media. Ankara: Dareyeksen Publishing House.

Cakir, M., (2014). Christian Fuchs, critical approaches to the new media, critical approaches to the new media. Istanbul: East Bookstore.

Dogan, A., (2017). Political communication and political behaviour in Turkey. Ankara: Nobel Academic Publishing.

Eraslan, M., (2018). Propaganda as a means of political advertising in the context of political communication and media, Ağrı İbrahim Chechen University Journal of Social Sciences, 4 (2), pp.195

Gökşin, E., (2017). Digital marketing foundations. Ankara: Abacus Book.

Güçdemir, Y., (2017). Social media. Ankara: Derin Publications.

Gungor, N., (2018). Communication Theories and Approaches. Ankara: Political Bookstore.

Kabasakal, M., (2019). Political life in Turkey yesterday, today, and tomorrow. Istanbul: Istanbul Bilgi University Publications.

Kalman, S., (2019). New media and digital supervision: A research on social media users in Turkey. 26: 2, management and economy. 575- 594.

Hip, T. (2018). Political processes and election campaigns. Istanbul: Cartoon Bookstore.

Collective, (2019). Media and politics. Istanbul: Cartoon Bookstore.

Kongar, E. (2010). Democracy and Culture. Istanbul: Remzi Bookstore.

Odabaşı, K., (2020). Digital marketing strategies. Istanbul: Cinius Publishing House.

Orallı, L. E., (2014). Political parties and leadership. İstanbul: Performing Publishing.

Özçetin, B., (2018). Mass Communication Theories Concepts, Schools, Models. Istanbul: Communication Publications.

Şengül, O., (2018). Digital marketing. Istanbul: Ceres Publications.

Stone, O., (2017). Communication, Media and Culture. Istanbul: Utopia Publishing House.

Unal, A. T., (2020). Social media. Istanbul: Der Publications.

Vardarlıer, P., (2019). Social media strategy. Istanbul: Nobel Academic Publishing.

Yeniçıktı, N. T., (2017). Social media. Istanbul: Litera Türk Publishing House.

Yıldırım, Y., (2012). Political Communication in the Light of Communication Action Theory and the Case of the AK Party. Journal of Academic Studies, 7 (1), 195-226.

Yılmaz, M., (2013). The effects of media and political relations on public opinion: TRNC. Example. Journal of Human and Social Sciences Research, 2 (2).

Zeybek, B., (2016). Political advertising persuasion and rhetoric. Ankara: Beta Publishing.

Comparing the Level of Critical Reflection Among Nursing Students

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Abstract
The research aimed to investigate the critical reflection of nursing students at the Faculty of Nursing, Rajamangala University of Technology Thanyaburi during the 2021 academic year. A total of 169 students were selected as the specific purposive sample group who consented to provide data. The research used a questionnaire comprising personal information and the level of critical reflection analysis. The data was analyzed using frequency, percentage, mean, standard deviation, one-way ANOVA, and LSD post hoc test. The findings revealed that nursing students had a high overall level of critical reflection (mean = 3.93). When examining specific aspects, it was found that their technical rationality, reflectivity, and critical reflection were also high (mean = 3.91, mean = 3.95, and mean = 3.92, respectively). This research highlights the nursing students' capability for critical reflection, which can contribute to the enhancement of their learning and development of analytical skills.
Keywords: Critical reflection, Student nurses, Nursing Students.
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Introduction

Currently, the world was rapidly changing in various aspects, especially due to technological advancements that foster new innovations, resulting in digital disruption. This transformation affects changes in diverse areas, including the economy, society, culture, and the evolution of healthcare technology, leading to improved patient care and longer, healthier lives (Inchaithep, 2019). Consequently, there are higher expectations and satisfaction levels among service users. Nursing is a profession that needs continuous development to adapt to this ever-changing global landscape to cater to patients with complex, severe health conditions or emerging diseases (Thailand Nursing and Midwifery Council, 2019). Nursing practice involves providing healthcare services by utilizing observational data to accurately and appropriately implement nursing procedures in addressing patients' health issues while considering ethical aspects. Therefore, professional nurses need analytical and critical reflection abilities to solve problems and make decisions in their practice, ensuring the safety and well-being of patients.

Nursing education faces significant challenges in aligning its curriculum with the practical nursing environment, as well as within various organizational settings as part of the healthcare workforce (Fawaz, et al, 2018). Coping with technological advancements, the economy, and cultural diversity are crucial to maintaining the quality of nursing graduates' caregiving abilities while ensuring patient safety and satisfaction. Therefore, the teaching-learning process in nursing education in the 21st century emphasizes student-centered learning, integrating knowledge, analytical thinking skills, problem-solving, linking theoretical knowledge with practical applications in different situations, and selecting appropriate nursing activities based on both theoretical and practical knowledge. Moreover, it emphasizes ethical conduct and excellent practical skills to maximize the benefits of caregiving (Pinjai, et al, 2019). It's essential to provide students with learning experiences that facilitate critical thinking, self-awareness, and curiosity, enabling them to gain a comprehensive perspective on specific issues (Kim, Min, Kim, & Shin, 2018). This includes systematic thinking, creativity, critical decision-making, and innovative problem-solving abilities. The field of nursing continually evolves to meet the demands of a dynamic world, and education plays a pivotal role in shaping competent and adaptable nurses to provide safe and effective patient care.

Transformative Learning was the process of education designed to prompt changes within learners in terms of their worldview, knowledge, understanding, and behaviors, resulting in personal transformation. It encompasses five key components: 1) Collaboration: Considering learning as a social process, emphasizing cooperation. 2) Deep learning: Achieving a profound understanding of various facets of the subject matter. 3) Reflective thinking:

Linking new knowledge with existing knowledge and life experiences. 4) Engagement: Learning through discussions or knowledge exchange. 5) Caring: Listening and understanding others to learn both similarities and differences in learning approaches. This learning process involves four types of mechanisms: 1) Reviewing existing knowledge. 2) Learning new meanings. 3) Changing existing meanings. 4) Transforming the framework of meaning delivery. "Transformative Learning" occurs through critical reflective thinking (Critical Reflection). It involves scrutinizing ethical reasoning, morals, and values across social, legal, political, cultural, contextual, and relevant situations (Khemmani, 2016). This leads to creating broader new meanings, distinct clarifications, and genuine understanding from personal experiences. Moreover, this learning is translated into practice (Panich, 2015).

The study on reflective thinking in nursing students still focuses on describing reflective practices without delving into the level that leads to critical reflection. This was significantly crucial for transforming learning within students themselves. Developing critical reflection through education becomes exceptionally essential in obtaining insightful evidence beneficial for instructional management aimed at enhancing nursing students. Researchers, in their educational roles within nursing, are particularly interested in exploring the level of critical reflection among nursing students. This is vital in obtaining fundamental data to advance the learning management of nursing students, ensuring their increased capacity for critical reflection. Such enhancement is beneficial for students in providing future healthcare.

Research Objectives

The aim of study the level of critical reflection among nursing students and compare the level of critical reflection among nursing students across different academic years.

The research framework for this study utilizes the critical reflection framework proposed by Zeichner & Liston (1987). This framework consists of three levels of abilities: Level 1 - Technical Rationality, Level 2 - Reflectivity involving reasoning and hypothesis testing according to theory, and Level 3 - Critical Reflection, used for evaluating the level of critical reflection.

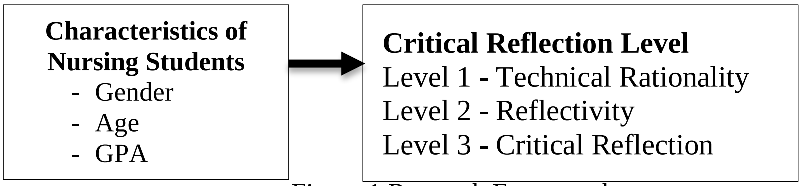

Figure 1 Research Framework

Literature Review

The teaching approach for nursing students in the 21st century should revolve around student-centered learning. It emphasizes imparting knowledge, analytical thinking skills, problem-solving abilities, and integrating theoretical knowledge into various practical settings. It involves selecting nursing activities that incorporate fundamental theoretical and practical knowledge. (Thailand Nursing and Midwifery Council, 2019; Inchaithep, 2019) Additionally, it emphasizes critical reflection, which raises awareness of the consequences of thoughts leading to actions. This involves considering ethical principles simultaneously with the impact of one's actions on society. This teaching approach is rooted in two primary concepts: The analytical approach derived from Critical Theorists aims to grant education a pivotal role in fostering change. It leads to transformative learning by developing skills to critically examine one's own frameworks of thought and beliefs through life experiences, both past and present. This process leads to a transformation in one's thinking. Learning occurs individually and through the exchange of knowledge with others, translating knowledge into practice, and collectively reflecting, resulting in transformative learning (Vijarn, 2015; Khemmani, 2016).

The concept of reflection by Dewey is a significant inspiration in learning. It originates from Dewey's "How We Think," which presents the distinction between routine action and reflective action. (Dewey, 1933). Routine action involves conforming to conventions, and behaviors dictated by institutions or society, while reflective action is thoughtful, reasoned, and leads to analyzable outcomes. Schon (1983) expanded on this, suggesting that reflection creates a path linked to complex problems through dialogue, fostering improvements in practice. Being mindful and contemplating personal experiences leads to action, informed by advice from experienced individuals. This reflective approach has been applied across various professions to effectively enhance learning through practical experiences. In the level of critical reflection, Zeichner and Liston (1987, cited in Jermtaisong, 2011) categorized levels of reflection based on Van Manen's concepts into three tiers: Level 1: Technical Rationality involves providing details and reasoning explicitly. Reflecting at this level involves explaining with clear reasons and considering past experiences to achieve set objectives. Level 2: Reflectivity includes reasoning against original thoughts, presenting new ideas with clear reasoning, and aligning these arguments with theoretical principles. This level of reflection considers the context of situations and how organizational factors impact teaching and learning.

Educators also consider the value of each educational objective. Level 3: Critical Reflection is the ability to articulate the reasoning behind actions in practice, considering the impact of implementing those thoughts based on international ethical principles and professional ethics. Engaging in critical reflective practice reflects ethical aspects in both teaching and education.

Methodologys

This research was descriptive research. The population was Nursing students of the Bachelor of Nursing Science program at Rajamangala University of Technology Thanyaburi, Pathum Thani Province, in the academic year 2021. The population comprises all four academic years totaling 294 individuals. The sample size was determined using Yamane's formula (1973), with a confidence level of 95% and a margin of error of 5% (e= .05). This calculation yielded a sample size of 169 individuals. Afterward, a simple random sampling will be conducted from each academic year to obtain the sample group. The selection criteria for the sample group will include nursing students who were enrolled in the academic year 2021 (2564 BE), can participate in answering the questionnaire through Microsoft Form, and have consented to participate in the research project. The exclusion criteria will encompass students who were not enrolled in the academic year 2021 and did not consent to be part of the research project.

Research instrument: section 1: Personal Information consisting of 4 items: Gender, Age, Year of Study, Cumulative Grade Point Average (CGPA), section 2: Assessment of Critical Reflection in Students. The researcher applied Jermtaisong (2018) measurement tool for reflective thinking among university students. This tool comprises 20 questions divided into 3 levels: 1) Reasoning, 2) Reasoning and Hypothesis Testing based on Theory, and 3) Critical Reflection. The questionnaire format is a Likert Scale of 5 points (Rating Scale), ranging from 1 to 5.

The evaluation of the tool: Once the researcher completed the tool and it was reviewed by the advisor, it was sent to 5 experts for content validity evaluation. The experts assessed the congruence between the questions and the objectives, yielding an Item-Objective Congruence Index (IOC) of 0.93. Following this, the questionnaire underwent a reliability test (Try Out) with 30 nursing students possessing similar characteristics to the sample group. The assessment of critical reflection in these students indicated a Cronbach's Alpha Coefficient of 0.93, signifying strong internal consistency.

The Data Collection Process: following the research ethics approval, before commencing data collection, the researcher sought permission to collect data for research purposes from the Faculty of Technical Education, Rajamangala University of Technology Thanyaburi. Additionally, a request was made to the Dean of the Faculty of Nursing, Rajamangala University of Technology Thanyaburi, who served as the sample group. The researcher provided documentation outlining the research procedures and sought their consent by clicking "Consent to Participate" before completing the questionnaire on Microsoft Form. The data collection was conducted between March 29, 2022, and April 30, 2022.

Data Analysis: 1) basic personal data of the sample group will be analyzed using fundamental statistics such as frequency, percentage, mean, and standard deviation regarding the level of critical reflection, 2) analysis of the differences in the level of critical reflection among students in each academic year will employ a One-way ANOVA (Analysis of Variance). If differences are found, pairwise comparisons will be conducted using the Least Significant Difference (LSD) method.

Ethics: the research has been reviewed and approved by the Human Research Ethics Committee, Rajamangala University of Technology Thanyaburi, with certification granted on January 2, 2022, under the reference number RMUTT_REC No. Exp 57/64.

Findings

The characteristics of the surveyed nursing students across the four academic years are primarily as follows: predominantly female, comprising 94.70% of the sample. Additionally, around 54.40% fall within the age range of 18 to 20 years old. Half of the students have a cumulative GPA ranging from 3.00 to 3.49, accounting for 51.50% of the sample, as shown in Table 1.

Table 1 Percentage of personal information of 1st - 4th year nursing students.

Characteristics	Number	%
Gender		
- Male	9	5.30
- Female	160	94.70
Age		
- 18 – 20 Year	92	54.40
- 21 – 25 Year	74	43.80
- 26 – 30 Year	3	1.80

Characteristics	Number	%
GPA		
- 2.00 – 2.49	1	0.60
- 2.50 – 2.99	57	33.70
- 3.00 – 3.49	87	51.50
- 3.50 – 4.00	24	14.20

The overall critical reflection level among nursing students of all academic years was found to be high with an average score of 3.93 (S.D. = .448). When broken down, the aspects of reasoning, reasoning with theoretical evidence, and critical reflection among nursing students from all academic years were rated as high, with average scores of 3.91 (S.D. = .495), 3.95 (S.D. = .513), and 3.92 (S.D. = .513), respectively, as shown in Table 2.

Table 2 The average scores and standard deviations of critical reflection levels of nursing students at Rajamangala University of Technology Thanyaburi, categorized by academic year and overall (n=169).

Level of Critical Reflection	1st year	2nd year	3rd year	4th year	total	Level
	Mean (S.D.)	Mean (S.D.)	Mean (S.D.)	Mean (S.D.)	Mean (S.D.)	
Technical Rationality	4.01 (.077)	3.92 (.078)	3.75 (.062)	3.97 (.079)	3.91 (.495)	high
Reflectivity	4.03 (.082)	3.92 (.077)	3.75 (.059)	4.11 (.083)	3.95 (.513)	high
Critical Reflection	3.85 (.072)	3.96 (.084)	3.77 (.072)	4.09 (.077)	3.92 (.513)	high
Total	3.95 (.070)	3.94 (.074)	3.76 (.055)	4.06 (.064)	3.93(.448)	high

For critical reflection in terms of providing reasons and proving hypotheses based on theories and overall critical thinking among nursing students at Rajamangala University of Technology Thanyaburi, there were statistically significant differences among the academic years at a .05 significance level. However, there was no significant difference in reasoning ability, as indicated in Table 3.

Table 3 Comparing the level of critical and overall reflection of nursing students at Rajamangala University of Technology Thanyaburi (n=169).

Level of Critical Reflection	Group	Sum of Squares	df	Mean Square	F-value	P-value
Technical Rationality	between groups	1.69	3	.56	2.35	.07
	within the group	39.48	165	.23		
	total	41.17	168			
Reflectivity	between groups	2.85	3	.95	3.79	.01*
	within the group	41.38	165	.25		
	total	44.23	168			
Critical Reflection	between groups	2.32	3	.77	3.04	.03*
	within the group	42.00	165	.25		
	total	44.32	168			
Total	between groups	1.87	3	.62	3.21	.02*
	within the group	31.97	165			
	total	33.84	168			

*p<.05

When comparing pairwise differences in critical reflection skills, there were statistically significant differences in two pairs at the .05 level. The differences were observed between first year and third-year students, and between third year and fourth-year students. In terms of specific aspects of critical reflection, there were differences in reasoning and hypothesis testing based on theoretical principles. First-year students differ significantly from third-year students and first-year students also differ significantly from fourth-year students. Additionally, third-year students differ significantly from fourth-year students in terms of critical reflection. These differences are significant at the .05 level, as indicated in Table 4.

Table 4 Compare the differences in pairs in the level of critical reflection of nursing students Rajamangala University of Technology Thanyaburi Classified by year.

Level	year	1st year	2nd year	3rd year	4th year
Reflectivity	1st year			.28*	.35*
Critical Reflection	1st year				.23*
	3rd year				.32*
Total	1st year			.19*	
	3rd year				.30*

*p<.05

Conclusions

The research findings reveal that nursing students at Rajamangala University of Technology Thanyaburi demonstrate a high level of critical reflection skills overall. This was attributed to the educational management system focusing on nursing professionalism and teaching strategies aimed at developing essential skills for learning in the 21st century (Songwatthanayuth and Polin, 2019). These factors contribute to enhancing the students' reasoning processes and analytical thinking. Reflective learning from theoretical studies and practical experiences leads to the exploration of new nursing practices that encompass personalized patient care (Shin, et al, 2022; Klaeson, et al, 2017).

When evaluating each academic year, it's observed that third-year nursing students had the lowest overall critical thinking scores among the four years. This is because third-year students begin more serious clinical rotations in patient wards (IPD). The learning process in the first and second years mainly involves theoretical studies with minimal exposure to practical training (Khorphon, et al, 2019). As a result, third-year students, who start engaging more with real patient scenarios, initially experience a higher level of critical thinking due to their practical training. However, this might also be situations where students lack prior experience or formal learning, leading to a decrease in their critical thinking levels upon encountering new situations. As students adapt and gain more experience from various clinical settings, their overall analytical thinking may improve over time. Fourth-year nursing students, having completed comprehensive practical nursing experiences in various specialties such as pediatric nursing, geriatric nursing, psychiatric nursing, maternal and child health nursing, obstetrics, among others, tend to demonstrate a more holistic approach to evaluating and assessing past experiences, forming the basis for analytical thinking. This influences their current decision-making processes (Riangrila, 2020). These findings align with Kaya, et al (2017) study, which found that third-year students had the lowest overall critical thinking scores, while those in the final year exhibited the highest levels of critical thinking among the four academic years.

The overall critical reflective of nursing students at Rajamangala University of Technology Thanyaburi differs significantly across different academic years at the .05 level. This difference was attributed to the critical reflection process, which involves scrutinizing, examining various aspects, and deriving deeper meanings that are more encompassing. It also involves synthesizing understandings from genuine experiences. The learning process incorporates the application of clinical nursing processes aimed at facilitating analytical thinking and clinical decision-making (Sawangchit, et al, 2019). As students' progress through higher academic years, they accumulate more experiences and understanding, leading to an enhanced critical reflective thinking process. This resonates with the findings of Shirazi and Heidari (2019), who discovered a significant correlation between academic years and the level of critical reflective thinking at the .05 level. Similarly, Kaya, et al (2017) study found a statistically significant positive relationship between academic years and critical thinking at the .01 level. While experiences in various clinical settings can influence the level of critical reflective thinking among nursing students in different academic years, the teaching methods used to develop this aspect need not solely rely on real-life experiences. Educational institutions can design learning activities to aid nursing students in enhancing their critical reflective thinking skills. These activities can prepare students before entering real-world scenarios, utilizing case studies and other methods to foster analytical thinking development.

Research Suggestions

1. Nursing instructors can use research findings to develop various teaching methodologies that promote critical reflective thinking among nursing students. This development aims to enhance students' abilities to engage in critical reflective thinking effectively.

2. There should be an advancement in the assessment methods for critical reflective thinking, particularly in the practical nursing aspect among nursing students. This is crucial as the assessment used in this research was a general assessment, which revealed a decrease in the level of critical reflective thinking when students transitioned to clinical practice.

3. It's advisable to conduct qualitative research studies focusing on critical reflective thinking during clinical rotations in patient wards (IPD). This type of research could provide deeper insights and understanding into the

nuances and complexities of critical reflective thinking in real-life clinical scenarios.

References

Dewey, J. (1933). How We Think. New York : D.C. Healt and Company.

Fawaz, M. A., Hamdan-Mansour, A. M., and Tassi, A. (2018). Challenges facing nursing education in the advanced healthcare environment. International journal of Africa nursing sciences, 9: 105-110.

Inchaithep, S. (2019). Transformative Learning: A Nursing learning management in clinics. Journal of Health Sciences Scholarship, 6(1): 1 – 10.

Jermtaisong, R. (2011). The Development of an Instructional Model to Enhance Critical Reflective Instructional Design Ability of Student Teachers. Dissertation of Doctor of Philosophy Program in Curriculum and Instruction. Chulalongkorn University.

Jermtaisong, R. (2018). Factors Related to Reflective Thinking of Student Teacher of Rajamangala University of Technology. Advanced Science Letters, 24(6), 4537-4540.

Kaya, H., Senyuva, E., and Bodur, G. (2017). Developing critical thinking disposition and emotional intelligence of nursing students: a longitudinal research. Nurse education today, 48: 72–77.

Khemmani, T. (2016). Reflective Teaching.The Journal of Royal Society of Thailand, 41(2): 211 – 222.

Khorphon, S., Pankeaw, J., Sarobol, T., Choopun, K., Chomchan, S., and Boonlue, N. (2019). Promoting of Critical Thinking Skills in Nursing Students Through Reflective Thinking. .Nursing Journal, 46(1): 87 – 101.

Klaeson, K., Berglund, M., and Gustavsson, S. (2017). The character of nursing students' critical reflection at the end of their education. Journal of Nursing Education and Practice, 7(5): 55-61.

Panich, V. (2015). Transformative Learning. Bangkok: S. R. Printing Massproducts.

Pinjai, P., Promphao, P., and Chirinkom, S. (2019). The effect of using reflective thinking process for developing cognitive skills among the second year nursing students who attending the Child and Adolescent Nursing subject. Journal of Nursing, Public Health, and Education, 20(3): 200 – 214.

Riangrila P. (2020). Research Studies on Reflective Thinking. Journal of Education Loei Rajabhat University, 14(2): 1 – 13.

Sawangchit, S., Kanglee, K., and Klinchet, N. (2019). Effects of Using Instructional Model Using Process of Group Teaching through Reflection to Enhance Academic Achievement and Critical Thinking Skills and Problem Solving for Nursing Students of The Royal Thai Army Nursing College. Journal of The Royal Thai Army Nurses, 20(3): 333 – 342.

Schön, D. (1983). The Reflective Practitioner: How Professionals Think in Action. London: Temple Smith.

Shin, S., Hong, E., Do, J., Lee, M. S., Jung, Y., and Lee, I. (2022). Development of Critical Reflection Competency Scale for Clinical Nurses. International Journal of Environmental Research and Public Health, 19(6): 3483.

Shirazi, F., and Heidari, S. (2019). The Relationship between Critical Thinking Skills and Learning Styles and Academic Achievement of Nursing Students. The Journal of Nursing Research, 27, e38.

Songwatthanayuth, P., and Polin, S. (2019). The Curriculum for Nursing Students in The 21st Century: Case Study and Transformative Learning. Journal of The Royal Thai Army Nurses, 20(2): 10 – 16.

Thailand Nursing and Midwifery Council. (2019). Announcement of Thailand Nursing and Midwifery Council to Nursing Standards 2019. Retrieved November 20, 2021 form www.tnmc.or.th/images/userfiles/files/A111.pdf

Yamane, T. (1973). Statistics: An Introductory Analysis. 3rded. New York: Harper and Row Publications.

Construction and Analysis of a Decision Tree-Based Predictive Model for Learning Intervention Advice

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Abstract
The rapid development of education informatization has accumulated a large amount of data for learning analytics, and adopting educational data mining to find new patterns of data, develop new algorithms and models, and apply known predictive models to the teaching system to improve learning is the challenge and vision of the education field in the era of big data. Learning intervention, as a core concept of learning analytics, refers to the purposeful and planned adoption of direct or indirect strategies or behaviors based on tracking learning behaviors and integrating information about learners' characteristics to give learners personalized guidance and assistance in order to help learners break through the status quo of learning difficulties and improve their learning abilities, so as to achieve tailored teaching. In this study, data mining was conducted on the performance records of students on math problems in an online learning system, and a learning intervention suggestion prediction model was constructed on the basis of decision tree algorithm using Python, with a view to understanding the effectiveness, willingness, style, and other characteristics of the learners' online learning through the analysis results, providing personalized guidance to students, and enabling teachers to intervene with at-risk students and successfully complete the teaching goals. It was found that the most significant impact of the learning intervention advice provided to learners was the number of hints they sought during the learning process, and that learners who needed to be "intervened" or "monitored" could be categorized into two groups: independent inefficient and dependent inefficient according to the model. Therefore, teachers or adaptive learning systems should intervene in a timely and appropriate way for different types of learning crisis groups to solve the problems of poor learning performance, insufficient commitment to learning, poor learning habits, low participation in learning, low self-efficacy and other problems of learners in different learning scenarios.
Keywords: educational data mining, learning analytics, decision tree, learning intervention, predictive model

Introduction

With the in-depth application of information technology in education, the development and change of education informatization has become increasingly significant (Olimov & Mamurova, 2022). At the level of large-scale application, education informatization has experienced changes at the level of Learning Management System (LMS) (Turnbull et al., 2020) and Web 2.0 (Shin & Kim, 2008) application, and the in-depth application of these new technologies has also brought concerns about the explosion of educational data. Students' online learning retains rich information about their learning trajectories, and learning behaviors in social networks show a trend of rapidly increasing data flow, thus a large amount of student learning data is stored in the LMS as the carrier of the environment. These data cannot be captured, stored, managed and processed with typical database software tools within a certain timeframe, and new processing models are needed to have stronger decision-making, insight discovery and process optimization capabilities to adapt to the massive, high growth rate and diverse information assets (Toshniwal et al., 2015). Thus, how to effectively leverage the potential value of big data in education to understand and optimize learning as well as learning contexts is receiving attention and focus from researchers (Daniel, 2019).

Meanwhile, learning analytics uses intelligent data, learner data, and analytical models to discover information and social connections on which to base learning predictions and provide recommendations (Ferguson, 2012). Its essence lies in first discovering the needs of a particular user, using technological methods to acquire data, analyzing the data, helping teachers, students, educational institutions, etc. to interpret the data, and taking interventions based on the results of the data, so as to achieve the goal of improving the effectiveness of learning and teaching (Verbert, 2012). In this context, this study conducted data mining on the performance records of students on math problems in an online learning system, and constructed a learning intervention suggestion prediction model based on the decision tree algorithm using Python, aiming to use the results of the analysis to understand to a certain extent the effectiveness, willingness, style, and other personalized characteristics of the learner's online learning, so that the teacher can carry out personalized interventions and guidance for at-risk students and successfully accomplish teaching goals.

Decision Tree-Based Classification Model for Learning Intervention Advice

Introduction to Data Classification and Decision Trees:

Classification technique in data mining refers to the categorization of data according to some specified attribute characteristics and has a strong application value (Kesavaraj & Sukumaran, 2013). Classification is the use of training data sets through a certain algorithm to obtain classification rules, the purpose is to obtain a classification function or classification model or called classifier, the model can map the data items in the data set to a given category, based on which the model can be used to identify the category to which the unknown object belongs (Krishnaiah et al., 2014). Classification can thus be used to extract models describing important data classes or to predict future data trends and is the basis of pattern recognition.

Decision tree is a basic but important algorithm in data categorization, it is a tree-like predictive model, usually its internal nodes represent tests on an attribute, while the leaf nodes represent the final category (Maimon & Rokach, 2014). The basic idea of decision tree is to make the original confusing data information gradually clear by dividing the data continuously. Its principles are simple, concrete and close to reality, but are the basis for a series of complex and powerful models (Song & Ying, 2015). Because decision trees are easy to understand and implement, and can produce feasible and effective results for large data sources in a relatively short period of time, this study will utilize the decision tree algorithm to construct a learning intervention recommendation prediction model.

Data description:

The data used in this study came from an online learning system and consisted of records of 378 students' performance on math problems, an overview of the data is shown in Figure 1, and the variables and their meanings are shown in Table 1.

	id	prior_prob_count	prior_percent_correct	score	hints	hint.y	complete	action
0	172777	650	0.723077	1.000000	0	False	True	2
1	175658	1159	0.800690	0.454545	49	True	True	1
2	175669	1239	0.656981	0.636364	15	True	True	2
3	176151	1246	0.729535	0.750000	9	True	True	3
4	176165	1299	0.568129	0.333333	13	True	True	1
5	176168	1415	0.684806	0.545455	22	True	True	2
6	176461	753	0.499336	0.363636	23	True	True	1
7	176486	772	0.576425	0.300000	34	True	True	2
8	176488	529	0.674858	0.421053	44	True	True	3
9	176494	1226	0.644372	0.250000	35	True	True	1
10	176522	1206	0.647595	0.583333	22	True	True	2
11	176613	1139	0.696225	0.500000	47	True	True	2
12	176623	1326	0.781297	0.800000	10	True	True	2
13	176627	1195	0.710460	0.416667	26	True	True	3
14	176630	1192	0.614094	0.352941	39	True	True	2

Figure 1. Overview of data

Table 1. Variables and their meanings

Variable name	Meaning
id	Student number
prior_prob_count	Number of questions answered
prior_percent_correct	Percentage of correct answers
score	Grades
hints	Number of hints sought
hint.y	Whether hints have been sought, 1 for yes, 0 for no
complete	Whether a topic has been completed, 1 for yes, 0 for no
action	Types of student behavior, with 1 indicating seeking help from the teacher, 2 indicating

	starting a new topic, and 3 indicating abandonment of the study

Descriptive statistics were done on the data to know the minimum, first quartile, median, mean, third quartile, and maximum values of each variable in all the records and the results are shown in Figure 2.

```
       id          prior_prob_count prior_percent_correct      score
 Min.   :172777   Min.   :   0.0   Min.   :0.0000        Min.   :0.0000
 1st Qu.:235002   1st Qu.:   0.0   1st Qu.:0.0000        1st Qu.:0.5000
 Median :247310   Median :  16.5   Median :0.4997        Median :0.6667
 Mean   :254539   Mean   : 175.8   Mean   :0.3818        Mean   :0.6636
 3rd Qu.:282856   3rd Qu.: 145.2   3rd Qu.:0.7140        3rd Qu.:0.9286
 Max.   :294463   Max.   :1570.0   Max.   :1.0000        Max.   :1.0000

     hints            hint.y          complete          action
 Min.   : 0.000   Min.   :0.0000   Min.   :0.0000   Min.   :1.000
 1st Qu.: 0.000   1st Qu.:0.0000   1st Qu.:0.0000   1st Qu.:1.000
 Median : 0.000   Median :0.0000   Median :1.0000   Median :2.000
 Mean   : 5.645   Mean   :0.4164   Mean   :0.5397   Mean   :2.016
 3rd Qu.: 5.000   3rd Qu.:1.0000   3rd Qu.:1.0000   3rd Qu.:3.000
 Max.   :95.000   Max.   :1.0000   Max.   :1.0000   Max.   :3.000
 NA's   :1        NA's   :1
```

Figure 2. Data descriptive statistics

The "score" is the most direct and powerful variable reflecting the online learning effect of learners, so it can be used as the basis for classification, and different learning intervention advice can be provided for learners in different score ranges. The histogram of the frequency distribution of "score" (Figure 3) can visualize the distribution of the number of people in each performance interval, and it is stipulated that learners with a value of "score" less than or equal to 0.3 should be intervened. Learners with a "score" greater than 0.3 but less than or equal to 0.9 should only be monitored, and learners with a "score" greater than 0.9 should not be subject to any intervention (no action).

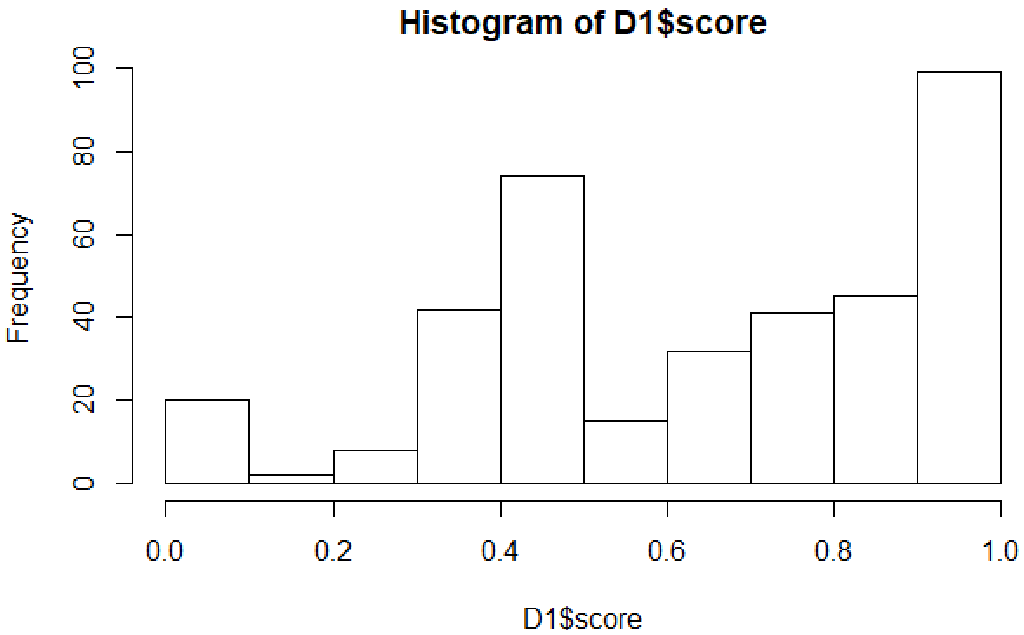

Figure 3. Histogram of the frequency distribution of "score"

Data preprocessing:
In this study, the performance records of 378 students on math problems in an online learning system were used as the training and testing data set. According to the performance intervals combined with the level, form, and purpose of the intervention, the learning interventions that the learners should receive were categorized into

"intervened", "monitored", and "no action". The criteria for the classification of learning intervention advice are shown in Table 2, and an overview of the preprocessed data is shown in Figure 4.

Table 2. Criteria for classifying learning intervention advice

Performance interval	Learning intervention advice
[0,0.3]	intervene
(0.3,0.9]	monitor
(0.9,1]	no action

	id	prior_prob_count	prior_percent_correct	score	hints	hint.y	complete	action	advice
0	172777	650	0.723077	1.000000	0	False	True	2	no action
1	175658	1159	0.800690	0.454545	49	True	True	1	monitor
2	175669	1239	0.656981	0.636364	15	True	True	2	monitor
3	176151	1246	0.729535	0.750000	9	True	True	3	monitor
4	176165	1299	0.568129	0.333333	13	True	True	1	monitor
5	176168	1415	0.684806	0.545455	22	True	True	2	monitor
6	176461	753	0.499336	0.363636	23	True	True	1	monitor
7	176486	772	0.576425	0.300000	34	True	True	2	intervene
8	176488	529	0.674858	0.421053	44	True	True	3	monitor
9	176494	1226	0.644372	0.250000	35	True	True	1	intervene
10	176522	1206	0.647595	0.583333	22	True	True	2	monitor
11	176613	1139	0.696225	0.500000	47	True	True	2	monitor
12	176623	1326	0.781297	0.800000	10	True	True	2	monitor
13	176627	1195	0.710460	0.416667	26	True	True	3	monitor
14	176630	1192	0.614094	0.352941	39	True	True	2	monitor

Figure 4. Overview of pre-processed data

Decision Tree-Based Predictive Model for Learning Intervention Advice
Model Building Tools:
Data mining is an effective way to improve the utilization of data and efficiency can be improved by using existing data mining tools such as Eviews, SPSS, SAS, Stata, Matlab, R, WEKA, RapidMiner, etc. all of which have their own distinctive dominant strengths, areas of application, processing capabilities, interface design, security mechanisms, processing efficiency and forms of combination (Romero & Ventura, 2013). This study uses the Python scikit-learn library, which is an open source framework for machine learning and data mining that provides users with a range of simple and effective tools for performing a variety of machine learning tasks such as classification, regression, clustering, dimensionality reduction, model selection, and so on (Pedregosa et al., 2011).

Construction of a Predictive Model for Learning Intervention Advice:
A model or a mapping or a function is learned by means of samples labeled with categories, thus constructing a decision tree capable of predicting recommendations for learning interventions. This process is also known as supervised learning (Niculescu-Mizil & Caruana, 2005) since the labeling of the samples is given artificially. The preprocessed data is subjected to stratified sampling, where 80% is used as the training dataset and the remaining 20% is used as the test dataset. After filtering by feature engineering, the number of questions answered by students "priority_prob_count", the percentage of correct answers "priority_percent_correct", and the number of times seeking hints "hints" as predictor variables and "advice" as outcome variable, the decision tree model obtained is shown in Figure 5.

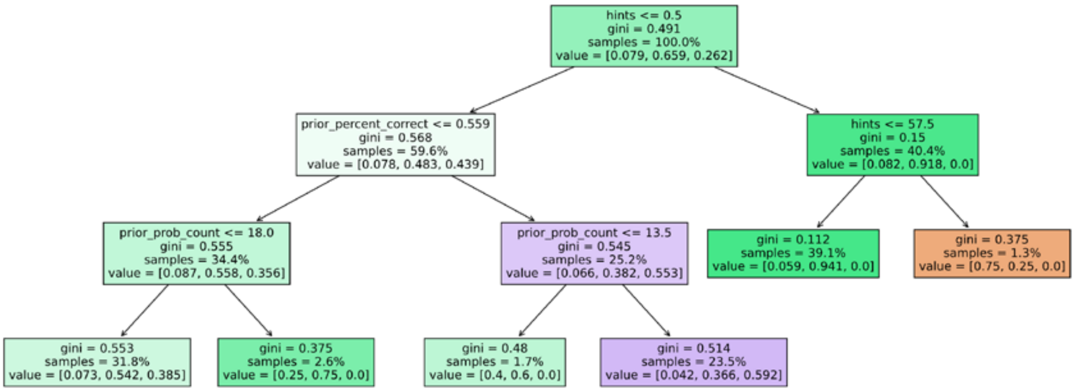

Figure 5. Decision tree-based predictive model for learning intervention advice

In the figure, the samples on the leaf node represent the proportion of the amount of data used to make judgments and obtain results under this branch in the training dataset. The value in a leaf node indicates, from left to right, the proportion of data in the leaf node that is represented by the three types of learning intervention advice: "intervened", "monitored", and "no action", respectively. In addition, the three feature significance levels, as shown in Table 3, indicate that the number of hints sought by learners during the learning process had the most significant effect on the classified learning intervention advice.

Table 3. Feature significance

Feature name	Significance
hints	0.81
prior_prob_count	0.11
prior_percent_correct	0.08

Model Validation:

The process of arbitrarily classifying an unlabeled sample, given an unlabeled sample, with a model that has been learned, i.e., given its class labeling, is the prediction of the class of an unknown object using a decision tree model. This study generates a prediction of the learning intervention advice corresponding to each record in the test dataset, compares it with the learning intervention advice that the learner should receive according to the grade interval, and obtains a prediction accuracy of 71.05%, and the comparison of the predicted advice with the advice classified according to the grade interval is shown in Fig. 6.

id	prior_prob_count	prior_percent_correct	hints	advice	predict
285944	0	0.000000	0	monitor	monitor
293545	0	0.000000	4	monitor	monitor
236174	103	0.594660	5	monitor	monitor
236192	122	0.639344	0	monitor	no action
234984	70	0.757143	5	intervene	monitor
251082	6	0.666667	1	monitor	monitor
240299	89	0.584270	0	no action	no action
231693	456	0.710526	0	no action	no action
293636	0	0.000000	1	monitor	monitor
284735	0	0.000000	9	monitor	monitor
291188	0	0.000000	0	no action	monitor
231040	74	0.270270	15	intervene	monitor
284739	0	0.000000	2	monitor	monitor
284252	0	0.000000	5	monitor	monitor
235002	132	0.469697	0	monitor	monitor

Figure 6. Predicted advice vs. advice by performance intervals

Result Analysis and Discussion

The construction of a decision tree-based prediction model for learning intervention advice reveals that the most significant influence on the learning intervention advice that should be provided to the learner is the number of hints sought by the learner during the learning process. Whereas learning intervention suggestions are categorized according to performance intervals, the relationship between the number of hints sought and "score" is thus further explored, and the resulting scatterplot is shown in Figure 7. It can be seen that the performance of learners who seek too many hints is less satisfactory, which also confirms that they may have poor abilities in independent learning, adapting to the environment and thinking independently, and it is more necessary for the teacher or the adaptive learning system to analyze the relevant behavioral data of the learner, adopt appropriate intervention strategies, and provide them with targeted support, including activities and resources, so as to ultimately improve the performance of the learner and solve the learning problem (Aleven et al., 2003).

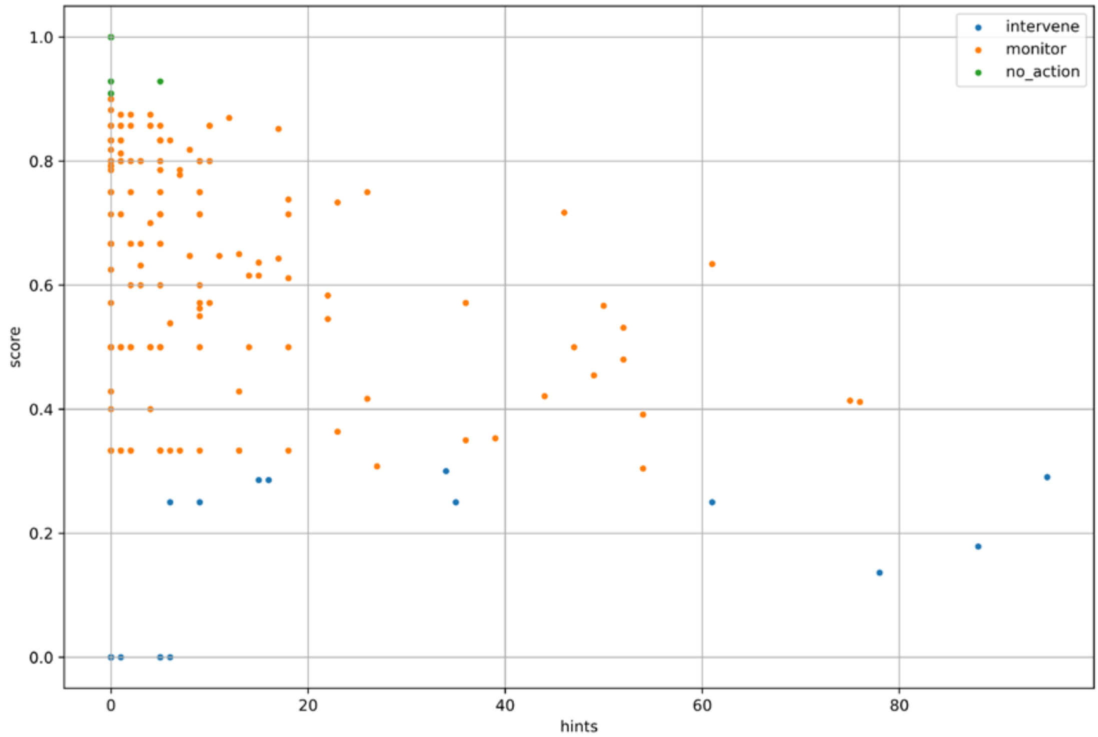

Figure 7. Scatterplot between the number of hints sought and "score"

At the same time, combined with the phenomena reflected in the obtained decision tree model, learners who need to be "intervened" or "monitored" can be categorized into two main groups. The first one is the independent inefficient type, this kind of learners like to learn and think independently, which is manifested in less interaction with the teacher or the elements in the learning environment, but the performance is not satisfactory, for example, the number of times of seeking hints is low but the correct rate of answering the questions is low; the second one is the dependent inefficient type, this kind of learners like to learn in the environment of communicating with the outside world, and they will give feedback to the outside world to get help when they encounter the difficult problems, for example, the number of times of seeking hints is high. Therefore, for the different learning states of learners, teachers can provide manual intervention supported by experience such as psychological counseling, face-to-face meeting, emotional encouragement, etc. (Baugh, 2018), and intelligent agents can provide automatic intervention supported by data such as message reminder, resource recommendation, path planning, etc. (Kabudi et al., 2021), which can bring forward-looking, scientific and differentiated learning support for learners.

Specifically, by looking at the generated decision tree model, it can be observed that different behavioral representations of the learner imply different learning intervention strategies that need to be adopted, which can be broadly categorized as follows:

(1) If learners seek hints very often (leaf node 6), they need to be "intervened", which is generally a precise, personalized one-on-one intervention designed for individuals, and belongs to the high level of intervention. In the online learning environment, if learners frequently seek external prompts and help, indicating that their understanding and cognitive level of knowledge is poor, and that they have difficulty in solving basic problems independently through internalized ways of thinking, then they are at a higher risk of learning than other students, and they are considered to have a more serious learning problem. Therefore, the teacher's intervention for this type of learners tends to be more targeted and directional, through the analysis of the learners' answer situation, to understand the degree of mastery of the learners for each knowledge point, for the weak knowledge points and knowledge of the blind spot recommended learning resources, so that learners to check the leakage of fill in the gaps, to make the learners clearly aware of their own learning status and the existence of the problem, and to provide the learners with a certain learning suggestions and methods.

(2) Learners need to be "monitored " if they seek hints more often (leaf node 5), or if they seek hints less often but answer questions less correctly (leaf nodes 1 and 2), or if they seek hints less often, answer questions more correctly, but answer fewer questions (leaf node 3). This type of intervention is generally a one-to-many intervention for a group, and is a low-level intervention. The "Hawthorne effect" (Sedgwick & Greenwood, 2015) experiment proves that when individuals realize that their behavior is being watched by others, they tend to make positive changes, and the efficiency of learning and interaction increases greatly. That is to say, teachers should participate in the course synchronously, real-time tracking and monitoring of the learners' online learning behavior,

can use the online learning platform message timely feedback class overall answer situation and individual student learning progress bar, coordinating the overall care and individual tutoring, and still give the learners a high degree of autonomy in order to enable them to self-regulate the pace of learning. The main purpose is to prevent learners from having learning crises, to provide warm reminders for learners to enhance their awareness of participating in online learning behaviors, and to help learners rationally arrange their own learning plans (Landrum, 2020).
(3) If the learner seeks fewer hints, has answered more questions, and has a high rate of correct answers (leaf node 4), the strategy of "no action" can be adopted. That is to say, for the cognitive behavioral level with strong self-awareness, initiative and comprehension of the learner, its own or already have a self-driven, self-monitoring, self-feedback and self-regulation metacognitive abilities, tend to learn to learn in the independent learning of the realm of "learning to learn" (Thrun & Pratt, 2012), then there is no need to forcibly interrupt or interfere with the original learning rhythm. Otherwise, it may be counterproductive and not conducive to the cultivation of core literacy and the development of the subjective consciousness of the learner.

Conclusions

In this study, a prediction model for learning intervention advice was constructed on the basis of a decision tree algorithm using Python data mining tools with a dataset of records of students' performance on math problems in an online learning system. It was found that the most obvious influence on the learning intervention advice that should be provided to learners is the number of learners seeking hints during the learning process, and the personalized characteristics such as learning efficiency, question-answering behavior, and learning styles are classified according to the learners' learning efficiency, so as to "prescribe the right medicine", which is of certain positive significance for providing suitable and appropriate learning intervention advice.

Certainly, there are many shortcomings in this study. On the one hand, in the process of data preprocessing, the classification of learners according to performance intervals is subjective, and may not be applicable to other learning interventions in more complex and variable learning situations. On the other hand, the data itself carries less information about the variables, and only some of these variables are selected in the decision tree model construction, perhaps omitting other important feature information, resulting in an incomplete identification of the learner's state (Twala, 2009).

Precisely because intervention is the most direct part of learning analytics technology to improve and enhance learners' learning effectiveness, which is crucial for maintaining learning status, how to carry out timely and appropriate interventions and construct intervention models that can effectively improve learning effectiveness has become an important issue in the field of learning analytics (Kew & Tasir, 2022). Future research hotspots should further delve into the specific learning intervention strategy model based on educational big data, centering on the intervention engine, with the goal of discovering learners' learning difficulties and enhancing learners' learning effectiveness, and starting to build from the four cyclical aspects of learners' learning state identification, intervention strategy matching calculation, intervention strategy implementation, and intervention effect analysis. Based on learning science, teaching theory, curriculum design theory and existing research results, by constructing a multi-dimensional learner portrait, analyzing and monitoring student learning, evaluating the quality of teaching activities, and discovering problems in learning in a timely manner, this is the value of big data and learning analytics in education in the era of information explosion, which should also become a new field of special attention for educational technology researchers (Herodotou et al., 2019).

References

Aleven, V., Stahl, E., Schworm, S., Fischer, F., & Wallace, R. (2003). Help seeking and help design in interactive learning environments. *Review of educational research*, *73*(3), 277-320.

Baugh, A. (2018). The importance of guidance and counseling in present education system: Role of the teacher. *International journal of advanced educational research*, *3*(2), 384-386.

Daniel, B. K. (2019). Big Data and data science: A critical review of issues for educational research. *British Journal of Educational Technology*, *50*(1), 101-113.

Ferguson, R. (2012). Learning analytics: drivers, developments and challenges. *International Journal of Technology Enhanced Learning*, *4*(5-6), 304-317.

Herodotou, C., Rienties, B., Boroowa, A., Zdrahal, Z., & Hlosta, M. (2019). A large-scale implementation of predictive learning analytics in higher education: The teachers' role and perspective. *Educational Technology Research and Development*, *67*, 1273-1306.

Kabudi, T., Pappas, I., & Olsen, D. H. (2021). AI-enabled adaptive learning systems: A systematic mapping of the literature. *Computers and Education: Artificial Intelligence*, *2*, 100017.

Kesavaraj, G., & Sukumaran, S. (2013, July). A study on classification techniques in data mining. In *2013 fourth international conference on computing, communications and networking technologies (ICCCNT)* (pp. 1-7). IEEE.

Kew, S. N., & Tasir, Z. (2022). Developing a learning analytics intervention in e-learning to enhance students' learning performance: A case study. *Education and Information Technologies*, *27*(5), 7099-7134.

Krishnaiah, V., Narsimha, G., & Chandra, N. S. (2014). Survey of classification techniques in data mining. *International Journal of Computer Sciences and Engineering*, *2*(9), 65-74.

Landrum, B. (2020). Examining Students' Confidence to Learn Online, Self-Regulation Skills and Perceptions of Satisfaction and Usefulness of Online Classes. *Online Learning*, *24*(3), 128-146.

Maimon, O. Z., & Rokach, L. (2014). *Data mining with decision trees: theory and applications* (Vol. 81). World scientific.

Niculescu-Mizil, A., & Caruana, R. (2005, August). Predicting good probabilities with supervised learning. In *Proceedings of the 22nd international conference on Machine learning* (pp. 625-632).

Olimov, S. S., & Mamurova, D. I. (2022). Information Technology in Education. *Pioneer: Journal of Advanced Research and Scientific Progress*, *1*(1), 17-22.

Pedregosa, F., Varoquaux, G., Gramfort, A., Michel, V., Thirion, B., Grisel, O., ... & Duchesnay, É. (2011). Scikit-learn: Machine learning in Python. *the Journal of machine Learning research*, *12*, 2825-2830.

Romero, C., & Ventura, S. (2013). Data mining in education. *Wiley Interdisciplinary Reviews: Data mining and knowledge discovery*, *3*(1), 12-27.

Sedgwick, P., & Greenwood, N. (2015). Understanding the Hawthorne effect. *Bmj*, *351*.

Shin, D. H., & Kim, W. Y. (2008). Applying the technology acceptance model and flow theory to cyworld user behavior: implication of the web2. 0 user acceptance. *Cyberpsychology & behavior*, *11*(3), 378-382.

Song, Y. Y., & Ying, L. U. (2015). Decision tree methods: applications for classification and prediction. *Shanghai archives of psychiatry*, *27*(2), 130.

Thrun, S., & Pratt, L. (Eds.). (2012). *Learning to learn*. Springer Science & Business Media.

Toshniwal, R., Dastidar, K. G., & Nath, A. (2015). Big data security issues and challenges. *International Journal of Innovative Research in Advanced Engineering (IJIRAE)*, *2*(2).

Turnbull, D., Chugh, R., & Luck, J. (2020). Learning Management Systems, An Overview. *Encyclopedia of education and information technologies*, 1052-1058.

Twala, B. (2009). An empirical comparison of techniques for handling incomplete data using decision trees. *Applied Artificial Intelligence*, *23*(5), 373-405.

Verbert, K., Manouselis, N., Drachsler, H., & Duval, E. (2012). Dataset-driven research to support learning and knowledge analytics. *Journal of Educational Technology & Society*, *15*(3), 133-148.

Digital Analysis of the Lobbying Activity of the Turkish World: TURKSOY Case

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Abstract
States, communicating with the diasporas who have migrated to different countries and sharing cultural, religious and economic shares by helping diasporas protect themselves and aim to show that diasporas are not supported by their homeland. These shares also strengthen their relations with diasporas and their countries and positively contribute to the international image of states. For this purpose, the Turkish government also interacts with citizens living in the Turkish world and constitutes a public diplomacy before them. With new communication technologies, public diplomacy activities are being carried out through digital channels. This study combines Türksoy's diasporas in the Turkish world with digital public diplomacy.
Keywords: Diaspora, Turkish World, TURKSOY, Communication, Education.

Introduction

International Turkish Culture Organization (TURKSOY), Azerbaijan, Kazakhstan, Kyrgyzstan, Turkey, Turkmenistan and Uzbekistan Cultural Ministers 19-20 June 1992 Istanbul and 30 November-02 December 1992 in the meetings held in the meetings of the International signed on 12 July 1993 It was established with an agreement. According to Purtaş (2012), the TURKSOY Organization has contributed to the reinforcement of the cultural partnership among the member states with its critical activities since its establishment, and it is a cultural cooperation organization that has made significant contributions to the intercultural rapprochement process with its efforts to promote the Turkish culture to the world.
One of the public relations practices used by organizations for political powers is lobbying (Bıçakçı, 1998: 143). With this, it aims to change a political issue or prevent a possible change (Tosun, 2003: 353). For this purpose, it is known that different organizations operating in different business lines lobby in line with their own goals and expectations (Faupin, 2005: 92). This situation leads to various definitions of lobbying. For example, while an organization operating in the production sector defines lobbying activities according to its own, an organization in the service sector can use a different definition. However, a common point, such as “influencing decision makers”, is also seen in all definitions.
According to Hikmet Election (1994: 18), lobbying is the effort to inform and influence people who are legislators or decision-makers in public administration. According to Sezgin (2002: 752), Using lobbying, persuasion, convincing and promotional techniques is defined as the ability to put pressure on decision-making mechanisms (such as the legislative, executive, judiciary, local assemblies and board of directors) and change the decisions of a group or against a country.
Almost all public relations practices given in brief information are made for similar purposes, and lobbying is different. In general, lobbying appears as the initiatives of individuals and private interest groups to influence political decision-making (Peltekoğlu, 2004: 381).
Lobbying, which is a public relations practice, aims to establish the decision-making authority and remove the decisions in the desired direction but also aims to create a positive image for the organization and gain public support by explaining the case and the organization to the public. As a result of the seizure of global power by multinational companies in the world in the world, nowadays, public relations (Bıçakçı 1999: 279), which is of interest to the private sector rather than the public sector, has become more and more frequently used lobbying.
The main objectives of lobbying in public relations are To prevent the negative attitudes that may occur in the target audience, to strengthen the reputation of the organization in public opinion, to increase awareness, to reposition, to make the legal decisions that may affect the fields of activity to be taken according to the situation or to ensure that the necessary arrangements are made.

Method

Our research aims to reveal whether the benefits of lobbying in realizing the organization's goals as a public relations practice is valid through the "Lobbying Activity of the Turkish World: Türksoy Case". For this purpose, the first cooperation organization established in the Turkish world, the International Turkish Culture Organization

TURKSOY, Azerbaijan, Kazakhstan, Kyrgyzstan, Uzbekistan, Turkmenistan and the Republic of Turkey, then the Turkish Republic of Northern Cyprus. The lobbying activities in the Gagauz Place of Tatarstan, Bashkortistan, Altai, Field, TIVA Hakas, and Moldova affiliated to the Russian Federation are to strengthen the heartiness and brotherhood of Turkish peoples since the day it was founded and to introduce the common Turkish culture to the future generations. As the Public Relations Practice, the issue of lobbying makes our work vital because it is the first in the TRNC since it has not been studied in the Turkish Republic of Northern Cyprus. In Turkey, close studies in this field have not gone beyond the literature screening and did not include research findings. The fact that these are being done for the first time with our doctoral thesis research reveals the study's originality. The research, TURKSOY, the first cooperation organization of the Turkish world, Azerbaijan, Kazakhstan, Kyrgyzstan, Uzbekistan, Turkmenistan, the Republic of Turkey, and the Turkish Republic of Northern Cyprus, has been limited to the lobbying activities in the Gagauz Place of Tatarstan, Bashkortistan, Altai, Field, TIVA and Hakas and Moldova, affiliated to the Russian Federation.

Short History of TURKSOY

TURKSOY, the International Organization of Turkish Culture, is the Organization of Culture and Art, which continues to work in order to investigate, develop and promote common Turkish Culture, art, history, and present historical heritage by establishing friendly relations between Turkish origin and Turkish language -speaking countries and peoples.

The international agreement, which can be described as the foundation of Türksoy's establishment, was signed on July 12 1993, in Almaty, the capital of Kazakhstan at that time. The agreement declared their independence from the Union of Soviet Socialist Republics; Azerbaijan, Kazakhstan, Kyrgyzstan, Turkmenistan, Uzbekistan and Turkish Cultural Ministers as Azerbaijan Turkish, Kazakh Turkish, Kyrgyz Turkish, Uzbek Turkish, Turkmen Turkish and Turkish Turkish signed it. The TURKSOY organization created by this agreement, then the Republics of the Russian Federation Altay, Bashkortistan, Hakas, Field-Yakut, Tatarstan and TIVA, together with the Gagauz Place of Moldova and the Turkish Republic of Northern Cyprus, including the founding and observer countries The number was 14 (Aliyi, 2020, p: 13). In the past time, Türksoy has developed continuously and has made significant innovations about the Turkish World.

T.C. According to the protocol published in the Official Gazette on September 04 1994, T.C. A protocol was signed between the Ministry of Foreign Affairs and the Secretariat General of TURKSOY, the settlement of the organization's headquarters in Ankara and the status of national representatives and international personnel. The TURKSOY Organization was established in Ankara in 1993 and continues its activities as an international organization with all diplomatic privileges, immunes and rights. The states are the organization's host country and the Republic of Türkiye deposit. The official language of the organization is Türkiye Turkish. Türksoy Organization as a whole: Permanent Council, Term Coordinator, TURKSOY Secretariat, and representatives of the member states. TURKSOY Corporate Activities, Permanent Council Member

He is the chairman of the period coordinator, elected among the ministers of Culture and served as the president of Türksoy. Türksoy's rulers are determined by election by complying with democratic principles, customs and rules. In addition, member and observer countries have equal rights in the organization.

In the thirteenth year of Türksoy, its capacity grew, and it was moved to the new service building in 2006, with an increase in the number of representatives of the member states and international personnel. For these reasons, a new host-country agreement was needed. In this context, on February 04, 2010, T.C. He signed a "Host Country Agreement link between the Ministry of Foreign Affairs and the Turkey Secretariat. With this agreement, the privileges that TURKSOY and its personnel will benefit from during their activities in Turkey are determined legally by the immunes (Official Gazette, 2011, No: 28038).

TURKSOY's activities are not limited to member states and are spread across a broad geography, including the Balkans. In the realization of these activities, the Turkish Council, Türkpa, Turkish Academy, Turkish Culture and Heritage Foundation, Yunus Emre Institute (YEE), Turkish Cooperation and Coordination Agency (TİKA) and international Turks and relative communities (YTB) worked in the coordination of Türksoy institutions.

TURKSOY also cooperates with national organizations such as the United Nations Education, Science and Cultural Organization (UNESCO), Council of Europe, ISESCO, IRCICA and CIS countries, where the same principles and objectives share the same principles and objectives. Today, it would not be wrong to say that Turkey contributed to many of the activities organized about common Turkish Culture worldwide (Aliyi, 2020, p: 13).

TURKSOY's Purpose

In the Tenth Year Book of Türksoy by Şengül (2006), the organization's primary purpose is in the Turkish language's geographies. It is stated to strengthen the brotherhood and cultural unity among the peoples whose language, history and culture are familiar. Undoubtedly, one of the most important goals of Türksoy is to create suitable environments and conditions for the use of a common language and alphabet in the Turkish world geography.

In doing all these studies, the organization aims to establish mutual friendship bridges at all times, provided that it teaches the principles of their cultures and their mother tongue. It strengthens scientific research, which prepares an environment to transfer the national history, language, literature, culture, art, traditions and traditions of the communities living in the regions of the working regions to future generations and deals with the shared past of friendly and brotherly peoples as well as the shared past of friendly and brotherly peoples. For the said purposes, he has published various printed works, opera days, poets, painters, sculptures and photographers meetings; international festivals; commemoration and celebration days; exhibitions, conferences, symposiums and panels (Kaseinov, 2019: 41-49).
Cultural and artistic activities organized for these purposes have significantly supported global peace and intercultural interaction. In addition, it makes significant contributions to the emergence of scientific research that deals with the familiar past, history, language and literature, culture and art of the people living in the geographies in the working region.

The concept of lobbying and legal arrangements

Lobbying (Fupin, 2005: 92), which has been behind the power of decision-making, influencing the government and the members of the parliament, starts from the early ages of the governing and rules in terms of historical origins. The first release date of the United States is considered the early period adopted by the Republic (Dincer, 1998: 51–52), the first release date of the United States.
America, the first place where modern practices are done, planned, programmed and consciously, is still the capital of world lobbying; it is known that more than 20 thousand lobbyists operate in Washington only in Washington (Powell and Cowart, 2003: 238).
In addition to the United States, the European Union, another power influential in world politics, is one of the essential places where today's lobbying is done. It is known that there were more than 10,000 lobbying at the end of the 20th century in Brussels, which became the gathering centre of the member states of the Union, and that they are trying to influence the institutions and administrators of the member states (Çamdereli, 2000: 292).
Lobbying, which is so cared for and influential in the decision-making bodies of two superpowers, such as America and Europe, is not only a mere activity but three elements. According to Kazancı (2002: 282), these elements are lobbying, lobbyists and lobbying studies.
Lobbying, public, printing groups, companies, or national lobbies, in their countries or foreign countries for the legislative, executive and even judicial bodies, whether the support of the laws in line with their interests, whether or not the appointment of government officials, using various communication techniques by using material/ spiritual persuasion by using various communication techniques It is a series of organized actions that require continuity.
Although the history of lobbying is not as old as the history of humanity, it has a historical history that goes up to the early ages when people began to live as a society and the governed relationship existed (Mack, 1989: 1). For this reason, it is claimed that the second oldest profession in the world is lobbying (Howe and Trott 1978: 20).
Lobbying has been a form of application that has been made in line with the social, religious-moral and economic life of the society in direct proportion to the social, religious and economic life of the society and has the methods of organized and conscious influences that have been done with the arguments of time in line with the needs of time by showing the stages of societies.

Modern Lobbying History and Legal Regulations in Turkey

A nation with a long history in terms of its origins, establishing and governing many states and empires, and ultimately establishing the Republic of Turkey, must be as old as the lobbying history.
The oldest lobbying information about the Turks is the information on the southern face of the Ash Tigin Monument and the east of the Bilge Khan Monument. Although there is no direct information about lobbying in these inscriptions, they do not leave their homeland, nor their customs and traditions, and the Chinese could change the society and state order as he wished by bringing the administrators and the people closer to himself with various gifts, unique silk and beautiful words, otherwise the Turks did not believe it. Otherwise, the Turks did not believe it. He advises that they will fall into captivity (Ergin, 2001: 3-52).
It is understood from this that the precious and beautiful gifts given by the Chinese were made for lobbying according to the conditions of the time to influence people with power and power and to refer them to a particular situation, while the history of lobbying in the Turks.
During the Ottoman Empire, various lobbying activities were encountered. On May 7, 1830, Turkey and the United States signed the first trade agreement. Turkish-American relations were given official dimensions, and the privileges granted to other countries with capitulations were also granted to this country (Kantarcı, 2001: 141). The lobbying studies carried out in these and later periods were generally carried out by foreign tradesmen and minorities (by Jewish and Armenian rich) who were in the subject of subjects. For example, the Committee of Union and Progress Society, where Jews and returns dominated, had shown someone who trusted the Sultan under control in the period when it was active (Yalçın, 2004: 79), at the same time, the purpose of reaching their desires

directly to the upper level. It is also a known fact that even the interpreters of the embassies of foreign countries in Istanbul have significantly influenced the state (Öymen, 2002: 186).

It is seen that Jewish and Armenian lobbies have intense work in the event of whether or not the Janissary Quarry was removed. According to Soner Yalçın (2004: 123–124), the Jewish Sarrafs at that time greatly impacted the palace by establishing partnerships and various relationships with janissary aghas. For this reason, they always opposed the abolition of the Janissary Quarry and carried out activities in this direction. However, various circles, especially Armenians, who were uncomfortable with the influence of the Jews on the palace, wanted to increase their power over the Ottoman Empire. For this purpose, the Armenian capital supported the establishment of the janissary quarry and the establishment of the Credit army with extraordinary requests.

In the sense that we understand today, Turkey started its modern lobbying studies for the first time in 1924 after the transition to the Republic, 1924 the "Turkish Teavün Society" (Turkish Welfare Association". In response to the "No Lausanne Treaty!" Campaign initiated by the Armenian and Greek lobbies to cancel the "friendship and trade treaty, he launched the first modern lobbying study in Turkey by showing the first reaction in 1924.

In response to the work of Armenian and Greek lobbies, he published a small brochure titled "Free People's Leaders'. It was an open letter or a memorandum. The American Congress was distributed to members. "We, Turkish colonies in the United States… We respectfully present this memorandum to your attention". The deliberate slanders of the Turkish enemies were "vehemently protesting .. After that, why the Lausanne Treaty should be approved, and the contribution of this to world peace and Turkish-American relations was explained (Şimşir, 2001: 43-44).

The Republic of Turkey, after these works initiated by volunteers in 1924, has made the formation of several official institutions for our national promotion abroad and the training of elements that can perform little lobbying activities. The most important are the Ministry of Culture and Tourism, Anadolu Agency, TRT, General Directorate of Press and Publication and the General Directorate of Foreign Affairs (Soysal, 1999: 725), established on 23 July 1958.

Through the state, the first international professional trials began in 1981 with an agreement with an American professional lobby company to protect Turkey's interests in the United States. This agreement and this date began the first Turkish lobbying in the modern sense. After this date, agreements with various lobbying organizations and initiatives in this direction have continued (Özsoy 1999: 191). The agreements have changed quality and quantity by undergoing various changes per the needs. Previously, it has led to the demand for a broader range of services from the lobbying companies requested on limited issues. For example, in return for an agreement with Turkey's company "Capitoline / M.S. L in 1994, the company has committed to providing the following services (Özsoy, 1999: 194);

- Research customers,
- Preparing testimony for open talks in committees,
- Creating political action committees (PAC),
- Creating a coalition with other lobbies,
- To observe the interests of its customers at the state and local level,
- To carry out relations with the media,
- Organizing Grass Roots Campaigns,
- Making publications for promotional purposes on behalf of customers,
- To announce the written statements to be made by the Turkish Embassy to the American public.

Although our country's lobbying activities are primarily for international purposes, it is seen that the U.S. and E.U. mainly target this. In today's world, two superpowers (Private, 1994: 57), such as the U.S. and the E.U., are in economic, commercial, political and military fields, decisive and impressive positions. Apart from these, only a few activities can be shown as examples in the international arena on behalf of our country.

In our country, lobbying activities have been carried out since the establishment of parliaments based on folk will, although not legal and institutionalized like the USA (Unat, 1987: 49). For this purpose; it is seen that similar activities are carried out in the Turkish Grand National Assembly and various ministries (Aziz, 2003: 27).

While the lack of legal rules that regulate lobbying in our country constitutes a deficiency in this field, in the Constitution and Laws, other rules of law can limit this area indirectly. For example, the Law on Political Parties No. 2820 is one of them (T.C. Official Gazette, Publication Date: 24.04.1983, Issue: 18027).

Communication dimension of lobbying activities in Turkey: TURKSOY Case

When we look at the lobby studies still being applied within Turkey, it can be said that these are not fully organized, and how and by whom are unknown and mostly negative images (Dinçer, 1998). Today, many interest groups in Turkey can ensure the approval of the legal regulations they want with lobbying activities; they can intervene in appointing and promoting the officers they find close to them and benefit from a number of material and moral privileges. Although the political structure of the United States is a significant business line that draws attention and is respected for the legal regulations needed by every segment in this country, the Lobbying Institution is seen as a wrong and informal way to finish business in public relations in Turkey. (Dinçer, 1998). There is no lobby order and environment established in Turkey. There is no such business that has been accepted by society. However, there is informal and traditional lobbying in Turkey.

Before submitting important tenders or critical law proposals, national or international printing group representatives carry out lobbying studies before the relevant institutions. In Turkey, the election campaign of the parties' candidates during the election periods is very costly. Money is found in the printing groups, usually deemed appropriate by the group members on the candidate lists; these people are put into parliament and lobby on behalf of themselves (Çomaklı, 2003). Similarly, it was seen that the large companies and holding managers entered the parliament to represent their groups. The printing groups in our country provide specific support while making certain requests from the government to ensure that certain public services and goods are offered to the printing groups of these supports and demands. Such a relationship results in bargaining between the printing groups and the government (Erkan, 1992). In addition, the recent corruption scandals show that bribery to lobbying in our country is transmitted in amounts exceeding trillions (Ay, 2003). Again, in our country, invitations and cocktails are the most suitable environments for lobbying in the individual sense. Cocktails are organized after ceremonies or meetings, ball and invitation organizations are organized on official holidays, and environments are individual but natural lobbying environments in our country. Bureaucrats requesting promotion in the public sector, those who follow the tender, those who have problems in one way or another, and those who will solve these problems may have significant opportunities in these cocktails (Kazancı, 2002). In an individual sense, it can be said that lobbying initiatives were carried out by significant capital groups (Sönmez, 1990). The fact that it has a negative image and the work followers of the work of the people who perform most lobbying activities is also called the work followers of the work followers of the tender follower. In Turkey, it is possible to make the work follow-up of some spouses, friends and relatives who are not institutionalized in Turkey, close to deputies or decision-makers. Since lobbying in Turkey is not settled as a profession, the capital offices and senior executives of the significant holdings, people who are close to the bureaucrat environment, some public relations and advertising agencies, workers' unions, media, agricultural organizations, chambers, high school and university societies, These are weak activities carried out by the Secretaries of Chambers and Associations. In addition, deputies in Turkey are interested in business follow-up in line with the demands of citizens and printing groups in addition to their legislative duties (Dinçer, 1998). As a result, it is a kind of lobbying against the government, government institutions and employees. As a result, it is possible to say that the lobbying activities in Turkey have not been institutionalized in terms of the lobbying profession made by the printing groups.

Conclusions And Recommendations

When we look at the lobby studies still being applied within Turkey, it can be said that these are not fully organized, and how and by whom are unknown and mostly negative images (Dinçer, 1998). Today, many interest groups in Turkey can ensure the approval of the legal regulations they want with lobbying activities; they can intervene in appointing and promoting the officers they find close to them and benefit from a number of material and moral privileges. Although the political structure of the United States is a significant business line that draws attention and is respected for the legal regulations needed by every segment in this country, the Lobbying Institution is seen as a wrong and informal way to finish business in public relations in Turkey. (Dinçer, 1998). There is no lobby order and environment established in Turkey. There is no such business that has been accepted by society. However, there is informal and traditional lobbying in Turkey.

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References

Ak, M. (2003). "Tips in lobbying and relations with press", Stradigma.com. Monthly Strategy and Analysis E-Journal, www.stradigma.com., P.5, June, p.1-4.
Altınel, H. Y. (2000). "Discourse Analysis for Political Party Advertisements", Communication: Public Relations and Advertising, 3–5 May 2000, I. National Communication Symposium Proceedings, p.155–167.
Arı, T. (2000). Political Structure Lobbies and Foreign Policy in the United States: The effects of Turkish, Greek, Armenian, Israel and Arab lobbies on the foreign policy of the US, Alfa, Istanbul.
Ay, H. (2003) "The Effect of Print Groups on the Power and Political Decision Process" (Editor: Coskun Can Aktan), Legal Robbery, Time Book, Istanbul,
Aydede, C. (2001). Theoretical and Applied Public Relations Campaigns, MediaCat Publication, Ankara.
Aykaç, B. (1990). "Propaganda and Public Relations", Cooperatives, p.90, p.27-50.
Aziz, A. (2003). Political Communication, Nobel Publication Distribution, Ankara.
Baltaş, Z. (2002). Opportunities in the crisis: Management Handbook for Crisis for Managers, Remzi Bookstore, Istanbul.
Barry, A. (2003). The power of public relations (translated by Aysın Önen Steidle), Elips Book, Ankara.
Bayramoglu, N. (1985). Lobby Activities in the United States, Foreign Policy Institute Publication, Ankara.
Bayramoglu, N. (1987). European Community, Countries and Turkey Promotion, Parliamentary Culture, Art and Editorial Board Publications No: 34, Ankara.
Bektas, A. (1996). Public Opinion, Communication and Democracy, Baglam Publishing, Istanbul.
Brown, J.A.C. (1992). Political Propaganda, (Translated by Yusuf Yazar), Agac Publishing, Istanbul.
Great Larousse Dictionary and Encyclopedia (1986), Development Publications, C.12, Istanbul
Cüceloğlu, D. (1992). Re -human to human, Remzi Bookstore, Istanbul.
Çam, E. (2000). Introduction to Political Science, Der Publications, Istanbul.
Çamdereli, M. (2000). Public relations with its main lines, line broadcast, Konya.
Çomaklı, Ş. E. (2003). The relations of printing groups with political parties. (Editor: Coşkun Can Aktan), Legal Robbery, Istanbul: Zaman Book.
Daver, B. (1986). Introduction to Political Science, Faculty of Political Sciences Publication, Ankara.
Davies, M. (1985). Politics of Pressure: The Art of Lobbying, British Broadcasting Corporation, London.
Dincer, M. K. (1998). Lobbying, Alfa, Izmir.
Ergin, M. (2001). Review: Orkhon Monuments, Boğaziçi Publishers, Istanbul.
Erogul, C. (1997). Contemporary State Order: England, America, France, Germany, image Publishing, Ankara.
Esin, A. (1996). Lob Lobbying in the European Union", Istanbul University Faculty of Communication Journal, p.135–141.
Findley, P. (2000). Israeli lobby in the US, (translated by Mustafa Ozcan and N.Ahmet Asrar), Pinar Publications, Istanbul.
Fıstke, J. (1990). Introduction to Communication Studies, (Translated by Süleyman İrvan), Bilim Sanat Yayınları/Ark, Ankara.
Eye, A. (2000). Political Thoughts and Administrations, Beta Printing Publishing Distribution, Istanbul.
Gurbuz, G. (2005). "Lobbying activities that Turkey neglected and the situation we are in", http: //www.haberx.com.
Hanlı, H. (2006). "Global lobbying: United States-European Union and Turkey", www.stradigma.com., P.1-5, Accessed Date: 11.01.2006.
Kaya, B. (2000). Lob Lobbying as a Method of Promotion", Anatolia Monthly Tourism and Culture Journal, p.3-4, p.24-29.
Kazancı, M. (2002) Public Relations in Public and Special Section, Ankara: Turhan Bookstore.
Ker, M. (1998). "Lobby Techniques", Istanbul University Faculty of Communication Journal, p.7, p.267-282.
Kislali, A. T. (1998). Political Systems: Political Conflict and Reconciliation, Image Bookstore, Ankara.
Laçiner, S. and Honey, İ. (2002). "Armenians of England, Lobbying and Armenian Problem", Armenian Studies, C.2, p.7, p.71-124.
Meynaud, J. (1975). Pressure groups in politics; (Translated by Samih Tiryakioğlu), Varlık Publishing, Istanbul.

Mutlu, E. (1994). Communication Dictionary, Ark Publications, Ankara.
Özsoy, O. (1999). Open Turkey with yesterday, today, and tomorrow, Elite Books, Istanbul.
Powell, L. and Cowart, J. (2003). Political Campaign Communication: Inside and Out, Pearson Education, Inc., Boston
Sezgin, M. (2002). "Concept and Methods of Lobbying", Istanbul University Faculty of Communication Journal, C. 2, P. 12, p.751–771.
Lightning, B. N. (2001). "Armenian Lobby and Lausanne Treaty in the United States (1923-1927)", Armenian Studies, C.1, No: 3, p.34-66.
Tokgöz, O. (1981). Basic Journalism, A.Ü. Faculty of Political Sciences, Publication No: 476, Ankara.
Topuz, H. (1991). Political Advertising: Examples from the world and Turkey. Cem Publishing, Istanbul.
Tosun, N. B. (2003). Lobbying as a field of expertise. Istanbul University Faculty of Communication Journal, S. 16, p.349–364.
Zorack, John L. (1997). Art of lobbying. (Translated by: Müjde Ker), Thoughts Ege University Faculty of Communication Journal, p.10, p.141-145

Do Learning Management System Activities in Online Pedagogical Education Significantly Predict Academic Performance?

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Abstract
In online learning as a form of distance education, "Learning Management Systems (LMS)" have become one of the most dynamic forms of higher education today. LMS components play an important role in assessing both the quality of online educational offerings and student performance. The focus of this study is whether LMS activities significantly predict student academic performance in online pedagogical education. The participants of the study consisted of 511 prospective physical education teachers taking pedagogical online education via LMS in the spring semester of 2022-2023 at a state college in Turkey. The study data consisted of the participants' learning activity assessments via LMS and their academic performance at the end of the semester. The learning activity scores were obtained from the LMS student tracking report and the end-of-semester academic performance scores were obtained from the college's "Student Information System (SIS)". The results of this study, in which correlation and hierarchical linear regression analyzes were conducted, showed that each online learning activity significantly predicted academic performance. The relative order of importance of learning activities on academic performance was found to be "number of course document downloads," "asynchronous course viewing time," "course video viewing time," and "synchronous course participation time." While the number of course document downloads alone explained 36% of the variation in academic performance scores, this variation increased to 41% with synchronous course participation time, 52% with asynchronous course viewing time, and finally 68% with course video viewing time. Although each LMS activity had a positive effect on academic performance, following lessons from downloaded documents, asynchronous lesson viewing, and video viewing were found to rank first in increasing academic performance, while synchronous course participation ranked last. Consequently, asynchronous LMS activities have a stronger impact on students' academic performance in online learning.
Keywords: Online learning activities; LMS, Pedagogical formation education; Synchronous and Asynchronous learning

Introduction

Distance education and open learning, which emerged as an interdisciplinary field in recent human history, provide learners with new learning opportunities (Bozkurt, 2019). Distance education, which has gained prominence, especially with Covid 19, continues to expand its scope and form thanks to the convenience of new technologies (Chang et al., 2015; Liu et al., 2019). Open and distance learning have attracted the attention of educators and educational researchers around the world and are widely used in many universities because they provide students with flexible access to education and reduce educational costs (Abuzant et al., 2021; Allen & Seaman, 2017; Bonk & Graham, 2012; Taplin et al., 2013; Young, 2011). Distance education is instruction in which instructors and learners are independent of time and space (Keegan, 2013). Open and distance education are defined as the acquisition of knowledge and skills through information and communication technologies, including all technologies and other forms of distance learning (Roblyer & Edwards, 2018). There are various types of distance education. However, this study focuses on online learning as a subtype of distance education.

Online learning, used interchangeably with terms such as e-learning, virtual learning, and distance education (Singh & Thurman, 2019), is defined as the use of an instructional strategy in which all educational content is delivered remotely using technology (Kauffman (2015)). Online learning is classified into three types: synchronous, asynchronous, and hybrid, depending on whether the interaction between the student and the instructor occurs simultaneously. Synchronous learning is defined as learning in real time where a group of people participate in learning at the same time, while asynchronous learning means working separately at different times and using pre-recorded lessons (Watts, 2016). Hybrid learning is a blended form of learning that combines face-to-face and online distance learning, which allows the use of methods and approaches that meet the changing needs of learners (Osguthorpe & Graham, 2003). Online learning provides a very broad learning environment for the delivery of educational content through technology and is considered a time- and cost-efficient method (Rosen, 2009). Although online learning is a relatively new approach, it is as effective as classroom learning (Murphy et al., 2020). On the other hand, while online learning technologies offer great potential for student engagement, they may be different from on-campus and face-to-face learning (Robinson & Hullinger, 2008).

Nowadays there are many learning management systems (LMS) where online learning is realized: Adobe Connect, Advancity Perculus, Bigbluebutton, Blackboard, Edgenuity, Google Classroom, Microsoft Team, Moodle, Perculus, Zoom, etc. LMS is defined as an online community that provides students with access to web-based

resources and allows educators to manage, monitor, and access student information (İzmirli & İzmirli, 2020; Kehrwald & Parker, 2019; Wilans & Seary, 2011). LMS includes many technological resources such as document sharing, synchronous and asynchronous course monitoring, homework, discussions, forums, audio podcasts, videos, various simulators, and online exams, as well as receiving reports on all these student activities (Masalimova, et al., 2022). Planning and creating learning content in digital environments, monitoring the process, maintaining student records, and conducting assessment processes are among the main functions of LMS. LMS is an important element of higher education that enables a high level of interaction between learners and instructors beyond course management and content creation (Yueh & Hsu, 2008).
As with face-to-face learning, one of the most important features that determine the success of online learning is assessment and evaluation activities (Phipps & Merisotis, 2000). Although there are different classifications, assessment in open and distance learning is generally conducted for training purposes during learning activities and for evaluation purposes at the end of learning activities (Karadağ, 2016). Measurement and assessment practices are also performed in LMS used for planning, subject content presentation, etc. In the educational environment (Bombe, 2020). Since there is no compulsion to use paper and pencil in error-based online learning, it has become easier to assess (Singh, 2019). Depending on the learning purpose and situation, online learning activities in LMS are generally: Viewing or downloading course documents uploaded to the system, reading e-books, watching synchronous lectures live or after the fact, tracking uploaded audiovisual materials related to the course, uploading homework, participating in chats and discussion forums, taking exams to test or assess success, etc. (Hrastinski, 2009; Lebenicnik et al., 2015; Shih et al., 2019). In online learning, the responsibility for teaching and learning success lies with the student and the instructor (Franklin, & Harrington, 2019). Sun (2014) identifies the main characteristics of successful learners in online learning as: individual motivation, organization of individual learning, and management of individual learning. Students' motivation to learn online and their willingness and ability to organize and manage their individual learning will naturally enhance their academic success. This is because academic success is the ability of students to remember the facts and information they have learned and to reproduce that information orally or in writing under any conditions, including exam conditions (Kpolovie et al., 2014). For students to achieve academic success, they must individualize the learning process in the LMS and self-assess by monitoring themselves (Zimmerman, 1989). Research on how learning activities in LMSs support student achievement has shown that student use of LMSs and student achievement are directly proportional and that LMS use provides consistent information about learner achievement (Bradley, 2021; Fritz, 2011; Nasser et al., 2011).
Student e-learning experiences in higher education institutions are typically integrated with academic experiences to promote sustained learning, as they are relevant not only to academic success but also to personal success and lifelong learning (Kim et al., 2019). One of the methods to ensure the quality of e-learning is to use independent e-learning behavioral data to predict learning performance through real-time monitoring and feedbacks during the learning process (Qiu et al., 2022). The purpose of this study is to investigate whether learning activities in the LMS predict the academic performance of a group of prospective physical education teachers pursuing online pedagogical education. The study focused on whether there was a linear relationship between online learning activities and academic performance outcomes rather than success or failure. Consistent with this goal, the study sought to answer the question: do learning activities in the LMS (synchronous and asynchronous attendance time in the course, number of document downloads, viewing time of course videos) significantly predict participants' academic performance outcomes? The question was attempted to answer.

Method

This study, which investigates whether some learning activities in LMS predict the academic performance of prospective physical education teachers pursuing online pedagogical education, was designed using the relational inquiry model. The participants of the study were a total of 511 prospective physical education teachers, 276 (54.0%) males and 235 (46.0%) females, who were pursuing online pedagogical education in the LMS of a state college in Turkey during the spring semester of 2022-2023. Participants took four courses in pedagogical education: introduction to pedagogy, psychology of pedagogy, principles and methods of teaching, counseling, and special education. Data for the study consisted of the activities participants completed in the LMS for these four courses and the academic performance grades they received in these courses at the end of the semester. Data on student learning activities in the LMS were taken from the Student Tracking Report. According to the Student Tracking Report, the average number of course documents uploaded to the system was (M = 67.07, SD = 32.62), the average number of synchronous lectures (h/min.) was (M = 17.30, SD = 2.81), the average number of asynchronous lectures (h/min.) was (M = 11.97, SD = 8.48), and the average number of lecture videos (h/min.) was (M = 6.09, SD = 3.78). Participants' academic performance was obtained from the college"s “Student Information System (SIS)". End-of-semester academic performance scores were calculated from 20% of the midterm exam and 80% of the final exam. Accordingly, the mean score of participants' academic performance at the end of the semester was (M = 65.19, SD = 18.40). The descriptive statistical results of the data are shown in Table 1.

Table 1. Descriptive statistics of the data

Variable	N	Min.	Max.	*M*	*SD*
LMS activities					
Number of document downloads (num.)	511	20.00	201.00	67.07	32.62
Time of synchronous participation in classes (hrs/min.)	511	11.00	32.89	17.30	2.81
Asynchronous class participation time (hrs/min.)	511	4.04	44.41	11.97	8.48
Time to watch course videos (hrs/min.).	511	0.12	17.44	6.09	3.78
Academic performance scores	511	6.00	100.00	65.19	18.40

Prior to analyzing the data, the assumptions that must be met for the analyzes were each reviewed. In the first stage, it was determined that no data were missing from the data set and that the sample size (511≥ 50+32) was sufficient according to the equation ($N \geq 50 + 8m$). The second stage tested whether the data set met the normality assumption. The test showed that the skewness and kurtosis coefficients of the data were not between ±1.5 and did not have a normal distribution. Therefore, the test was repeated by logarithmically transforming the data. As a result of the logarithmic transformation, the skewness coefficients of the data were between -0.07 and 1.11 and the kurtosis coefficients were between -0.37 and -1.06, indicating a normal distribution. In the third stage, the Mahalanobis distance, Cook distance, and centered leverage were used to check if there were any outliers in the data set. It was found that there were no outliers above the critical chi-square value for the Mahalanobis distance (13.277, $p <. 001$) and the Cook's D. value was .07 (< 1.0). In the fourth stage, we checked whether there was a multicollinearity problem between the variables in the data set. As a result of the control, variance inflation factor (VIF) values were found to be between 1.03 and 1.52 (VIF < 4). In addition, the result of the DurbinWatson test was calculated to be 1.772. The obtained values indicate that there is no multicollinearity problem in the data set. In addition, the value of the Durbin-Watson test (DW=2.01) was found to be between acceptable limits (1.50 and 2.50) and there is no autocorrelation problem between the residuals of the independent variables (Field, 2009; Tabachnick vd., 2019). Once the statistical assumptions required for the analyzes were met, correlation and hierarchical linear regression analyzes were initiated. Analyzes were performed using the SPSS 27 package program.

Results

The results of the Pearson correlation analysis between the activity scores of the 511 participants who constitute the study sample and their academic achievement scores in the online pedagogical training courses via the LMS are presented in Table 2. According to the correlation coefficients; r= .60, p <.00 between the academic achievement scores of the participants at the end of the semester and the number of documents they downloaded for course 1, between synchronous class participation and r= .41, $p < .01$, between asynchronous class participation and r= .69, $p < .01$, between time spent watching course videos and r= .44, $p < .01$. In addition, the pairwise correlations between the independent variables ranged from .11 to .54, indicating that there was no multicollinearity problem (r < .80) between the independent variables.

Table 2. Descriptive statistic and corelations for study variable (n=151)

Variable	*M*	*SD*	1	2	3	4	5
1. Academic performance scores	65.19	18.40	1				
2. Number of document downloads	1.78	0.21	.60**	1			
3. Synchronous class participation time (h/min.)	4.19	0.06	.41**	.39**	1		
4. Asynchronous class participation time (h/min.)	3.94	0.28	.69**	.54**	.40**	1	
5. Time to watch course videos (h/min.).	3.52	0.37	.44**	.18**	.11	.11*	1

*$p < .05$ **$p < .01$

Hierarchical linear regression analysis was used to determine the extent to which participants' activity scores on the LMS predicted their academic performance. According to the results of the analysis, each online learning activity significantly predicted academic performance scores, and the relative order of importance was as follows: Number of downloads of course materials (β= .60, $p < .001$), asynchronous viewing time of lectures (β= .47, $p < .001$), viewing time of lecture videos (β= .35, p <.001), and synchronous attendance time (β= .24, $p < .001$). The variable of number of downloads of course materials, which alone entered the hierarchical model in the first step, accounted for 36% of the academic performance scores (R^2= .36, F(1, 509)= 284.39, $p < .001$), and the variable of synchronous attendance time at lectures, which entered the model in the second step, accounted for 41% of the academic performance scores (R^2= .41, F(2, 508)= 175.26, p <. 001), in the third step, the variable for asynchronous attendance time, which was included in the model along with both variables, together explained 52% of the academic achievement scores (R^2= .52, F(3, 507)= 210.75, $p < .001$), and in the fourth step, all variables together explained 68% of the academic achievement scores (R^2= .68, F(4, 506)= 257.86, $p < .001$). The results of the analysis can be found in Table 3.

Table 3. Results of hierarchical regression analysis for academic achievement scores

Variable	B	95% CI for B		SE B	β	R^2	ΔR^2
		LL	*UL*				
Step 1						.35	.36***
Constant	-29.55***	-40.66	-18.44	5.66			
Number of document downloads	53.28***	47.07	59.48	3.16	.60***		
Step 2						.41	.41***
Constant	-305.17***	-388.64	-221.70	42.49			
Number of document downloads	46.15***	39.81	52.49	3.23	.52***		
Synchronous class participation time	68.85***	48.17	89.52	10.53	.24***		
Step 3						.55	.52***
Constant	-248.01***	-320.99	-175.03	37.15			
Number of document downloads	27.02***	20.80	33.25	3.17	.30***		
Synchronous class participation time	34.50***	15.80	53.19	9.52	.12***		
Asynchronous class participation time	30.66***	26.00	35.32	2.37	.47***		
Step 4						.67	.68***
Constant	-323.64***	-387.44	-259.84	32.47			
Number of document downloads	21.60***	16.18	27.02	2.76	.24***		
Synchronous class participation time	41.08***	24.96	57.20	8.21	.14***		
Asynchronous class participation time	29.74***	25.73	33.76	2.04	.46***		
Time to watch course videos	17.44***	14.87	20.01	1.31	.35***		

****$p < .001$.*

Discussion

This study examined the predictive power of LMS activities on the academic performance of a group of prospective physical education teachers who were completing online pedagogical training. The study found positive and moderately significant relationships between participants' academic performance and the number of documents downloaded, synchronous attendance time, asynchronous attendance time, asynchronous attendance time, and time spent watching course videos in the LMS. In the hierarchical linear regression analysis, the relationship between each online activity and academic achievement scores was linear, and according to this relationship, the LMS activities together explained 68% of the change in academic achievement scores. According to the results, although each LMS activity had a positive effect on academic performance scores, it is noteworthy that following lectures from downloaded documents and then watching asynchronous and lecture videos ranked first in academic performance scores, while attending lectures synchronously ranked last.

The focus of this study is not whether each learning activity in the LMS predicts academic performance outcomes, but whether all activities as a whole predict academic performance outcomes. There are many studies in the literature (Alshorman & Bawaneh, 2018; Cenka et al, 2022; Eltayar et al, 2023; Fernandez et al, 2022; Gunawan et al., 2023; Han & Shin, 2016; Kim et al, 2019; Loderer et al, 2020; Ojeda-Castro et al, 2017; Osabutey et al, 2022; Shaame et al, 2020; Tezer & Çimşir, 2018; Widodo et al, 2021; Zainuddin & Perera, 2018). Furqon et al. (2023) reported that LMS use positively affects students' academic achievement and promotes a positive perception of LMS implementation in education. Bulut et al. (2023) found in their study that features extracted from online formative assessments (e.g., completion, timestamps, and points) were strong and important predictors of students' final course performance. Whitmer (2013) also observed a systematic relationship between student academic performance and LMS use. He found that students who used LMS more frequently received better grades than others and that this relationship explained 23% of the variation in final course grades.

These findings, drawn from the literature, relate to LMS use overall and overlap with our research findings. In addition, there are other research findings that support our research findings regarding the impact of individual learning activities on academic performance in LMSs. Kokoç and Altun (2021) investigated the impact of students' interaction with learning boards on academic performance in an e-learning environment and found that access to learning content, books, forums, and course activities can significantly affect learning outcomes. Zheng et al. (2020) reported that there is a positive relationship between the number of students' logins to the LMS system and final grades, while Shen et al. (2020) found that learners' video completion rates in e-learning influence their learning. Offir and Bezalel (2008) argue that students perform highly in online learning because they overcome the transactional nature of asynchronous learning, and Watts (2016) argues that asynchronous learning allows students to think more deeply and evaluate course materials. Similarly, Roth et al. (2020) found that distance learning delivered exclusively via videoconferencing (synchronous) leads to low course satisfaction and consequently poor academic grades.

In the study, online learning activities in the LMS explained 68% of the change in academic achievement scores, while 32% of the change in academic achievement scores indicated the presence of other unexplained factors. Barkand (2017) argues that there is no significant difference between students' academic achievement and their level of use of online platforms. This is because online learning platforms require certain knowledge and skills.

Kauffman (2015) states that students' prior background and experience, as well as learning techniques, influence their success in online courses, while Dan & Golan (2013) argue that online learning, despite its evolution, is probably not for every student. Krishnamurthy (2020) found that online learners perform marginally better than students in traditional classrooms, but that blended learning approaches may be more efficient. In addition, student performance in online learning is strongly associated with sociodemographic characteristics such as regional differences, socioeconomic status, education level, age, gender, and disability (Rizvi et al., 2019). These findings of the studies can be considered as other unexplained factors for academic performance outcomes.

Conclusion

In parallel with technological developments, online learning has become a major trend in higher education today. The delivery and management of online learning and assessment in higher education is done through institutional LMSs, which are considered lifelines (Veluvali & Surisetti, 2022). Learning analytics, especially in the online learning environment, is increasingly being used by researchers in education because it helps make standardized and measurable decisions about student performance (Kew & Tasir, 2022). It is important to examine the multiple components of LMS, both in assessing the quality and success of online learning and in determining student academic performance. Predicting student performance in online learning will improve the quality of e-learning by reducing the risk of students failing future exams and helping instructors adjust teaching methods for students who are struggling (Qiu et al., 2022). Based on this understanding, this study found that learning activities in the LMS significantly predicted the academic performance of a group of prospective physical education teachers who received online pedagogical training. It is believed that this study supports the findings of other previous studies and demonstrates an analytic relationship between academic achievement and LMS activities in online pedagogical education and will guide future researchers.

References

Abuzant, M., Ghanem, M., Abd-Rabo, A., & Daher, W. (2021). Quality of using google classroom to support the learning processes in the automation and programming course. *International Journal of Emerging Technologies in Learning, 16*(6), 72-87. https://doi.org/10.3991/ijet.v16i06.18847

Allen, I. E., & Seaman, J. (2017). Digital compass learning: Distance education enrollment report 2017. In: *Babson Survey Research Group* (pp. 1-39). https://l24.im/1DJHT

Alshorman, B. A., & Bawaneh, A. K. (2018). Attitudes of faculty members and students towards the use of the learning management system in teaching and learning. *Turkish Online Journal of Educational Technology, 17*(3), 1-15. http://www.tojet.net/articles/v17i3/1731.pdf

Barkand, J. M. (2017). *Using educational data mining techniques to analyze the effect of instructors' LMS tool use frequency on student learning and achievement in online secondary courses* [PhD thesis]. Duquesne University.

Bombe, K. (2020). *Learning management system (LMS) market worth $28.1 Billion by 2025, growing at a CAGR of 20.5% from 2019- global market opportunity analysis and industry forecasts by meticulous research® (https://meticulousblog.org/)* [Data set]. https://l24.im/1P7dO

Bonk, C. J., & Graham, C. R. (2012). *The handbook of blended learning: Global perspectives, local designs*. John Wiley & Sons.

Bozkurt, A. (2019). From distance education to open and distance learning: A holistic evaluation of history, definitions, and theories. In: S. U. Şişman & G. Kurubacak (Eds.), *Handbook of Research on Learning in the Age of Transhumanism* (pp. 252-273). IGI Global.

Bradley, V. M. (2021). Learning management system (LMS) use with online instruction. *International Journal of Technology in Education, 4*(1), 68-92. https://doi.org/10.46328/ijte.36

Bulut, O., Gorgun, G., Yildirim-Erbasli, S. N., Wongvorachan, T., Daniels, L. M., Gao, Y., Lai, K. W., & Shin, J. (2023). Standing on the shoulders of giants: Online formative assessments as the foundation for predictive learning analytics models. *British Journal of Educational Technology, 54*(1), 19-39. https://doi.org/10.1111/bjet.13276

Cenka, B. A. N., Santoso, H. B., & Junus, K. (2022). Analysing student behaviour in a learning management system using a process mining approach. *Knowledge Management & E-Learning, 14*(1), 62-80. https://doi.org/10.34105/j.kmel.2022.14.005

Chang, C. C., Shu, K. M., Liang, C., Tseng, J. S., & Hsu, Y. S. (2014). Is blended e-learning as measured by an achievement test and self-assessment better than traditional classroom learning for vocational high school students? *International Review of Research in Open and Distributed Learning, 15*(2), 213-231. https://doi.org/10.19173/irrodl.v15i2.1708

Dan, B., & Golan, C. (2013). Thinking styles in virtual learning courses. *International Conference on Information Society,* (*pp*. 141-145), Toronto / Canada.

Eltayar, A., Aref, S. R., Khalifa, H. M., & Hammad, A. S. (2023). Prediction of graduate learners' academic achievement in an online learning environment using a blended trauma course. *Advances in Medical Education and Practice,* 14, 137-144. https://doi.org/10.2147/AMEP.S401695

Fernandez, A. I., Al Radaideh, A., Singh Sisodia, G., Mathew, A., & Jimber del Río, J. A. (2022). Managing university e-learning environments and academic achievement in the United Arab Emirates: An instructor and student perspective. *PloS ONE, 17*(5), e0268338. https://doi.org/10.1371/journal.pone.0268338

Field, A. (2009). *Discovering statistics using SPSS*. SAGE Publications.

Franklin, H., & Harrington, I. (2019). A Review into effective classroom management and strategies for student engagement: Teacher and student roles in today's classrooms. *Journal of Education and Training Studies, 7*(12), 1-12. https://doi.org/10.11114/jets.v7i12.4491

Fritz, J. (2011). Classroom walls that talk: Using online course activity data of successful students to raise self-awareness of underperforming peers. *The Internet and Higher Education, 14*(2), 89-97. https://doi.org/10.1016/j.iheduc.2010.07.007

Furqon, M., Sinaga, P., Liliasari, L., & Riza, L. S. (2023). The impact of learning management system (LMS) usage on students. *TEM Journal, 12*(2), 1082-1089. https://doi.org/10.18421/TEM122-54

Gunawan, B., Wibowo, S., Miftahudin, A., Muharman, I., & Wulansari, R. (2023). The development of a blended learning model based on a learning management system. *Proceedings of the 1st UMSurabaya Multidisciplinary International Conference 2021*, (*pp*. 691-699). https://doi.org/10.2991/978-2-38476-022-0_73

Han, I., & Shin, W. S. (2016). The use of a mobile learning management system and academic achievement of online students. *Computers & Education, 102*, 79-89. https://doi.org/10.1016/j.compedu.2016.07.003

Hrastinski, S. (2009). A theory of online learning as online participation. *Computers & Education, 52*(1), 78-82. https://doi.org/10.1016/j.compedu.2008.06.009

İzmirli, S., & İzmirli, Ş. Ö. (2020). Eş zamanlı çevrimiçi ortamlarda öğrenme. İçinde: A. Kuzu & E. B. K. Demir (Ed.), *Dijital medya ve öğrenme* (ss. 115-136). Pegem Akademi.

Karadağ, N. (2016). *Açık ve uzaktan eğitimde ölçme ve değerlendirme: Mega üniversitelerdeki uygulamalar* [Doktora tezi]. Anadolu Üniversitesi, Eskişehir.

Kauffman, H. (2015). A review of predictive factors of student success in and satisfaction with online learning. *Research in Learning Technology,* 23, 1-13. https://doi.org/10.3402/rlt.v23.26507

Keegan, D. (2013). *Foundations of distance education* (3rd edition). Routledge.

Kehrwald, B. A., & Parker, B. (2019). Editorial-implementing online learning: Stories from the field. *Journal of University Teaching and Learning Practice, 16*(1), 2-7. https://doi.org/10.53761/1.16.1.1

Kew, S. N., & Tasir, Z. (2022). Learning analytics in online learning environment: A systematic review on the focuses and the types of student-related analytics data. *Technology, Knowledge and Learning, 27*(2), 405-427. https://doi.org/10.1007/s10758-021-09541-2

Kim, H. J., Hong, A. J., & Song, H. D. (2019). The roles of academic engagement and digital readiness in students' achievements in university e-learning environments. *International Journal of Educational Technology in Higher Education, 16*(21), 1-18. https://doi.org/10.1186/s41239-019-0152-3

Kokoç, M., & Altun, A. (2021). Effects of learner interaction with learning dashboards on academic performance in an e-learning environment. *Behaviour & Information Technology, 40*(2), 161-175. https://doi.org/10.1080/0144929X.2019.1680731

Kpolovie, P. J., Joe, A. I., & Okoto, T. (2014). Academic achievement prediction: Role of interest in learning and attitude towards school. *International Journal of Humanities Social Sciences and Education, 1*(11), 73-100.

Krishnamurthy, S. (2020). The future of business education: A commentary in the shadow of the Covid-19 pandemic. *Journal of Business Research,* 117, 1-5. https://doi.org/10.1016/j.jbusres.2020.05.034

Lebenicnik, M., Pitt, I., & Istenic Starcic, A. (2015). Use of online learning resources in the development of learning environments at the intersection of formal and informal learning. The student as autonomous designer. *CEPS Journal*, *5*(2), 95-113. https://doi.org/10.26529/cepsj.144

Liu, S., Li, Z., Zhang, Y., & Cheng, X. (2019). Introduction of key problems in long-distance learning and training. *Mobile Networks and Applications, 24*(1), 1-4. https://doi.org/10.1007/s11036-018-1136-6

Loderer, K., Pekrun, R., & Lester, J. C. (2020). Beyond cold technology: A systematic review and meta-analysis on emotions in technology-based learning environments. *Learning and instruction*, 70, 1-15. https://doi.org/10.1016/j.learninstruc.2018.08.002

Masalimova, A. R., Khvatova, M. A., Chikileva, L. S., Zvyagintseva, E. P., Stepanova, V. V., & Melnik, M. V. (2022). Distance learning in higher education during Covid-19. *Frontiers in Education,* 7, 1-6. https://doi.org/10.3389/feduc.2022.822958

Murphy, L., Eduljee, N. B., & Croteau, K. (2020). College student transition to synchronous virtual classes during the COVID-19 pandemic in Northeastern United States. *Pedagogical Research, 5*(4), 1-10. https://doi.org/10.29333/pr/8485

Nasser, R., Cherif, M., & Romanowski, M. (2011). Factors that impact student usage of the learning management system in Qatari schools. *International Review of Research in Open and Distributed Learning, 12*(6), 39-62. https://doi.org/10.19173/irrodl.v12i6.985

Offir, B., Lev, Y., & Bezalel, R. (2008). Surface and deep learning processes in distance education: Synchronous versus asynchronous systems. *Computers & Education, 51*(3), 1172-1183. https://doi.org/b3v9nd

Ojeda-Castro, A. M., Murray-Finley, P., & Sánchez-Villafañe, J. (2017). Learning management system use to increase mathematics knowledge and skills in Puerto Rico. *International Journal of Technology and Human Interaction, 13*(2), 89-100. https://doi.org/10.4018/IJTHI.2017040106

Osabutey, E. L. C, Senyo, P. K., & Bempong, B. F. (2022). Evaluating the potential impact of online assessment on students' academic performance. *Information Technology & People*. http://dx.doi.org/10.1108/ITP-05-2021-0377. This version was downloaded from Northumbria Research Link: https://l24.im/Ayjp0C

Osguthorpe, R. T., & Graham, C. R. (2003). Blended learning environments: Definitions and directions. *Quarterly Review of Distance Education, 4*(3), 227-233. https://www.learntechlib.org/p/97576/

Phipps, R., & Merisotis, J. (2000). *Quality on the line: Benchmarks for success in internet-based distance education.* National Education Association, Washington, DC. https://eric.ed.gov/?id=ed444407

Qiu, F., Zhang, G., Sheng, X., Jiang, L., Zhu, L., Xiang, Q., Jiang, B., & Chen, P. (2022). Predicting students' performance in e-learning using learning process and behaviour data. *Scientific Reports, 12*(453), 1-15. https://doi.org/10.1038/s41598-021-03867-8

Rizvi, S., Rienties, B., & Khoja, S. A. (2019). The role of demographics in online learning; A decision tree based approach. *Computers & Education,* 137, 32-47. https://doi.org/10.1016/j.compedu.2019.04.001

Robinson, C. C., & Hullinger, H. (2008). New benchmarks in higher education: Student engagement in online learning. *Journal of Education for Business, 84*(2), 101-109. https://doi.org/10.3200/JOEB.84.2.101-109

Roblyer, M., & Hughes, J. (2018). *Integrating educational technology into teaching* (8rd edition). Pearson.

Rosen, A. (2009). *E-learning 2.0: Proven practices and emerging technologies to achieve real results*. Amacom.

Roth, J. J., Pierce, M., & Brewer, S. (2020). Performance and satisfaction of resident and distance students in videoconference courses. *Journal of Criminal Justice Education, 31*(2), 296-310. https://doi.org/10.1080/10511253.2020.1726423

Shaame, A. A., Anatory, J. R., Osaki, K. M., & Mrutu, S. I. (2020). Exploring a learning management system as a way to improve students' understanding of geometry in secondary schools. *Africa Education Review, 17*(4), 17-40. https://doi.org/10.1080/18146627.2020.1868070

Shen, X., Liu, M., Wu, J., & Dong, X. (2020). Towards a model for evaluating students' online learning behaviors and learning performance. *Distance Education in China*, 10, 76-84. https://doi.org/kk3s

Shih, M., Liang, J. C., & Tsai, C. C. (2019). Exploring the role of university students' online self-regulated learning in the flipped classroom: A structural equation model. *Interactive Learning Environments, 27*(8), 1192-1206. https://doi.org/10.1080/10494820.2018.1541909

Singh, V. (2019). *The impact of online assessment on the educational sector*. eLearning Industry. https://elearningindustry.com/online-assessment-on-the-educational-sector-impact

Singh, V., & Thurman, A. (2019). How many ways can we define online learning? A systematic literature review of definitions of online learning (1988-2018). *American Journal of Distance Education, 33*(4), 289-306. https://doi.org/10.1080/08923647.2019.1663082

Sun, S. Y. (2014). Learner perspectives on fully online language learning. *Distance Education, 35*(1), 18-42. https://doi.org/10.1080/01587919.2014.891428

Tabachnick, B. G., Fidell, L. S., & Ullman, J. B. (2019). *Using multivariate statistics* (7rd edition). Pearson.

Taplin, R. H., Kerr, R., & Brown, A. M. (2013). Who pays for blended learning? A cost-benefit analysis. *The Internet and Higher Education*, 18, 61-68. https://doi.org/10.1016/j.iheduc.2012.09.002

Tezer, M., & Çimşir, B. T. (2018). The impact of using mobile-supported learning management systems in teaching web design on the academic success of students and their opinions on the course. *Interactive Learning Environments, 26*(3), 402-410. https://doi.org/10.1080/10494820.2017.1337037

Veluvali, P., & Surisetti, J. (2022). Learning management system for greater learner engagement in higher education-a review. *Higher Education for the Future, 9*(1), 107-121. https://doi.org/kk3t

Watts, L. K. (2016). Synchronous and asynchronous communication in distance learning: A review of the literature. *Quarterly Review of Distance Education*, *17*(1), 23-32.

Whitmer, J. C. (2013). *Logging on to improve achievement: Evaluating the relationship between use of the learning management system, student characteristics, and academic achievement in a hybrid large enrollment undergraduate course* [Doctoral dissertation]. University of California.

Widodo, S., Turmudi, & Rosjanuardi, R. (2021). Autonomy and creative thinking skills of prospective elementary school teacher students in learning mathematics with science phenomena assisted by the learning management system. *International Journal of Learning, Teaching and Educational Research, 20*(8), Article 8. https://doi.org/10.26803/ijlter.20.8.10

Willans, J., & Seary, K. (2020). I feel like I'm being hit from all directions: Enduring the bombardment as a mature-age learner returning to formal learning. *Australian Journal of Adult Learning, 51*(1), 119-142. https://doi.org/10.3316/informit.238739556155203

Young, J. R. (2011). College presidents are bullish on online education but face a skeptical public. *The Chronicle of Higher Education, 57*(1), 1-3.

Yueh, H. P., & Hsu, S. (2008). Designing a learning management system to support instruction. *Communications of the ACM, 51*(4), 59-63. https://doi.org/10.1145/1330311.1330324

Zainuddin, Z., & Perera, C. J. (2018). Supporting students' self-directed learning in the flipped classroom through the LMS TES Blend Space. *On the Horizon, 26*(4), 281-290. https://doi.org/10.1108/OTH-04-2017-0016

Zheng, B., Lin, C.-H., & Kwon, J. B. (2020). The impact of learner, instructor, and course-level factors on online learning. *Computers & Education,* 150, 1-51. https://doi.org/10.1016/j.compedu.2020.103851

Zimmerman, B. J. (1989). A social cognitive view of self-regulated academic learning. *Journal of Educational Psychology, 81*(3), 329-339. https://doi.org/10.1037/0022-0663.81.3.329

Educational Language in Political Advertising: An Assessment on the Campaigns of Mustafa Akıncı and Ersin Tatar in the TRNC 2020 Presidential Elections

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Abstract
In this study, since no candidate received more than fifty percent of the votes in the TRNC Presidential election held on October 11, 2020, the election campaign visions of the candidates who made it to the second round and their latest commercials were analyzed using discourse analysis.
For this purpose, the political advertising campaign contents of Mustafa Akıncı and Ersin Tatar, who made it to the second round of the Presidential election, were examined under the four headings of language clarity and understandability, transmission of political messages, informative content, political ethics and impartiality, which are four items within the scope of educational language in political advertising, and their contribution to the election result was evaluated.
Key words: TRNC, Presidential Elections, Education, Educational Language.

Introduction
Political advertising refers to all advertising activities carried out with the aim of influencing voters to vote and support a particular party or politician. It is important to provide educational information on some issues in order to persuade voters and direct them to vote through political campaign communication, which is communication activities that are concentrated especially during election periods and aim to influence large masses.
The Presidential election in the Turkish Republic of Northern Cyprus, planned for 26 April 2020, was postponed due to the pandemic and took place on 11 October 2020. 11 candidates, 7 of whom were independent, competed in the election. These candidates are: then-president Mustafa Akıncı (independent), then-prime minister Ersin Tatar (National Unity Party-UBP), Erhan Arıklı (Rebirth Party-YDP), Tufan Erhürman (Republican Turkish Party-CTP), Kudret Özersay (independent), Serdar Denktaş (independent), Fuat Türköz Çiner (Nationalist Democracy Party- MDP), Ahmet Boran (independent), Alpan Uz (independent), Arif Salih Kırdağ (independent), Mustafa Ulaş (independent). The elections were held in two rounds after no candidate exceeded the 50% threshold in the first round (TRNC Supreme Election Board, 2020).
This election went down in history as the presidential election in which the most candidates competed in the TRNC. 54.72% of the voters participated in the election, where there were 198 thousand 867 registered voters. Among the candidates, then-National Unity Party (UBP) Chairman and Prime Minister Ersin Tatar had 32.35%, then-President and independent candidate Mustafa Akıncı had 29.84%, Republican Turkish Party (CTP) Chairman Tufan Erhürman had 21.68%, then-Deputy Prime Minister and Foreign Affairs Minister had 32.35%. Minister and independent candidate Kudret Özersay received 5.74% of the votes and Rebirth Party (YDP) Chairman Erhan Arıklı received 5.36% of the votes. Since no candidate received more than 50% of the votes in the first round, the election went to the second round (AA, 2020). Thus, in the second round elections held on October 18, 2020, Ersin Tatar, who advocated the establishment of a two-state structure based on sovereign equality, and Mustafa Akıncı, who supported a federation-oriented integration with the Greek side, competed (SETA, 2020).
While the participation rate in the second round of the TRNC Presidential elections was 67.29%, the winner was Ersin Tatar with 51.69% (New Order, 2020). Thus, Ersin Tatar became the fifth President of the Turkish Republic of Northern Cyprus.

Method
In this study, the content analysis method was used and the effect of educational language in political advertising on election results was evaluated. In the political advertising communication of Ersin Tatar and Mustafa Akıncı, who made it to the second round among the 11 candidates competing in the presidential elections held in 2020, their latest advertisements published on Youtube within the framework of their election campaigns were examined, with their clear vision at the beginning of the election campaigns.

Political Communication

The history of political communication has existed together with the deep-rooted history of humanity and dates back to the Ancient Greek period (Çakmak, 2019: 70). It is stated that the first significant steps in this field were taken in the early classical works of thinkers such as Aristotle and Plato (Aziz, 2014). These thinkers' works can be considered political communication activities (Bekiroğlu and Bal, 2014). However, the concept of political communication in the modern sense dates back to the 20th century. It developed in the United States at the beginning of the 20th century. It came to the fore using tools such as advertising techniques, opinion polls, television and posters in election campaigns (Topuz, 1991).

In addition to elements such as the mass media of the period, factors such as economic, social and cultural capital can also play a role in the practical emergence of politics (Topbaş-Babacan, 2013).

Aysel Aziz (2017) stated that the concept of political communication is difficult to summarize with a single definition and defined political communication as "various communication types and techniques are used by political actors in order to impose certain ideological goals on certain groups, masses, countries or blocks within the society and to turn them into action when necessary." It is defined as "communication used". According to Aziz, political communication includes all kinds of communication-related to politics. In addition, political communication, as its name suggests, has a close relationship with communication science. In addition, it intersects with many fields, such as sociology, social psychology, history, public relations, and propaganda (Can, 2012).

Political communication is a comprehensive discipline that starts before the election, continues during the campaign process, and is also necessary in non-election times. However, today, despite its broad content, political communication has often been tried to be reduced to election-oriented activities. It is seen as an activity used only to persuade voters and create consent during campaign processes (Çakmak Kılıçaslan, 2013).

Political communication is a process in which political actors, institutions, leaders or organizations consistently use various mass media to influence, inform or gain the support of target audiences. Therefore, election campaigns are seen as a part and an element of political communication (Doğan, 2017).

Advert Advertising is " drawing attention to something or informing someone about something" (Dyer, 2010). The term advertising originates from Latin and derives from the verb 'clemere', which means to call (Ekinci and Şahım, 2013).

Advertising is introducing people, institutions, products and services to the public and making them adopt them. In marketing, advertising presents ideas, institutions, products and services to the target audience through non-personal methods for a specific fee (Okay, 2009). According to the American Marketing Association, the definition of advertising is; "Advertising is for the purpose of informing or persuading individuals or viewers who constitute a specific target market about products, services, organizations or ideas; It is the placement of persuasive messages and announcements of companies, non-profit organizations, public institutions and individuals in mass media by purchasing space and time." (Elden, 2009: 136).

The main goal of advertisements is to create changes in the knowledge level and attitudes of the target audience (Elden and Yeygel, 2006: 13). For this reason, today, advertisements do not only provide information about products; People also obtain information about various ideas, products, services or institutions through advertisements (Elden, 2013: 136). The primary purpose of advertising is to create desires that did not exist before and to arouse desires in people. The advertiser's role is to persuade people rather than provide information (Dyer, 2010: 7). Therefore, advertisements promote products, provide information and shape attitudes and behaviours depending on the purpose and content of use.

Political Advertising and Educational Language in Election Campaigns

Political advertising is the preparation of impressive messages for the media by professional advertisers in visual, audio and written formats, aiming to increase the vote rates of parties during election periods (Aziz, 2003).

Political advertising is defined as a political communication activity related to preparing and publishing messages aimed at positively influencing voters' attitudes about the candidate or party by purchasing space and time from the media for candidates or parties (Kaid, 1981). In other words, political advertising refers to all advertising efforts to direct voters to vote and support a party or politician. Communication activities that intensify during election periods and aim to persuade large audiences are called political campaign communications. Political advertisements are essential to political campaign communication and have been used for propaganda since World War II. (Uztuğ, 2003).

The key features of modern political advertising are (a) control of the message and (b) paid use of mass media channels. The most crucial advantage of political advertising is that the message is entirely controllable within a political campaign, and the targeted audience can be reached directly through mass media. (Kaid, 1999).

Political advertising refers to all advertising efforts to direct voters to vote and support a party or politician. Communication activities that intensify during election periods and aim to persuade large audiences are called political campaign communications. Although political advertisements, an essential part of political campaign communication, are generally considered commercials broadcast on television, they can also appear in brochures, newspaper ads, posters, leaflets or rallies (Uztuğ, 2003). Especially with the development and spread of the internet, digital channels and social networks are used intensively.

Political advertising aims to promote and adopt political products, organizations, leaders or ideologies (Karaçor and Gözüm, 2012). From a broad perspective, political advertising is the set of techniques and methods used to introduce the political product package (elements such as party, party leader, candidate) to the electorate, to make them accept it by making it different from rival political parties, and to win the election (Bongrand, 1992).

Discourse and Language Unity

Discourse is a meta-action and is the process of language practices turning into action by interacting with elements such as ideology, knowledge, communication, style of expression, discussion, interaction, power and balance of power. Discourse is related to all areas of social life, such as social, political, cultural and economic (Sözen, 1999). In this sense, discourse is not limited to language alone but also includes social relations, power dynamics and forms of communication.

As Sözen (1999) states, discourse can only be associated with language and occurs through the use of language. From this perspective, discourse is a phenomenon shaped by the use of language and directly related to the unique structure of the language.

Discourse analysis

Discourse analysis is a critical tool in the study of language and communication. This analysis method is used to understand language use, social structures, power relations and cultural factors. Discourse analysis goes beyond language and focuses on analyzing the power relations and social structures underlying texts, conversations and forms of communication.

Discourse analysis was defined by Fairclough (1989) as a methodology developed to understand how language functions and how it is shaped in a social context. According to Fairclough, discourse analysis is essential for understanding social structures, power relations, and language use.

This analysis method generally examines the social, political and cultural contexts of texts and forms of communication. Van Dijk (1998) states, "Discourse analysis is used to understand the social and political effects of language and examines how discourse is shaped on issues such as power relations, identity formation and discrimination."

Discourse analysis also reveals power dynamics in communication beyond language. This analysis methodology is essential for understanding power relations, identity formation, and how ideologies are transmitted. Jäger (2001) states, "Discourse analysis is indispensable for understanding the social, cultural and political structures of texts and forms of communication as well as language." Therefore, discourse analysis allows the examination of communication beyond language. This methodology helps us understand how language works but also helps us analyze the social structures and power dynamics underlying texts, conversations, and forms of communication.

Educational Language in Political Advertising

Using educational language in political ads helps voters better understand political processes. Smith and Johnson (2010) show that the use of educational language in political advertisements makes it easier for voters to understand better and evaluate politicians' promises, policy proposals, and election platforms. In this way, voters can make more informed choices.

Political advertisements are essential to influencing voters and conveying politicians' messages. According to Smith and Johnson (2010), the analysis of educational language in these advertisements can be carried out under various headings.

Clarity of Language and Understandability: The effectiveness of political advertisements is closely related to the clarity and understandability of the language. In this context, word choice, sentence structures and general clarity of language in advertising texts are examined. Avoiding complex terms and creating the language to appeal to a broad audience is essential.

Transfer of Political Messages: Educational language aims to express political messages clearly. In the analysis, the content and messages of the advertisements are examined in detail. Are the candidates' policy proposals, promises and political platforms presented in an educational language?

Informative Content: The content of the advertisements is examined, whether they are educational and informative or just emotional on topics such as political processes, candidates' backgrounds, and party ideology. The content presented to voters through educational language helps them make more informed decisions.

Political Ethics and Impartiality: Educational language and political advertisements are analyzed regarding impartiality and ethical standards. Whether the advertisements present accurate and balanced information and contain views or prejudices specific to the political side is observed.
Analyzes carried out under these headings are essential to understand the impact of political advertisements on voters and how they shape political participation.
The data on which this study is based are the YouTube commercials of Mustafa Akıncı and Ersin Tatar, who made it to the second round of the Presidential elections on October 11, 2020, published on October 10, 2020, during their election campaigns. Discourse analysis of educational language in political advertising was used as a method. The language used in advertising videos was examined regarding clarity and understandability, transfer of political messages, informative content, political ethics and impartiality.

Conclusions And Recommendations
The TRNC used the slogan "We are marching to a new future" in Ersin Tatar's political advertising campaign in the 2020 Presidential elections. Besides, "It's time to stand up and walk to a brand new future. New alternatives will come to the table on the Cyprus issue now, a new opening will come that brings the closed Marash to humanity, Wealth will come to our country with the Blue Homeland, a new era will come when our relations with Turkey will become stronger, and a presidency will come that is intertwined with the Turkish Cypriot people and open to the public." He expressed his vision as. (AA, 2020).
On the other hand, the President of the period, Mustafa Akıncı, officially announced his candidacy at the "Confidence and Determination Night" held in Nicosia on February 5, 2020. He set his vision for the second term under the "Trust and Determination Document". Emphasizing that a federal model is the only reasonable and possible solution, he said, "We do not want to be either a minority of Southern Cyprus or a subordinate administration dependent on Turkey." said. Akinci's election campaign was shaped around the slogan "Answer Akinci" and focused on concepts such as "trust", "determination", "sincerity", and "responsibility" (Wikipedia, 2023).
Ersin Tatar's latest ad, published on YouTube as part of the election campaign, begins with a scene in which young people start the day smiling. The music of the commercial film is the song "Let This Be the End" by Cem Karaca. In this advertisement, children, teenagers and the elderly are shown waking up in sunny weather. While the smiles of people from different age groups are emphasized, people operating in various business sectors are also depicted. Various segments, such as students, employees and pensioners, are represented. In one part of the commercial, young people dance in different places and perform the song (a person who cried when he was born, let this be the end, this is the end). Then, the young people walk through different streets and move towards the headquarters of the National Unity Party, and Ersin Tatar greets them on the balcony of the party headquarters. Then Tatar joined the young people and started walking with them happily. At the end of the commercial, he said, "Good days don't come to you, you will walk to them. As the Turkish Cypriot People, we must stand up and walk to a new future" ends with the sentence, while the camera angle focuses on the Closed-off Maraş region (YouTube, 2020).
On the other hand, Mustafa AKINCI's latest advertisement, published on his YouTube channel as part of the election campaign, begins with the appearance of the Mustafa Akinci logo, where young people are together. Dec. It is noteworthy that there are masks on the people who come together here because it is immediately after the pandemic. Dec. Young and older adults wave flags in front of Mustafa Akinci's election office and have cards with election slogans in their hands. These cards have slogans such as 'answer will' and 'answer Akinci'. At this time, Mustafa Akinci's voice is heard in the background, and he says: 'We will give our answer against all interventions, all pressures at the ballot box. As he says this, an enthusiastic sound of applause is heard from the crowd, and Mustafa Akinci and his wife appear on the screen, walking with the crowd. Flags and slogans are seen in the crowd marching behind Mustafa Akinci. In addition, some young people have crowns made of olive leaves on their heads, representing peace. Ads reading 'Answer Trust, Answer Determination' are seen on billboards that the crowded group passes in front of. After that, the banner held by the young people says 'Answer Akıncı'. The crowd is seen to be enthusiastic and faithful. After that, young people look at the' Answer Trust' advertisement. Moreover, at the end of the advertisement, the slogan 'Answer Akıncı' appears on the screen again. (Youtube, 2020)
The vision and the latest published advertisements of the candidates who reached the second round in the TRNC 2020 Presidential elections were evaluated on four items under the heading of educational language in political advertising. In this context, it has been seen that Ersin Tatar's vision and advertisement are explained with a more precise and more explicit language in the context of clarity and intelligibility of the language, which is the first item. The opening of the closed Maraş was used both in the election vision and in the last advertisement published and expressed in a clear framework. On the other hand, Mustafa Akinci's election vision and the last published advertisement contain more complex discourses and slogans. We cannot talk about slogans used more than once, intangible promises and discourses. It can be evaluated more emotionally in this context.
On the other hand, when ads are evaluated as the transmission of political messages, which is the second item, political promises are seen in Ersin Tatar's vision. It is seen that political messages have been successfully conveyed in the promises of the Wealth that Blue Homeland will bring and the opening of the Closed Maraş. On

the other hand, in Mustafa Akinci's vision, "We do not want to be either a minority of Southern Cyprus or a subordinate administration dependent on Turkey." Emphasis is placed on their political stance in his discourse. In the advertisement, a stance is taken against Turkey's government's interference in the elections.
When Vision and Advertisements are evaluated as informative content, it is seen that there are informative and guiding contents in Ersin Tatar's vision and advertisement. On the other hand, more emotional content is seen in Mustafa Akinci.
When the vision and advertisements are evaluated in terms of political ethics and impartiality, the fourth article of the educational language in political advertising, it is seen that Mustafa Akinci is a party against the Turkish intervention. On the other hand, Ersin Tatar, with his Blue Homeland emphasis, has drawn an image that he is pro-Turkey.
As a result, when viewed within the scope of educational language in political advertising, the language used in the Ersin Tatar advertising campaign is much more transparent, understandable, informative, and concrete. On the other hand, more than one concept was used in the campaign of Mustafa Akıncı, who participated in the presidential election. However, explicit and explanatory content was not included. Considering the election result and that the election winner was Ersin Tatar, it can be concluded that using educational language in political advertising is essential and convinces the voters.

Reference

2020 Turkish Republic of Northern Cyprus presidential election (2023, September 18). In Wikipedia.
AA. (2020, October 12). Presidential elections in Northern Cyprus went to the second round. https://www.aa.com.tr/tr/dunya/kktcde-cumhurbaskanligi-secimleri-ikinci-tura-kaldi/2003076
A.A. News Agency. (2020, September 16). TRNC Presidential Candidate Ersin Tatar Announced His Vision. Access Address: https://www.aa.com.tr/tr/dunya/kktcde-cumhurbaskani-adayi-ersin-tatar-vizyonunu-acikladi/1975159
Aziz, A. (2003). Siyasal İletişim, Ankara: Nobel Publishing Distribution.
Bekiroğlu, O. and Bal, E. (2014). Political Advertising, Istanbul: Literatürk Academia.
Bongrand, M. (1992). Marketing in Politics. (Trans. Fatoş Ersoy), Istanbul: İletişim Publications.
Can, A. (2012). The Effects of Political Advertising on Political Elections: A Research on the 2011 General Election Process in Turkey, (Master's Thesis). Sakarya University Institute of Social Sciences.
Çakmak, F. (2019). Political Communication in the Postmodern Age, Konya: Literatürk Akademi.
Çakmak Kılıçaslan, E. (2013). The Relationship Between Ideology and Media Political Communication, Ankara: Paradigm Kitabevi Publications.
Dyer, G. (2010). Advertising as Communication. Trans., M. Nurdan Öncel Taşkıran. Istanbul: Beta Basım Publishing.
Dogan, A. (2017). Political Communication and Political Behavior in Turkey, Ankara: Nobel Academic Publishing.
Ekici K.M. and Shahim T.Z. (2013). Advertising and Propaganda. Ankara: Judicial Publishing House.
Elden, M. (2009), Advertising and Advertising, Say Publications, Istanbul
Elden, M. (2013). Advertising and Advertising. Istanbul: Say Publications.
Elden, M. and Yeygel, S. (2006). What Corporate Advertising Says. Istanbul: Beta Basım Publishing Distribution.
Fairclough, N. (1989). Language and Power. London: Longman.
To the good days... (2020, October 10). https://www.youtube.com/watch?v=rTqXRI82xEo.
Jäger, S. (2001). Analyzing Political Speeches: Rhetoric, Discourse and Metaphor. London: Routledge.
Kaid, L.L. (1981). Political Advertising. Dan D. Nimmo & Keith R. Sanders (Edited by). Handbook of Political Communication (249-271), Beverly Hills: Sage Publications.
TRNC Supreme Election Board. (October 11, 2020). Presidential Election of October 11, 2020. Supreme Electoral Council. http://ysk.mahkemeler.net/index.php/cumhurbaskanligi-secimleri/
Karaçor, S. and Gözüm, P. (2012). A Research on the Role of Election Campaigns and Political Marketing in Forming Voter Preferences in Turkey, Selçuk University Journal of Social and Economic Research. Issue: 24, 403-426.
Topbaş, H. and Babacan, M. (2013). Structural Transformation of the Political Communication Process and Its Reflection in Politics: Digital Revolution, Globalization, International System and Sitasi Parties (Ed. Gökhan Tuncel)
Topuz, H. (1991). Political Advertising: Examples from the World and Turkey, Istanbul: Cem Publishing House.
Sözen, E. (1999). Discourse: uncertainty, exchange, knowledge, power and reflexivity. Istanbul: Paradigm Publications.
Okay, A. (2009), Corporate Advertising: The Path from Advertising to Corporate Advertising, Derin Publications, Istanbul.
SETA. (2020). 2020 Northern Cyprus Presidential Election. https://www.setav.org/2020-kktc-cumhurbaskanligi-secimi/

Smith, A., & Johnson, B. (2010). The Role of Educational Language in Political Advertising. Journal of Political Communication, 17(4), 301-318.
Van Dijk, T. (1998). Discourse as Social Interaction. London: Sage Publications.
Vodinali, S., & Çötok, N. A. (2015). Political Advertisements in the Context of Political Propaganda: An Evaluation of T.V. Advertisements of A.K. Party/Chp/Mhp Parties in the 2015 Turkish General Elections. Global Media Journal: Turkish Edition, 6(11).
New system. (2020). Election 2020: Presidential Round 2. https://www.yeniduzen.com/secim-2020-cumhurbaskanligi-2nci-tur-132805h.htm

Education-Supported Crisis Communication: The Kahramanmaraş Earthquake, 2023

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Abstract
This article explores the multifaceted role of education in strengthening crisis communication strategies, particularly using the 2023 Kahramanmaraş Earthquake as a primary case study. It delves into the crisis communication techniques employed during the earthquake, highlighting challenges in coordination, communication gaps, and the inadequate use of technology in emergency response efforts. The study emphasizes the necessity of enhancing coordination among response teams and employing digital platforms for real-time information sharing. It also proposes recommendations to increase public awareness and outlines future research perspectives. In summary, this research underscores the critical importance of education in reinforcing crisis communication strategies, offering practical insights for their development based on the experiences from the Kahramanmaraş Earthquake.
Keywords: Crisis Communication, Natural Disasters, Crisis Management, Communication Strategies, Communication Shortcomings.

Introduction
Natural disasters pose serious threats to societies. Effective crisis communication strategies are crucial in minimizing damage and accelerating the return to normalcy in such events. However, the role of education in successfully implementing these strategies cannot be overlooked. Education can help individuals and communities understand how to communicate during a crisis, thereby enhancing overall preparedness and response capacity.
This study focuses on the role of education in the context of developing crisis communication strategies, taking the February 6, 2023, earthquake in Kahramanmaraş as a case. The Kahramanmaraş Earthquake, recorded as a significant natural disaster in Turkish history, serves as an excellent example to understand how education can play a critical role in improving crisis communication strategies.
The primary goal of this study is to highlight the role of education in developing crisis communication strategies, evaluate the communication challenges and successes experienced during the Kahramanmaraş Earthquake, and offer evidence-based recommendations for optimizing these strategies through education.

Research Question and Objectives
At the heart of this study is the assessment of the role of education in developing crisis communication strategies. Our main research question is: "How has education played a critical role in developing crisis communication strategies following the Kahramanmaraş Earthquake?" In pursuit of answering this question, the objectives of the study include:

- Examining the crisis communication tactics implemented during and after the Kahramanmaraş Earthquake, and evaluating how these tactics are integrated into educational programs and curricula.
- Identifying communication shortcomings and challenges that emerged during the earthquake and discussing how these can be overcome through education.
- Assessing the overall effectiveness of crisis communication strategies and offering evidence-based recommendations for their improvement through education.
- Providing suggestions on how educational institutions, students, and teachers can enhance their crisis communication skills.

Methodology
The methodology section describes the research approach and methods used to assess the role of education in enhancing crisis communication strategies, focusing particularly on the Kahramanmaraş Earthquake.
This study adopts a mixed-method research paradigm, recognizing its suitability for exploring complex phenomena

and deriving comprehensive insights. Primary data sources include existing literature on education and crisis communication, official reports on the Kahramanmaraş Earthquake, and educational curricula addressing crisis scenarios. This approach enables a thorough understanding of how education can fortify crisis communication strategies.

In summary, this methodological framework aims for an in-depth analysis of the interaction between education and crisis communication strategies, using the Kahramanmaraş Earthquake as a case study. The results are expected to identify areas for improvement and provide applicable recommendations. This research seeks to establish a foundation for strengthening crisis communication strategies through education, aiming for greater effectiveness in future crisis situations.

Crisis Communication In The Context Of Natural Disasters

Understanding and Importance of Crisis Communication

Crisis communication is a specialized discipline focused on disseminating and exchanging information during emergencies. It encompasses strategies and tactics used for effective communication with various stakeholders during unexpected events, ensuring accurate, timely, and consistent information delivery. Turkey's disaster and emergency profile, particularly in the context of earthquake parameters, settlement information, and analysis, forms a significant basis for crisis communication (Birinci, 2023). In this context, the importance of crisis communication lies not only in managing the situation but also in maintaining public trust and confidence. Effective crisis communication is vital in ensuring the flow of information, even in moments of panic and chaos, preventing misinformation, and maintaining public trust.

Beyond tangible disruptions, natural disasters also bring emotional and psychological challenges. Common emotional responses like panic, fear, and uncertainty can cloud judgments and hinder effective communication. In such emotional environments, it's crucial to create messages that not only inform but also reassure and guide the affected populace.

Multifaceted Impact of Natural Disasters on Crisis Communication

Natural disasters pose unique challenges for crisis communication due to the sudden physical disruptions, damaged communication infrastructures, power outages, and broken communication lines they often cause. These events necessitate the adoption of flexible and resilient communication strategies. The ability to quickly switch to alternative communication channels and uphold a rapid response mechanism becomes essential. In such scenarios, ensuring quick and accurate information flow is vital for the success of rescue efforts and the safety of the public. In summary, amidst the chaos brought about by natural disasters, crisis communicators have the responsibility to ensure that information is not only accurate and timely but also empathetic and actionable.

Synergy Between Crisis Communication and Crisis Management in Natural Disasters

The close interplay between crisis communication and crisis management underscores their interdependence. Crisis management involves strategic planning, coordination, and decision-making to effectively handle crises, while crisis communication plays a key role in keeping stakeholders informed, engaged, and in agreement. In the context of natural disasters, the synergy between managing the crisis and communicating about it is crucial for swift and effective interventions. Effective communication strategies are essential to support crisis management efforts, addressing the needs and concerns of the public during such events.

The success of crisis management is dependent on the effectiveness of the communication strategies employed. Several key elements should be integrated into the crisis communication strategy to strengthen this synergy:

- **Rapid and Accurate Information Distribution**: In the midst of a crisis, timely and accurate information is the key to trust. Utilizing various communication channels and providing real-time updates can enhance public confidence.
- **Audience-Centric Communication**: Recognizing the different needs and preferences of diverse demographic groups is vital. Tailored messages can foster deeper engagement and ensure information is both relevant and applicable.
- **Maintaining Trust and Transparency**: In a time of rampant misinformation, the authenticity and consistency of crisis communication can be a sign of trust. Debunking rumors, citing reliable sources, and maintaining a consistent narrative are crucial.
- **Engaging in Dialog Communication**: Beyond disseminating information, fostering two-way communication can provide invaluable insights about the concerns, needs, and perceptions of the affected population. This feedback loop can improve crisis management strategies and encourage community collaboration.
- **Strategic Media Relations**: Media, with its extensive reach, can amplify crisis communication efforts. Establishing robust media relationships, providing timely press briefings, and ensuring media narratives align with reality are essential.

- **Post-Crisis Narratives and Community Reconstruction**: The aftermath of a crisis presents an opportunity to rebuild, learn, and grow. Post-crisis communication should focus on recovery, support, and future preparedness, facilitating a stronger and more resilient emergence of the community.

  In summary, the combination of crisis communication and crisis management plays a pivotal role in navigating the complex waters of natural disasters. Their seamless integration, based on strategic planning, transparency, and community involvement, can mitigate the impact of a crisis and chart a path for recovery and resilience.

Crisis Communication Strategies and Practices

Communication strategies and practices are vital during natural disasters. Research into the metaphorical perceptions of students specializing in emergency aid and disaster management regarding earthquakes can significantly influence the development of crisis communication strategies. Additionally, understanding natural disasters' impact on the mental health of emergency rescue workers is crucial. This aspect highlights the necessity for crisis communication strategies to extend beyond mere information transfer. They should also include emotional support and guidance, particularly for those involved in emergency response and affected by the disaster. This comprehensive approach is essential for effective crisis management and support.

Social Media and Crisis Communication

Terkan and Saygılı (2017) emphasize the importance of social media's impact, particularly on youth. Their research indicates that social media is a powerful tool for information and guidance, becoming an integral part of people's lives in today's world. The growing importance of social media for organizations and businesses, as a prerequisite for marketing activities, is highlighted. According to Terkan and Saygılı (2017), social media offers businesses the opportunity to promote their products and brands, as well as direct sales to everyone in the virtual world, particularly impacting youth.

In a study by Saygılı (2023), the increasing influence of technology and its growing impact on human life emphasize the importance of all types of information shared in the virtual world. The widespread use of social media for information or news dissemination among people as educational practices, the rapid transfer of information, and efforts to bring specific news articles to everyone's attention in the virtual environment with visual elements are highlighted. This situation creates new threats with information pollution methods applied on information, news, or visual assets in fields like sports and art (Saygılı, 2023).

Social media is increasingly crucial for crisis communication, particularly during natural disasters. For instance, the effectiveness of Twitter used by local governments during significant earthquakes illustrates the potential of social media in such situations. Similarly, analyzing crisis communication strategies and recovery campaigns in various scenarios, like tsunamis, terrorist attacks, and pandemics, reveals how these approaches can be adapted to different types of crises. Social media is vital for the quick and extensive spread of information, keeping the public informed during and after disasters, and helping prevent the spread of misinformation. Moreover, these platforms serve as a valuable resource for disaster victims to voice their needs and concerns, providing critical feedback for crisis management teams to adjust their strategies accordingly.

Guiding Crisis Communication: Insights From The Kahramanmaraş Earthquake

Aspects of Crisis Communication in Natural Disasters

Emergency Response and Rescue Communication: The effectiveness of emergency response following events like the Kahramanmaraş Earthquake is contingent on seamless communication. This aspect of crisis communication ensures that rescue teams, affected individuals, and other key stakeholders are synchronized. It aids in assessing immediate needs, mobilizing resources, and delivering aid where it is most needed. The emphasis here is on real-time, actionable information that can accelerate relief efforts.

Synergy Through Coordination: Natural disasters require a harmonized response that brings together different institutions, organizations, and local authorities. Crisis communication plays the role of a glue, promoting collaboration and ensuring that efforts are not duplicated or misdirected. Creating clear communication protocols, sharing crucial information, and embedding communication into the decision-making matrix can enhance the impact of crisis management initiatives.

Overcoming Communication Challenges: In the chaos of a crisis, communication can face numerous challenges. Infrastructure damage, equipment shortages, or even misinformation can impede effective communication. This backdrop delves into potential pitfalls in crisis communication, from disrupted channels to gaps in information, seeking strategies to overcome or mitigate them.

Analysing Crisis Communication Challenges: The Kahramanmaraş Earthquake Example

Coordination Issues During Emergency Response: The Kahramanmaraş Earthquake underscored the vital role of coordination in crisis communication. Despite multiple rescue teams, aid organizations, and local authorities, there

were evident gaps in seamless communication and coordination. Such lapses can lead to critical delays in assistance, leaving affected individuals in prolonged distress. The root causes often extend to undefined communication channels, irregular dissemination of information, or even conflicting communication protocols among organizations.
Reflections of Communication Shortcomings: The earthquake in Kahramanmaraş laid bare the cascading effects of communication inadequacies. Misinformation or lack of timely communication can erode public trust in authorities. Moreover, if calls for help are unheard or delayed due to communication breakdowns, it can exacerbate the crisis.

Reflecting on Crisis Communication Challenges from the Kahramanmaraş Earthquake
Understanding the crisis communication challenges encountered during the Kahramanmaraş Earthquake is an effort to ensure that the voices of those affected are heard and acknowledged. By deeply examining both the successes and shortcomings of the communication process, we aim to pave the way for more humane and effective strategies in future crises. Recognizing these challenges is the first step in improving our approach, preparing us to better support and guide communities in their most vulnerable moments. In conclusion, the Kahramanmaraş Earthquake serves as a poignant reminder of the profound impact of effective crisis communication. As foundations such as coordination, collaboration, trust, and transparency rise, staying vigilant against potential hazards becomes increasingly important. Through internalizing and learning from these experiences, we hope to develop communication strategies that resonate with empathy and understanding, making a tangible difference in the lives of those affected by future disasters.

CRISIS COMMUNICATION AND EDUCATION
Education plays a critical role in the development of crisis communication strategies. It helps individuals and communities understand how to communicate effectively during a crisis, thereby enhancing the overall preparedness and response capacity of the community.

Role of Educational Programs and Curriculum
Educational programs and curriculums play a fundamental role in shaping individuals' crisis communication capabilities. Specialized programs can target specific skills and areas of knowledge crucial for effective crisis communication. One of the most important methods in this field is scenario-based training. By immersing students in simulated crisis situations, they gain first hand experience with the challenges associated with crisis communication. Such training sessions can help students understand the nuances of conveying critical information under high-pressure situations.
The role of educators is crucial. Experts in crisis communication bring a mix of theoretical knowledge and practical experience. Their perspectives can offer students a holistic understanding of the subject. The continuous professional development of these educators enhances the training experience, keeping them current in the field of crisis communication (Karabey & Aras, 2021).

Recommendations Related to Education
In the evolving landscape of crisis communication, education is a fundamental component in developing professionals capable of addressing the multifaceted challenges of real-world crises. A significant recommendation is the design and delivery of specialized courses that delve into the intricacies of crisis communication. These courses should seamlessly blend theoretical knowledge with practical applications. Completing these courses, workshops can provide students with experiences reflecting real-world crisis scenarios, simulations, role-playing, and group discussions, giving them firsthand experience with the challenges associated with crisis communication. Considering the dynamic nature of crisis communication, the need for continual learning is paramount. Brown & Green (2019) advocate for the establishment of programs offering advanced courses, seminars, and webinars to keep professionals current on the continuously evolving trends and challenges in crisis communication. These programs can also serve as hubs for networking, fostering collaborations, and facilitating knowledge exchange among professionals.

Crisis Communication Strategies and Proposed Solutions in Education
The recommendations related to education mentioned in the previous section offer a consistent framework for enhancing crisis communication strategies. When these solutions are integrated and complement each other, they present a comprehensive approach to crisis preparedness.
The primary strategy involves establishing specialized crisis communication programs and courses for students. These programs offer students the opportunity to actively participate in crisis simulations, combining theoretical discussions with hands-on, practical exercises. This active participation allows students to develop their decision-making skills under pressure, create effective crisis communication messages, and navigate the complexities of

real-world crisis communication scenarios.
Scenario-based training, complementing specialized courses, plays a vital role. By immersing students in real-life crisis scenarios, this training promotes a deeper understanding of crisis dynamics and imparts practical problem-solving skills. Through these interactive experiences, students learn to respond effectively to the unpredictable nature of real crises, adapt swiftly, and communicate sensitively.
Additionally, training educators specialized in crisis communication also significantly contributes to the strategy. These educators bring hands-on experience and academic expertise to the classroom. Their deep knowledge based on real-world scenarios enriches the educational experience. By continuously updating their own knowledge and skills, they ensure that the training they provide is not only current but also of the highest quality.
In summary, these proposed strategies create synergy to form a holistic educational framework. This framework empowers students with the necessary theoretical knowledge, practical skills, and expert guidance for effective crisis communication. As students learn to navigate the complex network of challenges presented by real-world crises, they emerge as valuable assets in crisis preparedness and response.

Strategies And Proposed Solutions For Crisis Communication
Establishing Communication Mechanisms
When facing crises, establishing robust communication mechanisms is of great importance. These mechanisms should be intricately designed to ensure the fast, accurate, and seamless flow of information. Creating effective communication channels among disaster victims, rescue teams, local authorities, aid organizations, and other stakeholders is vital. These channels should serve various purposes, from disseminating crucial information to providing guidance, facilitating aid requests, and exchanging feedback. Furthermore, ensuring these communication mechanisms are universally accessible, easily understandable, and user-friendly is essential for serving a diverse audience (Duşan & Koç, 2021).

Elevating Preparedness Initiatives
Preparedness is the foundation of effective crisis communication strategies. These initiatives should occur before a crisis emerges. This includes creating detailed communication plans, scenario-based planning, and establishing clear communication protocols. Regular crisis communication drills should be conducted to test and refine these plans. Additionally, rigorous training of communication personnel, investing in communication infrastructure, utilizing technological tools, and enhancing readiness are key.

Developing Communication Skills
The success of any crisis communication strategy depends on the awareness and communication skills of its stakeholders. Therefore, regular campaigns to raise public awareness about crisis communication are fundamental. These campaigns should aim to equip the community with crucial information about crisis communication protocols. Workshops, training sessions, and seminars should also be organized to improve communication skills, enabling the public to communicate effectively during crises. Such initiatives not only prepare the community but also ensure access to accurate, timely information and create a sense of trust and security.

Utilizing Communication Technologies
In the digital era, leveraging advanced communication technologies is essential for effective crisis communication. Mobile communication, social media, instant messaging apps, specialized websites, and other digital platforms offer unparalleled speed and accessibility for conveying crucial information during emergencies. These technologies enable quick emergency alerts, real-time updates, and community feedback. However, it's not enough to just use these tools; there needs to be a focus on continuous development and adaptation of communication technologies. Embracing new platforms, apps, and crisis-specific software can greatly improve communication efficiency and effectiveness.
Yet, with the advantages of instant information flow come responsibilities. Implementing strict verification and source check processes is critical to prevent the dissemination of false information. Also, addressing technological literacy is important to ensure these communication channels are accessible to all, including those less tech-savvy, thereby reducing the digital divide in crisis situations.
Moreover, adopting a community-based approach in crisis communication is crucial. This involves using technology not merely as a tool but as a means to amplify community voices and address their specific needs, ensuring that communication strategies are tailored to the expectations and requirements of local populations.
In conclusion, crisis communication strategies should aim to effectively use both traditional and digital communication channels, adapt to constantly evolving technologies, and reach all segments of society. This approach optimizes information flow during crisis moments and enhances the overall well-being of the community. In this context, the proper use of technology plays a vital role in the success of crisis communication strategies and should be a fundamental part of every crisis communication plan.

Assessment of the Kahramanmaraş Earthquake

This section aims to thoroughly examine various aspects of the Kahramanmaraş earthquake. It will address preparedness measures, communication paradigms, crisis communication, and the organization of aid services, analysing both successful practices and areas needing improvement.

Assessment of the Kahramanmaraş Earthquake

This section aims to provide an in-depth examination of various aspects of the Kahramanmaraş earthquake. It will focus on evaluating preparedness measures, communication paradigms, crisis communication, and the organization of aid services, identifying successful practices and areas for improvement.

- **Evaluating Preparedness Measures:** It is crucial to compare pre-earthquake preparations against the challenges encountered. The practicability of emergency plans, the resilience and adaptability of emergency response teams and communication networks, earthquake-resistant construction materials, and the availability and quality of emergency reserves and equipment should be assessed (Yıldırım et al., 2021; Demir, 2022).
- **Post-Earthquake Communication Dynamics:** In the chaotic aftermath of an earthquake, the effectiveness of communication channels is critical. The efficacy of various platforms such as television broadcasts, social media, mobile alerts, and direct communication should be evaluated (Kara, 2020; Özdemir, 2021).
- **Assessment of Crisis Communication:** The narrative and transparency of post-disaster communication shape public emotion and trust. The strategies employed, official press statements, community communication sessions, and digital communication should be evaluated. Success in disseminating correct information and suppressing rumors is crucial.
- **Aid Operations: Coordination and Challenges:** Aid operations are an indicator of a region's resilience and organizational capability. Critical services like medical aid, providing shelter, and food distribution should be evaluated in terms of coordination efficiency, potential bottlenecks, resource allocation, infrastructure resilience, and logistical obstacles (Erdem, 2021; Güneş, 2022).

These evaluations aim to provide a holistic perspective on the response dynamics of the Kahramanmaraş earthquake and guide future disaster preparedness work, the development of communication protocols, and the improvement of aid coordination.

Recommendations Related to Education

Education plays a critical role in the development of crisis communication strategies. The following recommendations offer a comprehensive approach to equipping individuals and communities with the necessary knowledge and skills:

- **Crisis Communication Training Programs:** Specialized crisis communication programs and courses for students should go beyond theoretical concepts and offer practical experiences. Simulations and real-life scenarios provide students with opportunities to develop communication strategies and solve the complexities of crisis communication.
- **Scenario-Based Learning:** Opportunities provided to students to experience themselves in real crisis scenarios encourage a deep understanding of crisis dynamics and impart practical problem-solving skills.
- **Expert Instructors:** Training of instructors specialized in crisis communication is central to effective education. These instructors bring a wealth of practical experience and academic expertise, and continuous professional development ensures they stay current with evolving trends and challenges in crisis communication.

These strategies create a holistic educational framework that equips students with theoretical knowledge, practical skills, and expert guidance. As students prepare to tackle the challenges presented by real-world crises, they emerge as valuable assets in crisis preparedness and response.

The Link Between Education and Crisis Communication

Crisis communication plays a vital role during natural disasters. Effective crisis communication can reduce panic and chaos, save lives, and expedite a community's recovery after a disaster. In this context, the relationship between education and crisis communication is a fundamental component of disaster management strategies. Education informs and equips individuals and communities on how to communicate effectively in crisis situations, particularly crucial in unpredictable and uncontrollable circumstances such as natural disasters.

Education is necessary to enhance the effectiveness of crisis communication strategies. Quickly and effectively disseminating the right information during crisis situations is vital to prevent panic and the spread of misinformation. Education helps individuals and communities understand how to respond in crises, which information sources to trust, and how to seek help. This leads to a more organized and controlled response during crises, enhancing the overall safety and well-being of the community.

Crisis communication training also facilitates effective collaboration among different stakeholders such as disaster management teams, local governments, NGOs, and the media. These stakeholders need education and information sharing to act quickly and in a coordinated manner during crises. Education helps these stakeholders understand their roles, responsibilities, and how to communicate effectively with each other. This leads to more effective intervention and coordination in crisis situations (Hirschfeld & Thielsch, 2021).

Especially in major natural disasters like the Kahramanmaraş Earthquake, the link between education and crisis communication becomes more evident. During and after the earthquake, access to accurate information and its effective dissemination directly affects the safety and recovery of the community. Education plays a critical role in this process. Education programs and campaigns make the community more resilient to disasters and facilitate more effective communication and response in crisis situations.

In conclusion, the connection between education and crisis communication is vital for the safety and welfare of society during natural disasters. Education informs and equips individuals and communities on how to communicate effectively in crisis situations. This enhances the effectiveness of disaster management strategies and makes the community more resilient to disasters. The example of the Kahramanmaraş Earthquake highlights the role and importance of education in crisis communication strategies.

Conclusions And Recommendations

This study, by examining the Kahramanmaraş Earthquake, emphasizes the role and importance of education in crisis communication. The main findings of the research demonstrate that education is a critical factor in developing effective crisis communication strategies. The communication challenges experienced during the earthquake clearly reveal the consequences of a lack of education. This situation underscores the importance of education and awareness programs in crisis communication.

Education plays a central role in the development of crisis communication strategies. Individuals and communities need to possess the correct knowledge and skills to communicate effectively in crisis situations. In this context, educational programs and awareness campaigns are vital for increasing success in crisis communication. Especially during natural disasters like the Kahramanmaraş Earthquake, informing and preparing the community is a critical factor in reducing damage and facilitating a quick recovery.

Crisis communication training teaches students and community members how to communicate effectively in crisis situations. These trainings should include both theoretical knowledge and practical applications. Simulations, scenario-based learning, and real-life crisis scenarios teach participants how to act and communicate during a crisis. Such training better prepares individuals for crisis situations and increases the overall resilience of the community.

Furthermore, crisis communication training is also important for raising public awareness and making the community more resilient to crises. Educational programs provide information on how to act in crisis situations, which resources to refer to, and how to seek help. This knowledge ensures that the community is more prepared and aware in the face of crises.

Figure 1 in the flowchart visually addresses the topic of "The Connection and Importance Between Education and Crisis Communication." The diagram demonstrates how education serves as a fundamental starting point and how this education can enhance the effectiveness of crisis communication. Education raises the level of knowledge and awareness of individuals and communities, enabling them to communicate more consciously and effectively in crisis situations. This process improves the success of crisis management and contributes to the overall well-being of society. Successful crisis management supports societal resilience and recovery, leading to continuous development and learning. The diagram has a cyclical structure that shows how education and crisis communication are interconnected and reinforce each other. This cycle emphasizes that education is an ongoing process and plays a central role in improving the overall well-being of society.

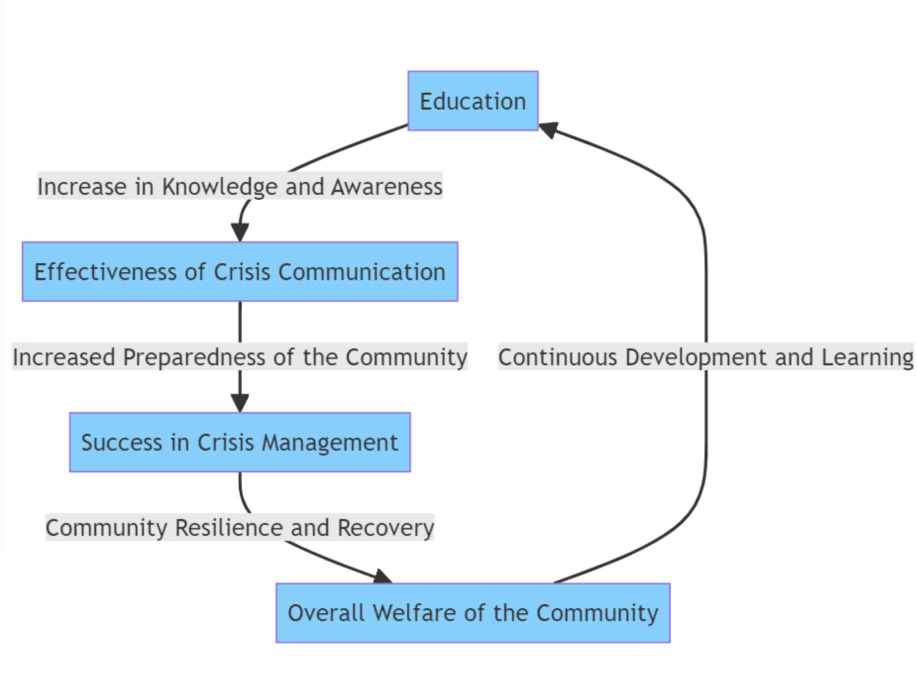

Figure 1: The connection and importance between education and crisis communication
Source: Author's own work

In conclusion, this study, drawing from the example of the Kahramanmaraş Earthquake, highlights the importance of education in the development of crisis communication strategies. Education is a critical tool for enhancing the effectiveness of crisis communication strategies and for making communities more resilient to natural disasters. Therefore, the development and implementation of crisis communication education programs are important steps in increasing the safety and welfare of the community during natural disasters.

References

Aksoy, M. (2021). Kriz iletişimi ve şeffaflık: Başarılı bir kriz yönetimi için öneriler. İletişim Araştırmaları Dergisi, 28(1), 15-28.

Altın, S., & Uzun, B. (2022). Kriz iletişimi eğitimi: İletişimciler için pratik kılavuz. Kriz İletişimi Dergisi, 13(2), 85-101.

Aydemir, C., & Demir, F. (2022). Depremler ve iletişim: Kriz anlarında bilgi akışı ve toplumun davranışları. Kriz ve İletişim Araştırmaları Dergisi, 9(3), 45-62.

Chinnasamy, S., Rosnon, M. R., & Gill, S. S. (2021). Crisis communication relief management and preparedness: COVID-19 disease outbreak for indigenous peoples in Malaysia. International Journal of Arts and Business and Social Sciences, 11(11).

Coombs, W. T. (2014). Ongoing crisis communication: Planning, managing, and responding (4th ed.). SAGE Publications.

Demirci, A., & Karadeniz, S. (2019). Kriz iletişimi eğitimi: İletişimciler için stratejiler ve uygulamalar. Kriz Yönetimi Dergisi, 10(1), 45-62.

Demir, E. (2022). Deprem sonrası kriz iletişimi: Kahramanmaraş depremi üzerine bir değerlendirme. Kriz İletişimi Araştırmaları Dergisi, 14(4), 321-337.

Fokaefs, A., & Sapountzaki, K. (2021). Crisis communication after earthquakes in Greece and Japan: Effects on seismic disaster management. Sustainability, 13(16), 9257.

Güneş, M. (2022). Yardım operasyonlarının koordinasyonu ve zorlukları: Kahramanmaraş depremi örneği. Kriz ve Felaket Yönetimi Dergisi, 11(2), 85-100.

Jones, M. S., & Johnson, K. L. (2020). Enhancing crisis communication effectiveness: A review of strategies and best practices. Journal of Applied Communication Research, 48(3), 234-251.

Kara, H. (2020). Deprem sonrası iletişim dinamikleri: Sorunlar ve çözümler. İletişim Bilimleri Dergisi, 19(2), 183-197.

Karabey, T., & Aras, M. (2021). Metaphoric perceptions of emergency aid and disaster management students regarding 'earthquake': A case study of Turkey. SSRN Electronic Journal.

Kabore, Z. K., Houssas, M., & Bourma, K. (2022). COVID-19 krizi ve benzeri krizlerde lojistik ve tedarik zinciri sorunlarına pratik çözümler: Bir literatür incelemesi.

Kreps, G. A. (2014). Disaster communications in a changing media world (2nd ed.). Routledge.

Lachlan, K. A., et al. (2016). Social media and crisis communication: The question of trust. Journal of Applied Communication Research, 44(1), 24-40.
Lee, C. K., & Choi, D. (2021). Exploring the experiences of crisis communication experts: A qualitative study. Communication Studies, 76(2), 89-107.
Lerbinger, O. (2012). The crisis manager: Facing risk and responsibility (3rd ed.). Routledge.
Liu, B. F., & Austin, L. L. (2019). Crisis communication in organizations (4th ed.). Business Expert Press.
Miller, D. (2019). Crisis communication strategies: Lessons learned from past disasters. International Journal of Emergency Management, 15(4), 289-305.
Quarantelli, E. L. (2005). A social science research agenda for the disasters of the 21st century: Theoretical, methodological, and empirical issues and their professional implementation. International Journal of Mass Emergencies and Disasters, 23(2), 197-215.
Ryan, B. (2020). Content analysis: A practical guide. Sage Publications.
Saygılı, N. (2023). Teknoloji ve sosyal medya çağında bilgi kirliliği, manipülasyon ve etik. International Online Journal of Education & Teaching, 10(3), 2166-2177.
Seeger, M. W., Sellnow, T. L., & Ulmer, R. R. (2018). Communication and organizational crisis (4th ed.). SAGE Publications.
Terkan, R., & Saygılı, N. (2017). Sosyal medyada pazarlamanın gençler üzerindeki etkisi. Journal of International Social Research, 10(51), 1153-1159.

Paradigms of New Media and Terror Agencies

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Abstract
As a fundamental communication tool, media has undergone transformative changes throughout history. This has a lot to do with education. Each era has been characterized by its own unique media paradigms, from the invention of the printing press in the 15th century to the emergence of radio and television in the 20th century. These paradigms not only define how information is disseminated but also shape the social and political landscapes of their respective periods. In the modern age, the emergence of digital technology and the internet has brought about a new media paradigm that deeply influences every aspect of human interaction and the fabric of society. Today, new media, characterized by its interactivity, decentralization, and unprecedented access, dominates our daily lives. The significance of new media, which affects individual behaviors and global politics, economy, and cultures, cannot be underestimated. This process is also of great importance in terms of education. In particular, media literacy education will enable the individual to personally prepare for or otherwise intervene in the positive or negative aspects of their interaction with the media. From connecting distant communities to altering the dynamics of political campaigns, the impact of new media is ubiquitous. However, along with these advantages, new challenges have also emerged. One of the most concerning aspects of this shift in media is the potential for its exploitation by malicious groups, particularly evident in the rise of "terror agencies" utilizing new media platforms. These organizations adeptly employ new media tools for propaganda, recruitment, and operations, forming a symbiotic relationship that poses significant threats to global security. This article explores how new media paradigms enable the existence of terrorist organizations, the place of education in this regard, and what this complex relationship means for our interconnected world.
Keywords: Education, Terror Agencies, Digital Technology, New Media, Terrorism, Propaganda.

Introduction

Throughout history, the media landscape has constantly undergone change and transformation. Every stage, from primitive cave paintings to the emergence of Gutenberg's printing press in the 15th century, has signaled a shift in how societies process and disseminate information. The 20th century witnessed another media revolution with the introduction of radio and television. These platforms not only changed the speed and breadth of information dissemination but also reshaped the cultural, social, and political fabric of the communities they touched. As we enter the 21st century, the digital age characterized by the internet and countless digital devices has emerged as a testament to humanity's insatiable desire for faster and more efficient communication tools. The new media, encompassing digital platforms, social networking sites, and interactive forums, signifies a departure from traditional, centralized forms of communication. Its fundamental qualities, such as real-time interaction, decentralization, and global accessibility, have made it a dominant force in today's world. The power of new media extends beyond personal interactions; it shapes political narratives, influences global economic trends, catalyzes social movements, and even redefines cultural identities. Through platforms like Twitter and Facebook, communities separated by oceans find common ground, political leaders communicate their policies directly to citizens, and grassroots movements make their voices heard. However, no matter how revolutionary, every tool is susceptible to misuse in the wrong hands. The dark side of the pervasive impact of new media has emerged in the embrace of extremist groups, particularly terrorist organizations. These formations have cleverly recognized and utilized the potential of digital platforms. Whether to propagate extremist ideologies, recruit individuals susceptible to influence from around the world, or coordinate covert operations, terrorist organizations have integrated new media strategies with their operational methods. This dangerous synergy between advanced communication technologies and extremist agendas poses a threat to global peace and security. This article examines the complex interaction between the revolutionary aspects of new media paradigms and their exploitation by terrorist organizations. It aims to foster an understanding of the challenges and consequences of an increasingly interconnected and paradoxically more vulnerable world.

The New Media Paradigm

One of the puzzles prevailing in the field of social sciences revolves around the integration of two different approaches. The first approach argues that human identity, consciousness, attitudes, and behaviors are inevitably shaped by specific historical and societal conditions. On the other hand, the second approach claims that individuals can actively shape and change these determinants (Hülür & Yaşın, 2016: 7). As history has shown, every significant step in human advancement has always paved the way for new beginnings. This axiom is particularly relevant in the realm of communication technologies, where each innovation heralds a metamorphosis in the methods of human interaction. This relentless evolution necessitates a continuous reconfiguration of our definitions and theoretical paradigms to keep up with the swift currents of technological change.

The emergence and widespread adoption of new communication technologies inevitably accelerate tectonic shifts in global dynamics and the fabric of human existence. This transformative journey, initiated by the widespread accessibility of television, has been perpetually propelled forward with each subsequent technological invention. Many scholars argue that technology serves as a cornerstone, leading to significant changes in economic, political, and social landscapes, with communication tools at the center of this transformation. As these technologies advance and encompass an ever-expanding array of features, the necessity for a thorough analytical examination of their consequences becomes apparent (Uğurlu, 2013: 3).

A retrospective look at our collective past sheds light on the intrinsic human need for internal communication that stems from our social beings. This internal interaction, driven by the desire for sharing and exchange of ideas, has been the catalyst for numerous inventions aimed at improving our lives and facilitating vital activities. Despite undergoing profound transformations throughout history, the fundamental purpose behind these communication tools has largely remained unchanged. Especially since the advent of the Industrial Revolution, these communication tools have been designed to enhance human interactions, optimize productivity, and greatly reduce temporal constraints. The evolution of these tools, from the early stages of discovering electricity to the groundbreaking emergence of electronic computers, has always culminated in periods of introspection and improvement, giving rise to increasingly sophisticated devices in subsequent generations. As the global population grows, the demand for these tools and their subsequent proliferation increases, leading to their democratization and individualization, thereby catalyzing profound societal changes.

The second half of the 20th century witnessed the emergence of a process that could be defined as the second communication revolution. This revolution was supported by advancements in microelectronics, which facilitated the miniaturization of computer components and ultimately enabled comprehensive integration into singular platforms (Dijk, 2018: 78). At the heart of this transformation lies digitization, a power that seamlessly connects various new media networks encompassing telecommunications, data transmission, and mass communication. The revolutionary essence of new media is encapsulated by its digital foundation. Additionally, the "store and forward" principle inherent in new media interfaces enables the secure archiving of content in electronic storage and the dissemination of digital content through specialized software programs (Dijk, 2018: 79).

The birth of modern digital communication brought about a fundamental transformation by facilitating the digitization of visual, auditory, and graphical content through the transfer of features and data from existing communication devices to computational platforms. In this nascent stage of development, systems like ARPANET initially allowed for mutual communication among only a handful of academic institutions, particularly four universities, laying the groundwork for more complex technological frameworks (Yengin, 2014: 117). A notable turning point in this evolution was reached in 1979 when Tom Truscott and Jim Ellis from Duke University developed Usenet, an embryonic global discussion platform. Usenet allowed internet enthusiasts to send universally accessible messages, heralding a new era of online interaction (Kaplan and Haenlein, 2016: 355).

In the subsequent years, Tim Berners-Lee established the World Wide Web (www), a visionary endeavor that facilitated seamless connectivity between computers. This development marked the era of Web 1.0, spanning from 1990 to 2000. Berners-Lee's groundbreaking system, supported by HTML, enabled users to access data statically through interconnected servers (Okur, 2013: 130-131). Such a framework led to the proliferation of information sharing between computers, and as the increasing accessibility of the internet is taken into account, this expanding matrix continuously added unlimited data bytes (Timisi, 2016: 11).

Historically, communication processes that were once spread over long temporal intervals have experienced compression in both time and space due to these new technologies. This dynamic evolution, highlighting the power of globalization, has transformed our global community into a tightly interconnected fabric where regions are aware of and influenced by one another. This communication revolution has not only transformed its field but also permeated a wide range of scientific disciplines and aspects of human existence. In the Web 1.0 environment, users primarily assumed a passive role, only examining data packets and navigating pre-designed digital landscapes. Websites during this period primarily served promotional agendas, offering insights into various institutional and organizational entities (Kuyucu, 2013: 118; Okur, 2013: 130).

When examining the history of communication, it can be observed that each innovative tool heralds its revolution, and successive tools are built upon the features of their predecessors. Dijk argues that the emergence of new media represents both a structural and technical upheaval. The most transformative structural revolution, without a doubt, began with the conceptualization of writing, which enabled humanity to overcome temporal and spatial barriers that were previously reliant on primitive methods such as smoke signals and cave inscriptions. Dijk also suggests that the advent of the printing press symbolized a technical revolution, democratizing the dissemination of printed content and that this ethos aligns with today's digital communication technologies (Dijk, 2018: 17-18). Contrary to popular belief, the term "new media" is not a newly coined concept. It has been repeatedly used to describe every significant step in the fields of knowledge and communication. To solely associate this term with computing technologies is an oversimplification. Groundbreaking discoveries and innovations always act as precursors for subsequent advancements. In this continuity, the printing press serves as a significant milestone by facilitating mass reproduction and distribution, similar to how transportation systems and the internet democratized access to numerous products, information, and virtually "everything" (Karahisar, 2013: 53). New media, an evolution of traditional forms, can be distinguished by a set of characteristics that define its essence in the digital age. At the core of understanding new media is the acceptance of its inherently digital nature. Unlike traditional media, which relies on physical elements such as paper and analog frequencies, new media operates within a digital framework, providing unique flexibility and adaptability (Manovich, 2001). This digital nature not only defines its form but also facilitates many of its other defining features. Interaction is one of the fundamental characteristics of new media. In contrast to the passive consumption patterns seen in traditional media, new media encourages and, in some cases, necessitates active user participation (Lievrouw and Livingstone, 2006). This interaction manifests in numerous ways, from users selecting links on a web page to participating in multiplayer online games or contributing to collaboration-based platforms like wikis. Interaction fundamentally transforms the nature of media consumption, turning passive viewers into active participants.

One of the defining characteristics of new media is its hypertextual nature. Unlike the linear narratives that characterize old media, new media is not linear and allows users to freely navigate and create their paths within the content (Landow, 1992). This hypertextuality signifies a shift from a centralized content creation model to a decentralized model where users have more autonomy in how they consume and interact with the content. The networked nature of new media exemplifies another critical departure from traditional media paradigms. In the Internet age, content does not exist in isolation but is part of a vast digital information network (Castells, 2000). This networked environment facilitates the rapid dissemination and sharing of content, creating a more integrated and global media environment. Additionally, the virtual nature of new media brings both opportunities and challenges. Virtual spaces like online communities and digital worlds offer users experiences that surpass physical limitations, but they also raise questions about the nature of reality and identity in the digital age (Turkle, 1995). Essentially, new media represents a paradigm shift in how information and content are created, consumed, and shared, rather than a simple progression from traditional forms. Its defining features (digital, interactive, hypertextual, networked, and virtual) shape the contemporary media landscape and influence both individual users and society at large.

Concept of Terrorism

In academic research on terrorism, there is an ongoing debate regarding what terrorism is exactly. However, there is no consensus on a definitive definition of terrorism. According to Laqueur, there are at least 212 different definitions of terrorism used worldwide, with 90 of them being employed by governments and other institutional organizations. Laqueur argues that there is no specific "terrorism" per se, but rather different forms of terrorism (Laqueur, 1999).

Alex Schmid, who examined over 100 definitions used by terrorism experts, concluded that terrorism is an abstract concept without a real essence. The term cannot be limited to a single definition, as its meaning is often derived from the perspective of the victim or the target. If an individual identifies with the victim or the target of an action, it is considered terrorism; however, if one identifies with the perpetrator of the action, perhaps sadly, it may not be classified as terrorism. This duality is summarized in the popular saying that "One person's terrorist is another person's freedom fighter," disregarding the fundamental differences between terrorism and the legitimate and regular use of violence. defining terrorism is further complicated by two factors. Firstly, since "terrorism" is a derogatory term, most terrorist groups do not like to label themselves as such. Instead, they prefer names that emphasize freedom and liberation, military or armed structures, self-defense, revenge, or poetic neutrality. Secondly, such misleading labels are accepted by the Western media and used to avoid the appearance of bias when identifying terrorists. Thus, the media refers to them as guerrillas, freedom fighters, armed individuals, separatists, urban guerrillas, or commandos (Hoffman, 2017). This misleading labeling, combined with the institutional obligations of organizations dealing with or combating terrorism, has resulted in a situation where there is no widely accepted definition of terrorism. However, Hoffman presents a useful and clear definition that differentiates terrorism from other types of crimes (Hoffman, 2017).

The New Paradigm of Terrorism

Determining the evolution of terrorism is difficult, but the 1993 attack on the World Trade Center in New York and the 1995 sarin gas attack on the Tokyo subway by the Aum Shinrikyo cult are considered the beginning of

new terrorism paradigms. Overall, this new paradigm emphasizes that modern terrorism has different causes, actors, sponsors, and more deadly consequences than previously defined traditional terrorism (Comfort and Kapucu, 2006).
According to Laqueur, the motivations of new terrorists are changing. Left-wing terrorism is declining; Paul Wilkinson argues that left-wing ideological terrorism has nearly disappeared in Europe but continues in Latin America. Nationalist-separatist terrorism persists. Hoffman argues that terrorism based on religious fanaticism is a defining feature of modern terrorism, along with the terrorist's worldview and value system. These new value systems differentiate themselves by aiming not only for religious motivations but also for the destruction of society and the elimination of large segments of the population, as Laqueur also points out. Particularly, anarchist and nihilist groups pose perhaps the greatest challenge for government actions due to their non-sequential and non-political strategies (Laqueur, 1999).
While new terrorists still seek fame today, they generally show less interest in the "theatrical" aspects as part of their political strategies. Hoffman noted that new terrorists have relaxed their limitations on violence (Hoffman, 2017). Another characteristic of new terrorism is that terrorists no longer rely on superpowers for support or seek new wealth from crime. Finally, new terrorism exhibits opposite features to traditional terrorism. Firstly, there is a higher likelihood of terrorist groups forming networks rather than hierarchies or cells, particularly true for groups organized around charismatic religious figures. These networks are transnational, ambiguous, and decentralized, allowing groups to engage in a wide range of activities, evaluate new strategies like "netwar," and coordinate single-operation events such as the September 11 attacks. Secondly, new terrorist groups are much larger than in previous periods. For example, while the Abu Nidal Organization had 400 to 500 members, it is reported that Usama bin Laden had 4,000 to 5,000 trained agents under his command (Vittori, 2011). Thirdly, there is a higher likelihood of including amateurs. These amateurs, often referred to as "part-time" terrorists, have not received professional training but can access terrorism resources and methods through internet-based sources. In these large, networked, amateur organizations, target and tactic selection become more random. New terrorist attacks yield higher deadly results. Hoffman suggests that increased deadliness has several reasons. These include the desensitization of media and the public to terrorist violence, terrorists' development of tactics and weapons, continued state support, religious-motivated terrorists viewing violence as a divine duty, and amateurs lacking central authority constraints in their actions. Perhaps the greatest danger in this increased deadliness is the possibility of new terrorists using weapons of mass destruction. The 1995 attack by Aum Shinrikyo is the only known instance of chemical weapon use (Tu, 2007). However, there have been numerous other incidents and attempts involving the use of biological agents. Terrorists' lack of interest in CBRN (Chemical, Biological, Radiological, Nuclear) weapons is often attributed to technical expertise or the potential to undermine their political agendas. Hoffman cautions that the limitations on terrorists' CBRN use are decreasing (Hoffman and Morrison-Taw, 2019).
In conclusion, proponents of the new paradigm observe significant changes in terrorism's motivations, strategies, characteristics, and tactics. Stephen Sloan notes that the end of the Cold War and the collapse of many communist governments brought ethnic and religious conflicts (alongside terrorism and other forms of violence) to the forefront. Sloan argues that the disappearance of Marxism as a valid political theory has changed the motivations of many left-wing groups, while Hoffman contends that the number of Marxist terrorist groups has not changed since the end of the Cold War (Hoffman, 1982). The intervention of the United States overseas and the general rise of Western culture has created new animosity, particularly among religious fundamentalists in the Middle East. Osama bin Laden explicitly stated that the American presence in the Arabian Peninsula was the reason for his terrorist campaign.

The Rise of Terrorism Agencies in the Digital Age and the Role of New Media
With the widespread adoption of digital technologies, individuals have turned to new methods for accessing information, sharing content, and social interaction. This digital evolution has brought about many positive transformations, but it has also brought along unexpected challenges and dangers. One of these challenges is the strategic use of digital tools and platforms by terrorist organizations to create new propaganda and recruitment mechanisms, referred to as "Terrorism Agencies." In this context, Ferhat Atik, who coined the term "Terrorism Agency," emphasizes that modern terrorism is active not only in physical spaces but also in the digital arena. According to Atik, terrorist organizations attract the attention of young people through sophisticated digital campaigns fueled by astronomical wealth and extensive resources (Atik, 2019).
Research by Smith and Jones (2018) reveals that young people take advantage of anonymity on digital platforms, are more receptive to ideological currents, and are particularly inclined towards radical groups due to their need for belonging (Smith and Jones, 2018). Williamson, Fay, and Miles-Johnson (2019) state that the ideological propaganda, the promise of social belonging, and various incentives offered by terrorist organizations are influential in the radicalization of young individuals (Williamson, Fay, and Miles-Johnson, 2019).
In the face of this growing threat, raising awareness and educating society is of vital importance. Parents, educators, and community leaders should prioritize educational and awareness initiatives to protect young people

from such digital dangers. Rauf (2021) emphasizes that being prepared for the risks presented by digital media is the key to staying safe in the digital age (Rauf, 2021). Therefore, it is evident that greater investment is needed in the literature on new media and digital literacy.

The Relationship Between New Media, Terrorism and Education

The history of terrorism has progressed from an ordinary organizational structure to a highly professional field of work since ancient times. Accordingly, terrorist organizations on the one hand, and those who want to prevent this on the other, use education strongly. While terrorist organizations establish a strong education network within themselves, states that try to protect themselves from terrorism are also obliged to adequately educate their own generations against terrorism.

Accordingly, if the country's unique characteristics and conditions are suitable, these expectations will come true. These realized expectations contribute to the reduction of terrorism through education. However, factors such as economic growth, limited competition in the labor market, corruption, nepotism, and limited effects on the labor market may affect this situation. Organizations with the lowest education and training levels of their members are separatist terrorist organizations. The segment with the highest education rate is left-wing organizations. Religious organizations come in second place in the ranking. According to a field research on the relationship between terrorism and education, lack of education ranks first among the causes of terrorism with a rate of 20.7% (Akşen, 2010).

Among the members of the separatist terrorist organization, the rate of those who are illiterate is 13 percent, the rate of those who are only illiterate is 9 percent, the rate of those who are primary school graduates is 48 percent, the rate of those who are illiterate is 18 percent, and the rate of those who are university graduates is 12% (Atıcı, 2002). These numbers tell the truth of the matter. Accordingly, there is a direct connection between education and terrorism. Most of the time, people with low education levels become targets of terrorist organizations and are turned into terrorists.

Embracing New Media by Terror Agencies

Indirect Approach through Internet Usage and Media

Despite the United States and its allies mobilizing resources under the banner of the "War on Terrorism," the Al-Qaeda terrorist organization has continued to supply a constant stream of new propaganda materials to the mass media (Monaco, 2017). Each new communication has symbolically represented a victory, showcasing how this organization has overcome the siege by its powerful enemies. The means by which Al-Qaeda sustains this communication line, particularly illustrated by the case of Abu Faraj al-Libbi, who was captured in Pakistan in May 2005, was a mystery until high-profile members of the organization were apprehended (Elahi, 2019). Interrogations revealed that Al-Qaeda employed a complex courier network to distribute their primary brochures. These couriers traveled a distance of less than 70 miles between the Afghanistan-Pakistan border and the Al Jazeera office in Islamabad, taking anywhere from six to twelve weeks (Gunaratna & Iqbal, 2012). Due to security concerns, these couriers usually only traversed a small portion of the route, unaware of the source, ultimate recipient, or content of the material they carried. In some instances, instead of delivering the message to a television network, an intermediary would transmit the file over the Internet. This intricate network posed a challenge for intelligence services desperately trying to keep up with Al-Qaeda's evolving propaganda capabilities. However, Pakistani authorities seized these messages at least twice in 2003 and 2004, providing valuable insights for American intelligence to better understand the network that kept Al-Qaeda's propaganda system active. Al-Qaeda has been aware that its relationship with mass media in recent years has significantly threatened the organization's and its members' security (Abdul Nasir, 2006).

The desire to eliminate these vulnerabilities has prompted the terrorist organization to adopt new technologies more effectively. Consequently, Bin Laden's organization has turned to disseminating the latest news via the internet. This does not mean that they have ignored the opportunity to be at the forefront of the mass media's agenda; rather, it signifies an indirect approach strategy. In other words, they are aware that a significant portion of their strategy's success relies on their ability to reach mass media platforms but aim to do so more securely and efficiently. Al-Qaeda has learned from the propaganda experiences of other surrounding terrorist groups. Many of these groups, such as those established by Abu Musab al-Zarqawi or Al-Qaeda's Saudi branch, have minimal direct communication with mass media and instead concentrate their communication activities in cyberspace. These methods have prevented them from attracting significant media attention (Soriano, 2008).

The organization uses the internet to search for visual and textual elements in order to make mass communication tools more appealing. The presence of these elements on the internet allows for the creation of standalone stories without the need for other intermediaries. In this way, anonymous news reflects and presents events that have the potential to create a significant impact on international public opinion. Al-Qaeda has no problem adapting to the demands of this new media and has embraced a series of innovations aimed at maximizing the impact of their messages. Consequently, Al-Qaeda's recent statements have been promoted through advertising banners on jihadist forums, announcing the upcoming release of these materials. By using this practice, the group not only builds anticipation among its followers but also ensures that once the new material is uploaded onto the internet, the mainstream media will echo this new message (Soriano, 2008). Sometimes television channels compete with each other to be the first to broadcast the latest developments. For Al-Qaeda, the internet is not only a safer and faster way to access media, but also represents a turning point in their communication strategies as it diminishes the importance of traditional media (Weimann, 2004). Historically, cyberspace has facilitated direct communication between terrorists and their "audience." Terrorists closely control their messages, carefully stating exactly what they want to say and when they want to say it. In the past, directly sending material to mass media outlets has been a problematic method for terrorist groups. First and foremost, there was a possibility that the message could be ignored, misinterpreted, or even manipulated. Terrorists had to calculate what the media could tolerate and what it could not. Considering the time constraints that influenced the content of TV news broadcasts, the possibility of distributing a long and intensive ideological speech was not taken into account. Even for a legitimate political leader, disseminating such a message proved challenging. Secondly, as mentioned before, the continuous sending of materials created security concerns due to the possibility of counterterrorism agencies tracing these messages back to their origin and tracking them to the media. This situation forced terrorist groups to refrain from using this dissemination method frequently (Pandian, Gomaa, & Pazil, 2020).

The internet not only overcomes these limitations, but it also allows mass media to ignore a range of ethical constraints that greatly benefit terrorist strategies. In the past, television was the only medium through which terrorist violence could be widely broadcast. This meant that those responsible for deciding whether the public should see such material were not solely confined to the media. However, since this kind of propaganda started appearing on the internet, television channels have felt relieved of the moral responsibility to make such difficult decisions. The blurring of television channels' responsibility has led them to be less cautious about showing disturbing or dramatic images, unwittingly becoming accomplices to terrorism.

How Terrorists Use Social Media and the Internet for Radicalization Methods

Due to the constantly evolving nature and diversity of digital platforms, it is important to note that the methods presented here are only a limited example of the approaches used and aim to provide a basic framework. In this context, this section of the article examines how terrorist organizations use social media and the internet, how they organize their structures and goals, how they enhance the quality of their propaganda materials, how they disseminate their messages to wider audiences, and how they utilize new technologies to recruit members through more secure messaging platforms. Accordingly, this article; While it uses methods that include media scanning of discourse practices and uses statistical data, it also includes direct information.

Structures, Dynamics, and Goals of Terrorist Organizations

Terrorist groups are dynamic systems that adapt and evolve over time. Traditionally, it was believed that terrorist organizations had a centralized, hierarchical structure in which leaders controlled all activities of the organization. These traditional structures often had a well-defined chain of command to ensure consistency in the message conveyed through specific individuals. However, there is an increased risk of disruption when individuals or units are compromised.

In recent years, social media and the internet have increased the speed and complexity of information sharing while reducing its cost (Carley et al., 2003). This has supported the transition of many terrorist organizations towards a network-like structure, enabling each cell and individual to act more independently, especially in disseminating the organization's messages. This restructuring has provided organizations with greater flexibility, responsiveness, resilience, and accessibility. As a result, even if one or more cells suffer significant damage or are disbanded, large terrorist networks can continue their activities. For example, after the 9/11 attacks, pressure on Al-Qaeda increased, it lost its training camps in Afghanistan, and most of its pre-9/11 top leaders were killed or captured (Perliger, 2014).

Therefore, in order to sustain its existence, even through close connections, Al-Qaeda had to adopt an approach of inspiring and directing other violent extremist groups. Abu Musab al-Suri was one of the main driving forces behind this change in structure and strategy, and the Internet was utilized to facilitate this transformation. This shift in approach led to the formation of local organizations responsible for terrorist attacks in Bali, London, and Madrid. Modern terrorist networks now consist of widely dispersed smaller cells that communicate with each other and coordinate their campaigns in a linked manner. Relationships are often temporary and vary in intensity depending on the task at hand. This has prompted groups to develop not only internal connections but also external relations. These relationships are typically formed on the basis of shared norms, values, and mutual respect rather than through formal bureaucratic structures (Cruickshank and Ali, 2007). The characteristics of this network-based approach were exemplified by the Charlie Hebdo attack in Paris in 2015. One of the terrorists involved in the attack, Amedy Coulibaly, released a video claiming that the attacks were carried out on behalf of ISIS. However, the low quality of the video suggests that the attack was not directly connected to ISIS's media center, Al-Hayat Media, but was likely orchestrated by a smaller independent cell. It has also been reported that the Kouachi brothers, the other two terrorists, received $20,000 from Al-Qaeda in the Arabian Peninsula (Levitt, 2015). This

highlights the increasing role of temporary external coalitions as networks communicate independently. In addition, the information revolution has aided terrorist groups in shifting away from traditional models of warfare towards a new form of societal conflict. While terrorist organizations have always strived to carry out psychological operations, they now possess a much greater capacity to conduct information operations on a larger scale (Nohria and Eccles, 1992). Networked terrorists, recognizing the importance of information and soft power, employ social media and the internet for brand management and propaganda to influence public opinion and recruit new members. Previously, terrorist organizations relied on traditional media, such as television, radio, brochures, print media, and face-to-face meetings to carry out their psychological operations. However, the internet and social media now offer these organizations opportunities to increase the volume and diversity of their messages, necessitating a localized approach by individual cells. As a result, terrorist organizations are able to transform conflicts around information and knowledge.
In this context, terrorism propaganda often depicts violent behaviors, such as executions, with the aim of coercing or inciting others to imitate such violence. However, some propaganda efforts now focus on brand management by presenting narratives that aim to attract individuals to their cause (Macnair & Frank, 2018). These narratives can adopt two approaches, either focusing on personal incentives to join the group (pull factors) or emphasizing or exaggerating the negative social, political, and/or economic conditions of the target population (push factors), thus contributing to the creation of a conducive environment for joining the organization (Also, the global reach of online platforms has facilitated the merging of terrorist networks and their spread across national borders, cultures, and languages. This has been evident with the increase in global coalitions of previously separate terrorist organizations. One notable example was the pledge of allegiance (bayat) to ISIS leader Abu Bakr al-Baghdadi. Due to geographic and security constraints, face-to-face pledges were hindered, leading to social media offering an alternative approach (Atwan, 2019). For instance, various terrorist groups in Southeast Asia, such as Maute, Abu Sayyaf, Katibat Ansar al-Sharia, and Mujahidin in Indonesian Timor, have presented their pledges through online videos. In response, the acceptance of these pledges has also been broadcast through online videos (Weis, 2016). These adaptations highlight how interactions and behaviors, facilitated by the internet and social media, provide terrorist groups with communication, coordination, and recruitment opportunities as global networks, while also allowing individual members and cells greater freedom in coordinating and reaching target audiences. Central messages can be independently adapted to a localized context, addressing the push and pull factors of the local population. For example, ISIS has established media units capable of producing sophisticated and localized propaganda materials in the language and culture of the target population in many regions (Macnair & Frank, 2018).

Videos, Images, and Magazines: Propaganda

In parallel with the global reach and controlled distribution of propaganda provided by social media and the internet, the diversity and accessibility of digital equipment such as high-definition (HD) cameras and editing software have enabled terrorist organizations to produce propaganda of similar quality to Hollywood film professionals and high-level marketing firms (Atwan, 2015). Indeed, high-quality propaganda has become increasingly important for a terrorist organization's branding strategy. The use of appealing digital media and innovative methods contributes to the strengthening of their brands and has become an approach adopted by many terrorist groups other than ISIS. The logic behind this is clear; in the struggle to win hearts and minds, they must stand out and inspire individuals to attract new members in an increasingly competitive environment. When propaganda can attract audiences, present a strong narrative, and appeal to the push and pull factors of local communities, it is likely to influence the radicalization process of vulnerable individuals. For example, Al-Hayat Media has produced several HD videos in major European languages such as French and English, depicting life in ISIS territories as spiritually fulfilling and labeling European states as immoral and illegal. The production and distribution of such well-designed videos address the feelings of dissatisfaction among the youth diaspora in Europe and offer a positive alternative. These types of videos have played a significant role in the radicalization process and conversions to Islam among many young European Muslims (Macnair & Frank, 2018). Another modern example of high-quality propaganda is the video game "Salil alSawarem" (Clash of Swords), which models the popular Grand Theft Auto series and is designed to generate interest and public relations for ISIS. When the game was released in 2014, gaming channels on YouTube alone received 3.5 billion views per month. This illustrates how the use of cinematic productions and social media serves as a tool to increase the viral nature of popular culture propaganda and demonstrates approaches to reaching the target audience (in this case, young gamers). In this way, these types of sophisticated communications can easily go viral. The modern appearance helps increase the psychological impact on the target audience by translating the violence of terrorists into a language that the average young population can understand (Plebani and Maggiolini, 2015). In addition to games, videos, and images, many terrorist groups also publish online magazines that play a significant role in online radicalization. The accessibility and popularity of stylish online magazines have contributed to the successful spread of ISIS through magazines like Dabiq and Rumiyah, Al-Qaeda through Inspire, and Al-Shabaab through Gaidi Mtaani.

Digital magazines offer readers a diverse range of narratives presented in a single, well-packaged format. By using community stories, individual stories, and event stories, terrorist magazines aim to create a broader narrative that resonates with readers. In this context, magazines can bring together various approaches. It has been shown that images depicting fighters in militarized attire attract individuals to violence. Moreover, the emphasis on masculinity and bravery appeals to thrill-seekers (Hamm, 2004). The inclusion of other styles, the use of religious quotes, presenting members as heroes, framing their deaths as sacrifices, and depicting a common enemy all serve their purposes, appeal to various readers, and lead to philosophical debates and common ground.

The secondary use of digital magazines may not only inspire readers but also provide them with technical instructions on how to carry out acts of violence on their own or advise them on joining a terrorist group (Conway, 2012). The 2013 Boston Marathon bombing is a case in point. Tamerlan and Jawhar Tsarnaev claimed to have learned how to make a bomb from an article in the first issue of Inspire magazine titled "How to Make a Bomb in Your Mother's Kitchen" which they read online.

The ability of terrorist organizations to produce inspiring and high-quality propaganda that can be shared via social media and the Internet is of critical importance in terms of brand management and radicalization approaches. Indeed, social sharing sites like Facebook, Twitter, and YouTube have become the tools of today for disseminating the oldest messages in a modern and relevant format (Gunaratna and Haynal, 2013).

Social Networking Sites

The rise of social networking sites has enabled individuals and terrorist organizations to instantly share information with large audiences, regardless of geographical distances. Terrorists and their followers can share materials that can reach beyond their social circles and reach previously unreachable masses. The first person to fully exploit this potential to an English-speaking audience was Anwar al-Awlaki, the prominent American-born Imam is known as the "Bin Laden of the Internet". Aware that even high-quality online propaganda was not reaching the widest possible audience, al-Awlaki pioneered the use of social networking sites by creating his own blog, Facebook page, and YouTube channel to expand his reach (Conway, 2012). Since then, terrorist organizations have been seeking Information Technology (IT) experts and skilled online marketers to manage their online propaganda campaigns. Most major social networking sites have responded by implementing widespread and numerous measures to restrict the dissemination of violent extremist content on their platforms. However, these platforms continue to be used by skilled ideologues and recruiters to share propaganda and attract followers. An analysis conducted in 2018 on 1,000 Facebook profiles supporting ISIS from 96 countries showed that despite efforts to identify and remove new accounts, the groups' Facebook networks continued to grow globally (Speckhard et al., 2018).

These websites have become tools for sharing high-quality propaganda materials and also platforms for terrorists to share their experiences. Such stories encourage the viral spread of individual narratives and become a central feature in the process of recruiting new members by inspiring those in search of a new identity. One example is Siti Khadijah, an Indonesian woman who traveled to Syria in 2014 and shared her experiences on Facebook. As a result of her posts, other Indonesians approached her with questions about how to travel to Syria. Aqsa Mahmood, a Scottish woman, is another example who traveled to conflict zones in Syria and Iraq in 2013. It is suspected that Mahmood's use of social media contributed to the radicalization and recruitment of many British youth.44 Like Siti Khadijah, Mahmood used social media to promote the positive aspects of life under ISIS. Social networking sites have also been used to control the narratives surrounding an event. In 2013, during the Westgate terrorist attack in Kenya, Al-Shabaab extensively used Twitter for this purpose.45 This approach involves sharing posts with a trending hashtag for propaganda purposes, significantly increasing traffic and visibility.46 These examples demonstrate that radicalization and recruitment through social media are supported by individual narratives, stories, and firsthand reports. This creates a chain of imitative reactions, particularly among those trying to find their own identities. (Lombardi, 2015).

Messaging, Broadcasting, and Channels

The previous section has demonstrated that online platforms have the potential to significantly influence the radicalization and recruitment processes. When a potential recruit is identified, the recruiter often directs them to a more secure communication tool, such as peer-to-peer messaging apps or forums/channels where like-minded individuals share their thoughts. Many recruiters now rely on unstructured and unmonitored mobile messaging apps (such as WhatsApp, Telegram, and Kik) to deepen their contact with potential employees. This highlights the importance of different social media platforms and online media tools in the recruitment process. While some platforms and tools are more effective in spreading violent extremist messages to a wider audience, others assist recruiters in directing an individual toward one-on-one and ultimately face-to-face interaction. Encryption technology has been used by some terrorist organizations in the past few decades. For example, Pretty Good Privacy (PGP) was first developed in the mid-1990s and enabled anyone to send an encrypted message to magazine publishers, sharing the publishing rights of Al-Qaeda's Inspire magazine (Neumann et al., 2018). However, most forms of encryption have primarily been accessible to higher-ranking terrorists within an organization, as they are primarily used for coordinating attacks. Nowadays, almost all terrorists and those who recruit them use encryption technologies. In fact, terrorists now have access to a much wider market of encrypted communication options. For instance, Skype, an internet-based telephone system, is encrypted, making it one of the largest online communication tools today and allowing terrorists to have real-time conversations without the risk of their content being discovered. Encrypted emails, such as Bitmessage.ch, also offer sophisticated methods for secure communication. In fact, the original message is often not only encrypted but also sent to hundreds of randomly selected other accounts, making it nearly impossible to decipher who the intended recipient is and who holds the encryption key. The use of encrypted messaging services like Telegram in Indonesia has been reported to enhance group solidarity by safely increasing the sharing of information among members (Lombardi, 2015). Bahrun Naim, one of the prominent distributors of propaganda for ISIS in Indonesia, extensively used Telegram. For instance, in June 2015, Naim reached out to his former friend Ibad through Facebook and connected him to his Telegram. They then began communicating about Ibad's trip to Syria through encrypted services. While encryption provides content security to terrorists, it does not guarantee their anonymity. Service providers and anonymous operating systems, known as the "dark web," can be used along with encrypted communication to further ensure anonymity (Atwan, 2015). One popular and often free way to maintain anonymity is through the use of Virtual Private Networks (VPNs). VPNs conceal the user's IP address and make them visible in one or more countries, preventing or at least slowing down security agencies from tracing the source. The Onion Routing (TOR), originally created for the US Navy, is an anonymous browser that utilizes such techniques. These easy and often free forms of encryption and online anonymity have significantly enhanced terrorists' abilities not only to exchange instant messages and files but also to remain hidden and secure while doing so (Weimann, 2015).

The Use of Artificial Intelligence and Evolving Online Technologies by terrorist groups

It is important to note that terrorist groups have discovered the potential of using Artificial Intelligence (AI) in their online radicalization and recruitment strategies. In the aforementioned case in Indonesia, Bahrun Naim used a bot (an online "robot" application or program that interacts with systems and users to complete tasks automatically) to communicate with potential new members. The bot greeted users with an automated message in the Bahasa Indonesian language and then shared propaganda messages and videos, as well as guides on how to make homemade explosives. The Al-Shabaab news agency, Shahada, used a bot on Telegram, which continuously communicated with its followers by sending them the latest version of the channel's link, even if the channel itself was suspended (Bodo, 2018).

There are speculations that more sophisticated language tools could be used by terrorist groups to generate new content. For example, a study conducted in 2019 suggested that open-source AI tools like GPT-2 could be used by malicious actors to automatically comment on current events, suppress conversations on social media channels, or align online discussions with their own ideological views (Zeiger and Gyte, 2020). The report did not find evidence of GPT-2 being used by terrorist groups, but it did find that the existing automated detection technology could not distinguish extreme content generated by GPT-2 from content created by humans. This implies that if terrorist groups resort to open-source AI tools, human intervention would be necessary to accurately detect automatically generated terrorist content based on new technology.

Changes in the structure of the internet and evolving technologies are also being utilized by terrorist groups to evade detection. For instance, the increasing use of decentralized web (DWeb) models, where content can be stored on multiple users and servers not controlled by a single source, instead of centralized servers. If a terrorist group like ISIS were to start using DWeb services, it would mean that their propaganda content would be nearly impossible to remove from the internet (Zeiger and Gyte, 2020).

As another example, the use of expanding social networks like Gab by the far right has raised concerns among counter-terrorism researchers. In this case, Gab's browser extension, Dissenter, allows for controversial discussions and comments that remain invisible to those who haven't installed the extension, making automated content detection ineffective on this platform. As new online technologies emerge, terrorists using these technologies pose a constant threat in terms of further radicalization and recruitment strategies.

In summary, the internet and social media have been used by terrorist organizations, which has been associated with the transformation of these organizations into globally reporting but locally responding network cells. Terrorist groups have increased the complexity of their propaganda materials and disseminated them through social networking sites. These platforms are also utilized to share personal and relatable messages that fit into a broader narrative. Essentially, social media and the internet have enabled terrorist organizations to effectively manage their brands at both a global and local level.

Furthermore, encrypted messaging services can be exploited to identify vulnerable individuals and provide private information to carry out attacks or join terrorist organizations. The exploitation of social media and the internet in this manner presents significant challenges for government officials in preventing online radicalization and countering extremism. Additionally, new and emerging online technologies such as AI and DWeb, if appropriately harnessed by terrorist groups, have the potential to further complicate efforts aimed at reducing online radicalization and recruitment through online channels (Neumann & Stevens, 2009).

Terrorism and Education Connection

As far as it is learned from the studies carried out after terrorist incidents, many terrorists join organizations from different countries. Despite this, some of those who join terrorist organizations are people born in Türkiye. Although the Republic of Turkey has a secular form of government, 89.5% of the population is Muslim (Özkök, 2019). Some of the members of the terrorist organization consist of people who received education in Turkey and did not graduate. In other words, the education levels of people who join terrorist organizations; draws attention to the relationship between terrorism and education.

Among the basic features of education; the process is a comprehensive, multidimensional, continuous, dynamic, based on scientific research and findings, benefiting from national but international research and studies, experience-based, human-specific, purposeful and positive, integrative, limited in time and space. There must be a broad adaptation process that is directly related to national development, creates culture and is affected by culture (Varış, 1991).

Strategies for Preventing Radicalization on Social Media and the Internet

After highlighting the complex techniques used by terrorist groups in the previous section, this section will focus on possible solutions to prevent and counter radicalization on social media and the internet.

Preventing the Online Spread of Terrorist Content

The first strategy in preventing radicalization on social media and the internet is to use digital mechanisms and tools to prevent and prohibit the online dissemination of terrorist content and propaganda. This involves implementing legal and policy measures, blocking access to content and social media platforms, and filtering and removing terrorist content from these platforms.

These mechanisms are intertwined because digital prevention laws can be adapted and modified as new technological tools emerge. Since preventing the spread of terrorist content on the internet often requires the use of technology and platforms owned by the private sector, public-private partnerships and collaborations are crucial in this strategy. An example of such a partnership is the Counter Terrorism Technology project, which enhances the capacity of small start-up companies by providing online tools to prevent the spread of terrorist content on their platforms (Neumann and Stevens, 2009).

Legal Measures

The first method to prevent the spread of terrorist content online is to utilize laws and policies that impose regulations and punishments on individuals and organizations. For example, the German Netzwerkdurchsetzungsgesetz (Network Enforcement Act, "NetzDG") imposes fines of up to 5 million euros for individuals and up to 50 million euros for organizations involved in the online dissemination of hate speech and fake news, even if not directly related to terrorist content. Other legal measures focus more specifically on how the private sector can prevent terrorist content on their platforms. For instance, in March 2019, a letter was sent to members of the Global Internet Forum to Counter Terrorism (GIFCT) requesting information on the annual budgets allocated by Facebook, Twitter, Microsoft, and YouTube for combating extremism on their platforms (Splittgerber & Detmering, 2017).

Balancing Security and Freedom of Expression

One approach adopted by many governments to prevent online terrorism is to block access to the internet and social media channels of terrorist groups. This can range from blocking individual websites and social media pages to completely blocking all social media platforms. For example, following the Easter 2019 attacks, the Sri Lankan government temporarily blocked access to Facebook, Facebook Messenger, Instagram, WhatsApp, YouTube, and Viber. Prolonged restrictions force terrorist groups and the general population to seek alternative means of communication to restore their ability to communicate (Liptak, 2019).

Removing and Filtering Terrorist Content

A third way to prevent the spread of terrorist content online is for technology companies or third-party actors to remove or filter individual shares or websites. This can be done in various ways. For example, content removal requests from government agencies, self-regulation by technology companies, AI-supported "anti-upload filters," and content removal by individuals or civil society.

In most known cases, government agencies request private sector companies to remove content that is identified as terrorist content from their platforms. This is achieved through careful collaboration between intelligence and law enforcement agencies and these companies. For instance, Europol's Internet Referral Unit (EU IRU) is responsible for supporting the online marking of terrorist and violent materials and sharing them with relevant partners. As of December 2017, the EU IRU had assessed over 40,000 pieces of content across 80 platforms in 10 languages, with 86% of the marked content being successfully removed (Liptak, 2019).

In addition to collaborating with governments, major technology giants implement highly detailed policies to make their platforms less hospitable to terrorist content. For example, Facebook's counterterrorism policy states that there is no place for terrorism on its platform. This policy uses an academic terrorism definition based on behavior rather than ideology. An average social media user can increase the removal and filtering of potential terrorist content by reporting it, and Facebook's policies have specific usage conditions that require users to comply with certain behaviors and rules, otherwise, their profiles may be suspended or blocked. When an item or post is flagged by a user, there is a team of experts (content moderators) who review the content to decide whether it should remain online or not.

The use of artificial intelligence is another way social media platforms can remove terrorist content. For example, there are image-matching systems that categorize previously removed terrorist content and systems that prevent the upload of new images or videos (Zeiger and Gyte, 2020). For instance, the GIFCT has developed a "Hash Database," where the "hashes" or unique digital fingerprints of terrorist images and membership recruitment videos are shared. GIFCT members can share new content with each other to ensure its removal before it spreads online. However, it should be noted that this database has certain limitations, especially requiring the exact match of "hashes" with the original file data. This means that slightly modified images or videos by users would not match the "hash" and therefore go unrecognized by al systems.

Meanwhile, social media companies continue to work with more sophisticated AI tools to automatically recognize terrorist content on their platforms. A decision made by the EU in 2019 proposed that companies should use "anti-upload filters" as a mandatory measure. The effectiveness of these filters and AI mechanisms is still unknown, and further research is needed in this field to ensure that technology and content detection evolve alongside the evolving terrorist threat. Therefore, as social media companies continue to improve their AI systems, it is important for regulators to incorporate new developments in automatic content detection into their policies (Zeiger and Gyte, 2020).

Increasing Educational Collaborations

It is important for the development of states that countries cooperate in political, military, and economic fields in a safe environment, especially that global economic initiatives are not disrupted. To prevent terrorism, which feeds on poverty resulting from the inadequacy of economic initiatives, an all-out economic development program, especially in underdeveloped countries, and cooperation in military, political, and educational fields are required. In this context, increasing a country's trade volume, attracting foreign direct investors and portfolio investments, and expanding its economic partnership network reduce terrorist activities within the relevant country and the effectiveness of transnational terrorism (Li and Schaub, 2004).

It should be determined as a basic duty to prevent all kinds of negativities that form the basis for terrorism (Çam and Coşkun, 2022). The activity of preventing terrorism is not just about conducting an armed conflict with a terrorist or a terrorist organization. The history of terrorism also shows that this is not enough. Preventing the formation of uneducated masses all over the world, raising living standards, reducing poverty, and ending ethnic, ideological, and religious discrimination are the most basic solutions needs.

Conclusion and recommendations

The profound transformations brought about by new media paradigms in the vast expanse of our digital age cannot be underestimated. From reshaping personal communication to dictating global discourses, these paradigms have established themselves as the driving force of the modern era. However, like throughout history, every evolution also brings its own set of challenges. In the context of our research, the use of these new media tools by terrorist organizations poses a particularly concerning challenge. As described in previous sections, the concept of terrorism has significantly shaped and adapted to the ubiquity of digital platforms. Traditional terrorism paradigms have expanded and adapted, taking on a more insidious form in the digital realm. The rise of terrorist agencies in this era has been greatly facilitated by platforms designed to bridge divides. Their embrace of new media and indirect approaches to media has provided them with a broad and vulnerable audience, making radicalization an easier process. Through platforms like social networking sites, terrorists not only find a voice but also a community. The sophisticated use of videos, images, and magazines has further emboldened their propaganda machines, making their narratives more appealing and their ideologies more widespread. However, the use of artificial intelligence and emerging online technologies points to a leap in their working methods, making their operations not only more efficient but also harder to monitor and counter. Nevertheless, all hope is not lost. The essence of new media paradigms holds promise. While terrorists use these platforms for dissemination, the same platforms can be used for prevention. Strategies focusing on preventing radicalization, halting the spread of terrorist content, and fostering global cooperation in legal measures are crucial. The challenge lies not only in ensuring security but also in smart regulations that respect freedom of expression and access, striking a delicate balance that the global community must achieve. In conclusion, the relationship between new media paradigms and terrorist organizations is complex and intense. In the same parallel, the connection with education seems to be extremely weak, that is, inversely proportional. Since the importance of education in human life is not only to learn but also to acquire virtues, a weakness in this aspect makes it easier to persuade people. While uneducated individuals are more easily persuaded, terrorist organizations attach importance to the training of their senior terrorist members in the process of identifying sympathizer/candidate terrorists through social networks in order to ensure the success of these processes. A terrorist is no longer just an armed militant in the mountains. They are individuals who have received training in every field needed by the organization. An education system to protect generations against this terrorist effort is inevitable. As we continue to embrace the digital age, remaining vigilant, adaptive, and proactive is crucial. The tools used by terrorists can be and should be utilized to counter their rhetoric, disrupt their networks, and ultimately protect the interconnected world we hold dear. This journey intertwined with media and terrorism emphasizes the urgency of a collective and conscious response to ensure that the digital age remains a beacon of progress rather than a vehicle of regression.

References

Abdul Nasir, S. (2006). Al-Qaeda's clandestine courier service. Terrorism Focus, 3(7).

Akşen, H., & Koç, B. (2010). Terör olaylarına karışanların sosyo-ekonomik ve eğitim durumları ile bazı demografik değişkenler açısından değerlendirilmesi. Polis Akademisi Yayınları, 195-210.

Atıcı, B., & Gümüş, Ç. (2002). Bireylerin terör hareketlerine katılım durumları ile eğitim düzeyleri arasındaki ilişki. Türkiye’nin Güvenliği Sempozyumu, 17-19.

Atwan, A. B. (2019). Islamic state: The digital caliphate. University of California Press.

Bilhan, S. (1991). Eğitim felsefesi. Ankara Üniversitesi.

Bodo, L. (2018). Decentralised terrorism: The next big step for the so-called Islamic State (IS)? VOX-Pol Network of Excellence.

Brockhoff, S., Krieger, T., & Meierrieks, D. (2015). More education = less terrorism? Studying the complex relationship between terrorism and education.

Carley, K. M., Dombroski, M., Tsvetovat, M., Reminga, J., & Kamneva, N. (2003). Destabilizing dynamic covert networks. In Proceedings of the 8th international Command and Control Research and Technology Symposium (pp. 79-92). Washington DC: National Defense War College.

Castells, M. (2011). The rise of the network society. John Wiley & Sons.

Comfort, L. K., & Kapucu, N. (2006). Inter-organizational coordination in extreme events: The World Trade Center attacks, September 11, 2001. Natural Hazards, 39, 309-327.

Conway, M. (2012). From al-Zarqawi to al-Awlaki: The emergence and development of an online radical milieu. CTX: Combating Terrorism Exchange, 2(4), 12-22.

Cruickshank, P., & Hage Ali, M. (2007). Abu Musab Al Suri: Architect of the new Al Qaeda. Studies in Conflict & Terrorism, 30(1), 1-14.

Yasin, Ç. A. M., & Coşkun, S. (2022). Küresel kamusal bir kötü: Terörizm. Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 48, 56-66.

Dijk, J. Van. (2018). Ağ toplumu. (Ö. Sakin, Çev.). İstanbul: Epsilon Yayınevi.

Elahi, N. (2019). Terrorism in Pakistan: The Tehreek-e-Taliban Pakistan (TTP) and the challenge to security. Bloomsbury Publishing.

Gunaratna, R., & Iqbal, K. (2012). Pakistan: Terrorism ground zero. Reaktion Books.

Gunaratna, R., & Haynal, C. (2013). Current and emerging threats of homegrown terrorism: The case of the Boston bombings. Perspectives on Terrorism, 7(3), 44-63.

Hamm, M. S. (2004). Apocalyptic violence: The seduction of terrorist subcultures. Theoretical Criminology, 8(3), 323-339.

Hoffman, B. (2017). Inside terrorism. Columbia University Press.

Hoffman, B. (1982). Right-wing terrorism in Europe. Santa Monica, CA: Rand Corporation.

Hoffman, B., & Morrison-Taw, J. (2019). A strategic framework for countering terrorism. In European democracies against terrorism (pp. 3-29). Routledge.

Hülür Himmet, Y. C. (2016). Yeni medya, toplum ve iletişim biliminin dönüşümü. Ankara: Siyasal Kitapevi.

Kaplan, A. M., & Haenlein, M. (2016). Dünyanın bütün kullanıcıları birleşin. In H. Hülür & C. Yaşın (Eds.), Yeni medya kullanıcının yükselişi (pp. 352-372).

Karahisar, T. (2013). Sosyal medyanın psikolojik ve toplumsal yansımaları. In M. Kuyucu & T. Karahisar (Eds.), Yeni İletişim Teknolojileri ve Yeni Medya, 52, 113.

Kuyucu, M. (2013). Yeni iletişim aracı olarak sosyal medya ve sosyal ağlar üzerine bir güncelleme. Yeni İletişim Teknolojileri ve Yeni Medya, 114-151.

Landow, G. P. (1994). Hypertext: The convergence of contemporary critical theory and technology. Modern Philology, 92(2), 272.

Laqueur, W. (1999). The new terrorism: Fanaticism and the arms of mass destruction. Oxford University Press.

Levitt, M. (2015). How do ISIS terrorists finance their attacks. The Hill, 18.

Schaub, D. (2019). Economic globalization and transnational terrorism. Transnational Terrorism, 151.

Livingstone, S., & Lievrouw, L. A. (2002). Handbook of new media: Social shaping and consequences of ICTs. Handbook of New Media, 1-592.
Liptak, A. (2019). Sri Lanka restricts access to social media sites following terror attack. The Verge, 21.
Lombardi, M. (2015). IS 2.0 and beyond: The caliphate's communication project. In Twitter and Jihad: The communication strategy of ISIS (pp. 83-124). ISPI-Istituto per gli Studi di Politica Internazionale.
Macnair, L., & Frank, R. (2018). Changes and stabilities in the language of Islamic state magazines: A sentiment analysis. Dynamics of Asymmetric Conflict, 11(2), 109-120.
Manovich, L. (2002). The language of new media. MIT Press.
Monaco, L. (2017). Preventing the next attack: A strategy for the war on terrorism. Foreign Affairs, 96, 23.
Nohria, N., & Eccles, R. G. (Eds.). (1992). Networks and organizations: Structure, form, and action. Harvard Business Review Press.
Neumann, P., Winter, C., Meleagrou-Hitchens, A., Ranstorp, M., & Vidino, L. (2018). Die Rolle des Internets und sozialer Medien für Radikalisierung und Deradikalisierung (Vol. 10). DEU.
Neumann, P., & Stevens, T. (2009). Countering online radicalisation: A strategy for action. International Centre for the Study of Radicalization and Political Violence (ICRS).
Okur, M. R. (2013). Web 2.0 ve sonrası. In Yeni iletişim teknolojileri (Ankara: T.C. Anadolu Üniversitesi Yayını No:2925).
Özkök, E. (2019). Türkiye artık yüzde 99'u müslüman olan ülke değil. Hürriyet.
Pandian, S., Gomaa, O., & Ahmad Pazil, N. H. (2020). Socialisation and recruitment in Islamist movements: A comparison between the Muslim Brotherhood and Al-Qaeda. International Journal of Islamic Thought, 18, 110-120.
Plebani, A., & Maggiolini, P. M. L. C. (2015). The centrality of the enemy in al-Baghdadi's caliphate. In Twitter and jihad: The communication strategy of ISIS (pp. 27-48). Epoké.
Perliger, A. (2014). Terrorist networks 'productivity and durability: A comparative multi-level analysis. Perspectives on Terrorism, 8(4), 36-52.
Rauf, A. A. (2021). New moralities for new media? Assessing the role of social media in acts of terror and providing points of deliberation for business ethics. Journal of Business Ethics, 170(2), 229-251.
Schmid, A. P. (1999). Terrorism and the use of weapons of mass destruction: From where the risk? Terrorism and Political Violence, 11(4), 106-132.
Smith, M. L. R., & Jones, D. M. (2018). What Carl might have said about terrorism: How strategic theory can enlighten an essentially contested debate. Infinity Journal, 6(2), 30-35.
Soriano, M. R. T. (2008). Terrorism and the mass media after Al Qaeda: A change of course? Athena Intelligence Journal, 3(1), 1-20.
Speckhard, A., Shajkovci, A., Wooster, C., & Izadi, N. (2018). Engaging English speaking Facebook users in an anti-ISIS awareness campaign. Journal of Strategic Security, 11(3), 52-78.
Splittgerber, A., & Detmering, F. (2017). Germany's new hate speech act in force: What social network providers need to do now. Technology Law Dispatch.
Timisi, N. (2016). Dijital Kavramlar. In Olanaklar, Deneyimler. İstanbul: Kalkedon Yayınları.
Tu, A. T. (2007). Toxicological and chemical aspects of sarin terrorism in Japan in 1994 and 1995. Toxin Reviews, 26(3), 231-274.
Turkle, S. (1997). Life on the screen: Identity in the age of the internet. Literature and History, 6, 117-118.
Uğurlu, E. G. (2013). Tarih ve kavram olarak yeni iletişim teknolojileri. In T. Volkan Yüzer & M. E. Mutlu (Eds.), Yeni İletişim Teknolojileri (pp. 2-22). Eskişehir: Anadolu Üniversitesi Açıköğretim Fakültesi Yayınları.
Varış, F., Gürkan, T., Gözütok, D., Gürbüztürk, O., & Babadoğan, C. (1991). Eğitim Bilimine Giriş. In F. Varış (Ed.), Sosyal Bilimler Dergisi. Eskişehir: Ankara Üniversitesi Eğitim Bilimleri Fakültesi.
Vittori, J. (2011). Terrorist financing and resourcing. Springer.
Weiss, C. (2016). Philippines-based jihadist groups pledge allegiance to the Islamic State. FDD, Long War Journal.
Weimann, G. (2004). www.terror.net: How modern terrorism uses the Internet (Vol. 31). United States Institute of Peace.
Williamson, H., Fay, S., & Miles-Johnson, T. (2019). Fear of terrorism: Media exposure and subjective fear of attack. Global Crime, 20(1), 1-25.
Yengin, D. (2014). Yeni medya ve dokunmatik toplum (2. Baskı). İstanbul: Derin Yayınları. PIAR'2022/9 (1).
Zeiger, S., & Gyte, J. (2020). Prevention of radicalization on social media and the internet. International Centre for Counter-Terrorism (ICCT).

Researching the Efficiency Level of Science and Art Centers: The Case Of Tunceli Hacı Bektaş Veli Science and Art Center (BILSEM)

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Abstract
It is known that gifted individuals have existed for centuries and have played important roles in the development and progress of societies. In recent years, there has been a need for education systems that provide the environment and conditions in which gifted children can express themselves easily, that can help them overcome the problems and incompatibilities they are exposed to in their formal education, and that can reveal and develop their superior talents and capacities in creativity under the guidance of teachers specialised in the education of gifted children. BİLSEMs are the most systematic among the educational activities carried out in this field in Turkey. In this study, the purpose, organization, process and climate dimensions of the organizational effectiveness of Science and Art Centers that provide education to gifted children in Turkey; It is aimed to examine and evaluate according to the opinions of administrators, teachers, parents and students. In other words, it was aimed to determine the effectiveness level of Tunceli Hacı Bektaş Veli Science and Art Center (BİLSEM) according to the perceptions of administrators, teachers, parents and students. This research is a descriptive study conducted in the scanning model. The universe of the research consists of the administrator teacher (n:9) working in BİLSEM in Tunceli, the teacher-student (n:40) continuing education in BİLSEM and the parents of these students (n:29) in the first semester of the 2022-2023 academic year. consists of. In addition to the demographic information form, the BİLSEM Organizational Effectiveness Manager-Teacher Scale (57 items) was applied to the administrators, the BİLSEM Organizational Effectiveness Student Scale (38 items) to the students, and the BİLSEM Organizational Effectiveness Parent Scale (31 items) to the parents, in addition to the demographic information form. In order to carry out the research, ethics committee approval was obtained from the Munzur University Ethics Committee before starting the research. Participants included in the study were included in the study on a voluntary basis. As a result of the study, it was observed that there was a significant negative correlation between the average scores of the "BİLSEM Organizational Effectiveness Manager-Teacher Scale" and the average scores of the "BİLSEM Organizational Effectiveness Student Scale" and "BİLSEM Organizational Effectiveness Manager-Teacher Scale" ($p < 0.05$). It was observed that there was a negative, strong and significant relationship between the average scores of the "BİLSEM Organizational Effectiveness Student Scale" and the average scores of the "BİLSEM Organizational Effectiveness Parent Scale" scales ($p < 0.05$). According to BİLSEM administrators and teachers, BİLSEMs are effective institutions in terms of purpose ($X=3.81$) and climate ($X=4.50$). It was observed that the least effective dimension was the process dimension ($X=3.61$). According to BİLSEM parents, BİLSEMs climate, purpose and process sub-dimensions are highly effective. The less influential dimension is the organizational dimension. According to this research, Tunceli Haci Bektas Veli Bilsem is an effective school, according to perceptions of teacher-administrator, parents and student. What needs to be done is a strong cooperation between relevant institutions and organizations and parents for higher-level effective BILSEM.
Keywords: Giftedness, effectiveness level, science and art centers, Education

1. Introduction

Being gifted requires individualized education. Therefore, educational measures developed for gifted children are based on various models and strategies. These models for gifted children are classified as Purdue Model, Differentiation Model, Integrated Program Model, Gagne's Differentiated Model of Giftedness and Talent, Schoolwide Enrichment Model (Sak, 2010:117). In addition, different practices such as acceleration, grouping, enrichment and mentoring are differentiation strategies created for gifted students.

Social science researchers define "talent" in several different ways. Michaels et al. (2001) define talent as the ability to learn and grow, Beechler and Woodward (2009) as the traits and states that balance the interaction

of 'competence, commitment and contribution', and Vosburg (2001) as a rational construct with emotional patterns that lead the individual to productivity.
Talent is also commonly referred to as a set of exceptional qualities that individuals possess. Talent is a natural, innate feature. Gifted children develop their innate abilities at a high level. Children can be gifted and/or talented in many areas, including sports, art, music, intellectual ability and more. Gifted children need support and encouragement to make the most of their talent (Kontaş, 2010; Pak & Özden, 2018; Özbay, 2013; Şenol, 2011).
Recently, many countries are attaching more importance to the education of gifted children. Türkiye is also progressing towards being one of these countries. Practices and scientific research in this field are also expanding. Unlocking the potential of gifted children depends on the development and implementation of suitable teaching strategies (Maker, 2001; Sak, 2017; Tomlinson, 2014; VanTassel-Baska & Brown, 2007). Gifted children's academic achievement will increase once they are allowed to achieve their full potential through education tailored to their needs (Reis and Renzulli, 2010). Therefore, gifted children need support throughout their developmental stages in order to reach their full potential (Subotnik & Rickoff, 2010; VanTassel-Baska et al., 2009). Various models have been applied to support gifted children in Türkiye throughout its history. Before the Republican Era, gifted students received special education at the "Enderun Mektebi" (Enderun School) in the Ottoman Empire in the 15th century (Akarsu, 2001). Mustafa Kemal Atatürk, the founder of the Republic of Türkiye, introduced historical initiatives in the field of gifted education by making plans for the training of the intellectual power necessary for the restructuring of the Republic of Türkiye. After the early years of the Republican era, gifted students who were economically deprived were sent to schools in Europe for higher education in various fields in order to eliminate the lack of qualified personnel in modern fields of education (Ataman, 2019). Today, gifted students in Türkiye benefit from special programs at "Science and Art Centers" (BILSEM) under the Ministry of National Education to develop their talents. The identification process is carried out through group surveys and then through individual assessments during primary school. All assessments, group and individual, are conducted exclusively by the Ministry of National Education. Group screening tests are conducted as central electronic exams on tablets. Students who receive a passing grade in the group screening test by skill area receive an individual assessment. Students who are successful in intellectual fields, music and art, who score above "130" in the intelligence test and who are successful in applied music respectively, take the "intelligence test" and practical exams. Individual intelligence tests are conducted at Guidance and Research Centers, and individual assessments in the fields of music and art, respectively, are conducted at BILSEM (MEB, 2018).

1.1. Literature Review

There are numerous studies on the effectiveness of BILSEMs. Yet, there are only a limited number of research on the efficiency of these institutions. Bulut (2015) carried out one of these studies. In his research, Bulut examined the "Opinions of Teachers, Students, Administrators and Professional Counselors on the Effectiveness and Functionality of Science and Art Centers". In his qualitative research conducted in the 2014-2015 academic year in Elâzığ province BILSEM, Bulut reached the findings that there are serious shortcomings in the identification of gifted students, as well as problems in the curricula. Other findings of the study include the difficulty of attendance to BİLSEM along with compulsory education and the technical and infrastructural challenges in BILSEM buildings.
Sezginsoy (2007), in his research based on descriptive survey model, examined the views of 227 teachers working in BILSEMs within the scope of the attitude scale and found that BILSEMs have an expected level of education and training for the teachers. However, he also found that they are not at an adequate level in school-center connection, including the physical and environmental facilities of the school.
Yumuş and Toptaş (2011) investigated whether BILSEMs are appropriate functioning for their purposes. In their study, which included 43 BİLSEMs in the sample, the researchers found that BILSEMs are useful educational institutions in terms of students' cognitive, emotional, kinesthetic, and creative development. However, they also concluded that these schools have some major drawbacks. A similar study was conducted by Yıldız (2010). In his research, which included 17 BİLSEMs, Yıldız found that BILSEMs were functioning at a high level in accordance with their objectives according to the opinions of teachers, students, and parents. However, he concluded that their communication and relations with the equipment and the environment have a low level of competence according to teachers and a medium level of competence according to students.
Keskin et al. (2013) conducted a study on the current situation, problems, and solution proposals of BILSEMs. In their mixed method research, they examined the opinions of administrators and teachers working in one BILSEM selected randomly from each seven regions of Türkiye and examined them in terms of infrastructure, equipment, exams, educational programs in practice, student selection and identification process, administrator choice and school-parent-student-teacher relations.
Kurnaz (2014) published his study titled “Yirminci Yılında Bilim ve Sanat Merkezlerinin Raporlar ve Yönetici Görüşlerine Dayalı Olarak Değerlendirilmesi (Evaluation of Science and Art Centers in their Twentieth Year Based on Reports and Administrator Opinions)". He used descriptive method in analyzing the data in his study carried out with document analysis. The findings reveal that BILSEMs represent a necessary and appropriate

model for gifted students in Türkiye, but there are significant shortcomings regarding "facilities, qualifications of the staff in terms of quality and quantity, administrators, education and training facilities, student capacity, evaluation process, students, and parents".

Özkan's (2009) study aims to examine the organizational effectiveness of BİLSEMs in terms of purpose, organization, process and climate dimensions according to the views of administrators, teachers, parents and students. The research, designed in the survey model, consists of a total of 1170 subjects (91 administrators, 271 teachers, 479 teachers, 329 parents) selected from the population consisting of teachers and administrators, students and parents of these students working in 35 BILSEMs in 33 provinces of Türkiye in 2007 academic year. As a result of the analysis of the data collected through three separate questionnaires applied to the sample group, the study concluded that according to the opinions of administrators and teachers, BILSEMs are efficient organizations in climate and purpose dimensions, but they do not have sufficient efficiency in the organizational dimension. The opinions of the students suggest that the curricula of BILSEMs are not in line with the curricula being implemented in their schools, and that social activities are insufficient in terms of the efficiency of these institutions. Although BİLSEM parents consider these educational institutions effective in the purpose, process and organization aspects, they do not consider them to be efficient in the climate aspect.

It is noteworthy that there are various studies carried out in other countries, for instance, in the USA, there is a very high level of research on gifted students (Oruç & Çağır, 2022:). However, they handle direct studies on the competence and functionality of BILSEM and similar schools based on different variables. Graves and Thompson (1961) conducted a study to increase teacher efficacy. The main purpose is to contribute the necessary services by better recognizing gifted students. In addition to Gear (1978), Bishop (1968), Davis (1954), Gold (1976), Gowan and Demos (1964), Maker (1975) and Marland (1971) conducted similar studies (cited in Eker, 2020), and their common point is that there is a high correlation between the qualifications of teachers involved in the education of gifted individuals, the selection and training of gifted individuals and the quality of the education.

Another finding is that the academic staff of the school has adequacy deficiencies in quality and quantity. Gibson & Dembo, 1984; Tschannen-Moran et al. (1998) conducted a similar study. This research concluded that teacher competency is crucial for the efficiency and adequacy of BILSEMs and similar institutions.

1.2. The Significance of the Research

This research is considered significant in terms of providing important data for the directors of the relevant institutions to make healthy decisions and encouraging young researchers to pursue research in the field.

1.3. Limitations of the Study

The results of this study are limited to the opinions of teaching and administrative staff, students and parents in BILSEM in the Central District of Tunceli Province in the academic year 2022-2023.

1.4. Purpose of the Study

This study aims to examine the effectiveness level of Tunceli Hacı Bektaş Veli Science and Art Center (BILSEM) in terms of the dimensions of effective schools (purpose, organization, process, and climate) determined by Lezotte (1991) and developed by Balcı (2014) according to the perceptions of the teaching and administrative staff, parents, and students of the institution.

In line with this purpose, the following questions arose:

1. What is the efficiency level of BILSEM in terms of purpose, organization, process, and climate according to the teachers, students and parents?
2. Is there any correlation between the views of teaching and administrative staff, students, and their parents on the efficiency level of BILSEM?

2. Methodology

2.1. Research Model

This study uses a survey research design. The survey research model is a research approach that aims to describe a past or present situation as it is (Karasar, 2012; Fraenkel & Wallen, 2006). That is, survey research is one of the main research models used to determine certain characteristics of a group of individuals (Büyüköztürk et al. 2018. p, 15). This study aims to determine the efficiency level of a BILSEM based on the views of teachers, students and parents.

2.2. Study Population

The study population comprises 9 teaching and administrative staff, 70 students and 70 parents in Tunceli Hacı Bektaş Veli BILSEM in the first semester of 2022-2023 academic year. As the researcher has the possibility and opportunity to reach the whole population, the study does not involve further sampling. On the other hand, the evaluations of the surveys show that 9 of the teaching and administrative staff, 29 of the parents, and 40 of the students can be subject to statistical analysis (Baltalı 2018; Bernard, 2011; Neuman & Robson, 2014). That is, the study involves a total of 78 people, 9 out of 9 administrators-teachers, 40 out of 70 students and 29 out of 70 parents.

In addition to the demographic information form, the surveys include BILSEM Organizational Effectiveness Manager-Teacher Scale (57 items) for the administrators, the BILSEM Organizational Effectiveness Student Scale (38 items) for the students, and the BILSEM Organizational Effectiveness Parent Scale (31 items) for the parents. The answers to these scales for administrators, teachers, students, and parents constitute the results of the study. Table 3.1, Table 3.2, and Table 3.3 present the demographic data of the participants from the scales applied.

Table 2.1. Frequency distribution of the administrators and teachers participating in the study based on their demographic variables

		Categories	Frequency(f)	Percentage (%)
ADMINISTRATOR TEACHER (n:9)	**Gender**	Female	4	44.4
		Male	5	55.6
	Field	Turkish	1	11.1
		Social Sciences	2	22.2
		Mathematics	2	22.2
		Science	1	11.1
		Guidance	1	11.1
		Art and Music	1	11.1
		Design and Technology	1	11.1
	Education Status	Graduate	7	77.8
		Postgraduate	2	22.2
	Training status on gifted individuals	Yes	2	22.2
		No	4	44.4
		Undergraduate course	1	11.1
		Professional Development	1	11.1
		Seminar	1	11.1

Table 2.1 presents data on the demographic variables of the administrative and teaching staff. Accordingly, 4 of them are female (44.4%) and 5 (55.6%) are male.
Analyzing the distribution of the executive teachers participating in the study according to their branches, 1 (11.1%) Turkish teacher, 2 (22.2%) social sciences teachers, 2 (22.2%) mathematics teachers, 1 (11.1%) science teacher, 1 (11.1%) guidance teacher, 1 (11.1%) art-music teacher and 1 (11.1%) design and technology teacher participated in the study.
The distribution of the executive teachers participating in the study according to their educational background shows that 7 (77.8%) of the executive teachers have bachelor's degrees, while 2 (22.2%) of them have master's degrees.
The distribution of the executive teachers' training status on gifted individuals shows that 2 (22.2%) of the executive teachers offered training, 4 (44.4%) of the executive teachers did not offer such training, 1 (11.1%) offered training as an undergraduate course, 1 (11.1%) offered training as in-service training, and 1 (11.1%) offered training as a seminar (Table 2.1).

Table 2.2. Frequency distribution of BILSEM parents participating in the study based on their demographic variables

		Categories	Frequency(f)	Percentage (%)
PARENT (n:29)	**Gender**	Female	17	58.6
		Male	12	41.4
	Age	25-35	2	6.9
		36-45	22	75.9
		46 and above	5	17.2
	Education Status	Secondary	6	20.7
		College	23	79.3
	Number of people working in	Both parents	16	55.2
		Father only	10	34.5
		Mother only	2	6,9
		None	1	3,4

the household			
Occupation	Teacher	8	27.6
	Worker	1	3.4
	Army officer	1	3.4
	Self-employed	5	17.2
	Unemployed	1	3.4
	Housewife	4	13.8
	Other	9	31.0
Monthly Income	0-500 TRY	0	0.0
	501-1000 TRY	0	0.0
	1001-2000 TRY	0	0.0
	2001-4000 TRY	0	0.0
	More than 4001TRY	29	100.0
Number of Children	One	7	24.1
	Two	17	58.6
	Three	5	17.2

Table 2.2 presents data on the demographic variables of the parents in the study. Accordingly, 17 of the parents are female (%58,6) and 5 (%41,4) of them are males.
2 (6.9%) of the participants are between the ages of 25-35, 22 (75.9%) between the ages of 36-45 and 5 (17.2%) between the ages of 46 and above.
In terms of the distribution of the according to their educational status, 6 (20.7%) of the parents graduated from secondary school, while 23 (79.3%) of them are college graduates.
The results regarding the number of people working in the households of the parents show that 16 (2%) of the parents are both working, in 10 households (34.5%) only the father is working, and in 2 families (6.9%) only the mother is working. Both parents are unemployed in 1 (3.4%) of the families.
Analysis of the distribution of parents in terms of their occupations reveals that 8 parents (27.6%) are teachers, 1 (3.4%) is a worker, 1 (3.4%) is an army officer, 5 (17.2%) are self-employed, 1 (3.4%) is unemployed, 4 (13.8%) are housewives and 9 (31.0%) have other occupations.
All parents who participated in the study have a monthly income higher than 4001 TRY.
Taking the number of children of the parents into consideration, 7 of them (24.1%) have a single child, while 17 (58.6%) have two children and 5 (17.2%) have three children (Table 2.3).

Table 2.3. Frequency distribution of BILSEM students participating in the study based on their demographic variables

		Categories	Frequency(f)	Percentage (%)
STUDENT (n:40)	**Gender**	Female	21	52.5
		Male	19	47.5
	Age	7-9	8	20.0
		10-12	25	62.5
		13-15	6	15.0
		16+	1	2.5
	Education status	3rd grade	13	32.5
		4th grade	2	5.0
		5th grade	5	12.5
		6th grade	11	27.5
		7th grade	6	15.0
		8th grade	2	5.0
		10th grade	1	2.5
	Type of School	Private	2	5.0
		State	30	75.0
		Primary	6	15.0
		Secondary	2	5.0
	Education Duration at BILSEM	One year	15	37.5
		Two years	7	17.5
		Three years	8	20.0
		Four years and more	10	25.0

Table 2.3 illustrates data on the demographic variables of the students participating in the study. 21 of these students (%52,5) are females and the remaining 19 (%47,5) are male students.
8 students (%20) are aged between the ages of 7 and 9, 25 (% 62,5) are between the ages of 10 and 12, 6 (%15) are between 13 and 15, and lastly 1 (%2,5) is 16 or older.
The distribution of the students based on their educational status show that 13 (32.5%) of them are studying in the 3rd grade, 2 (5.0%) in the 4th grade, 5 (12.5%) in the 5th grade, 11 (27.5%) in the 6th grade, 6 (15%) in the 7th grade, 2 (5.0%) in the 8th grade and 1 (2.5%) in the 10th grade.
The distribution of the schools the students attend shows that 2 (5.0%) go to private school, 30 (75%) go to public school, 6 (15%) study at primary level and 2 (5.0%) study at secondary level.
The results of the research reveal that 15 (3%) of the students have been studying at BİLSEM for a year, 7 (17.5%) for 2 years, 8 (20%) for 3 years and 10 (25%) for 4 years or more (Table 3.3).

2.3. Data Collection Tools
Below is information about the scales used as data collection tools in the study.

2.3.1. Information on the Scales
This study uses three different scales to obtain the data. Below is the information about these scales developed by Özkan (2009) and used for validity and reliability studies.

2.3.1.1. BILSEM organizational effectiveness administrator-teacher scale
Özkan (2009) developed a scale to measure the organizational effectiveness levels of teachers and administrators and carried out a validity and reliability study. This scale consists of 57 questions and 4 sub-dimensions "purpose", " organization", "process" and "climate".
This study applies factor analysis to each of the four subscales of the questionnaire one by one. The results of the validity and reliability analysis of the subscales show that the first sub-dimension of the " BILSEM Organizational Effectiveness Administrator-Teacher Scale" is the purpose dimension. There are three items in this dimension, and the factor loading values of these items vary between .73 and .88, while the reliability coefficient measures α=74. The second sub-dimension of the scale is the organization dimension, and it contains 33 items. The factor loadings of the items in the organizing dimension range between .33 and .79, while the item-total correlation values range between .52 and .93. Process dimension is the third sub-dimension of the scale. There are 17 items in this dimension of the scale. The loading values of these items range between 5.2 and .79, and Cronbach Alpha Reliability Coefficient is α=.90, and the item total correlation values are between .54 and .84. Climate dimension comprises the fourth sub-dimension of the scale and there are four items in this dimension. The factor loading values of these items range between .78 and .92. The reliability coefficient of the scale is α=.89. Item-total correlation measurements of the same scale range between .61 and .84.

2.3.1.2. BILSEM organizational effectiveness student scale
This scale serves to measure the organizational effectiveness levels of students, and consists of 38 questions and 4 sub-dimensions, namely, "purpose", " organization", "process" and "climate".
There are 6 items in the first sub-dimension of the BILSEM Organizational Effectiveness Student Scale, namely the purpose dimension. The validity and reliability analysis of these items shows that the factor loadings range between .72 and .77, and the Alpha reliability coefficient is .82. The correlation values of the items range between .51 and .59.
There are 12 items in the organization dimension of the Student Scale and the factor loadings of these items range between .44 and .85. The Cronbach Alpha Reliability Coefficient of this subscale is α=86 and the item-total correlation measurements of this subscale are between 30 and 77. While the factor loading values of the items in this subscale range between .42 and .60, the Alpha Reliability Coefficient is .86 and the item total correlation values are between .30 and 77. In the process dimension of this subscale, 16 items and the factor loading values of these items distributed between 42 and 60. The item total correlation coefficient of the scale, α=71, range between 32 and 71. There are 4 items in the climate subscale of the scale, the factor loading values of these items range between 81 and 91, α=82 and the total correlations of the items range between 64 and 82.

2.3.1.3. BILSEM organizational effectiveness parent scale
This scale serves to measure the organizational effectiveness levels of parents, and it consists of 31 questions and 4 sub-dimensions, "purpose", " organization", "process" and "climate". Each subscale underwent a validity and reliability study. Accordingly, the factor loading values of the five items in the purpose sub-dimension range from .67 to .86, and the reliability coefficient is 79. In the organization sub-dimension of the scale, 7 items and factor loadings of these items fall between 53 and 75, and reliability coefficient of these items is 68. The process dimension includes 17 items and the factor loadings of these items range between .39 and .77. The reliability

coefficient of the items is .81 and the total correlation value is between .52 and .79. The climate dimension of the scale consists of four items and their factor loadings range between .63 and .81. The reliability coefficient of the scale is .70 and the correlation values of the items vary between .40 and .65.
This research seeks field experts' opinions on the construct validity of the scales. Table 2.4 presents Cronbach's Alpha measurements of the reliability analysis results.

Table 2.4. Reliability statistics for scales used in the study

Scales	Sub-dimensions	Number of Items	Cronbach's Alpha
"BILSEM organizational effectiveness administrator-teacher scale"	**Purpose**	3	0.900
	Organization	33	0.946
	Process	17	0.919
	Climate	4	0.974
	Total	57	0.962
"BILSEM organizational effectiveness student scale"	**Purpose**	6	0.777
	Organization	12	0.871
	Process	16	0.708
	Climate	4	0.589
	Total	38	0.791
"BILSEM organizational effectiveness parent scale"	**Purpose**	5	0.507
	Organization	7	0.778
	Process	15	0.816
	Climate	4	0.683
	Total	31	0.802

The study shows that the Cronbach's Alpha coefficient of the "Purpose" sub-dimension of the " BILSEM Organizational Effectiveness Administrator-Teacher Scale" is 0.900 and the Cronbach's Alpha coefficient of the "Organization" sub-dimension is 0,946, the Cronbach's Alpha coefficient of the "Process" sub-dimension is 0.919, the Cronbach's Alpha coefficient of the "Climate" sub-dimension is 0.974 and the Cronbach's Alpha coefficient of the total scale is 0.962.
The study identifies the Cronbach's Alpha coefficient of the "Purpose" sub-dimension of the " BILSEM Organizational Effectiveness Student Scale" as 0.777, the Cronbach's Alpha coefficient of the "Organization" sub-dimension as 0.871, the Cronbach's Alpha coefficient of the "Process" sub-dimension as 0.708, the Cronbach's Alpha coefficient of the "Climate" sub-dimension as 0.589 and the Cronbach's Alpha coefficient of the total scale as 0.791.
The study reveals that the Cronbach's Alpha coefficient of the "Purpose" sub-dimension of the " BILSEM Organizational Effectiveness Parent Scale" is 0.507, the Cronbach's Alpha coefficient of the "Organization" sub-dimension is 0.778, the Cronbach's Alpha coefficient of the "Process" sub-dimension is 0.816, the Cronbach's Alpha coefficient of the "Climate" sub-dimension is 0.683 and the Cronbach's Alpha coefficient of the total scale is 0.802.
Accordingly, this study concluded that the three scales as data collection tools (teacher-administrator, parent and student BILSEM Organizational Effectiveness scales) are valid and reliable and decided on their implementation (Büyüköztürk, 2011; Tabachnick & Fidell, 2001; Kline, 2000; Karasar, 2010). This study is carried out with the permission of the Ethics Committee.

ETHICS COMMITTEE APPROVAL: The necessary permissions required for conducting the research prior to the study were obtained from Munzur University Ethics Committee with the decision dated 10.05.2022.-51995 and numbered 2022/07-07.

2.4. Data Analysis

This study employs SPSS 24 (Statistical Package for the Social Sciences-IBM®) for data analysis in an attempt to examine whether the data set is suitable for analysis, the study conducts missing value and outlier analyses. The study also excludes missing and incorrectly entered data from the dataset. The data were subjected to exploratory factor analysis, reliability analysis and normality tests using the Kolmogorov-Smirnov test, and the demographic characteristics of the participants (age, gender, employment status, educational background, monthly income, etc.) were also examined. In addition, the research organizes the level of agreement of the respondents with the statements in the scales (" 1- Strongly Disagree", "2- Disgree", "3-Somewhat Agree", "4-Agree", " 5-Strongly Agree") in the form of a 5-point Likert scale, and in evaluating the mean values in the scale, uses 1.00-1.80 (Very

low), 1.81-2.60 (Low), 2.61-3.40 (Average), 3.41-4.20 (High) and 4.21-5.00 (Very high) as ranges. That is, high mean scores indicate that BILSEM is highly effective, while low mean scores indicate the opposite.
The research employs descriptive analyses such as percentage (%) and frequency (f) to describe the study group, and arithmetic mean and standard deviation to obtain a general opinion about the scales.

3. Findings

This chapter presents the findings related to the sub-problems identified in line with the purpose of the study.

3.1. Findings Related to Sub-Problems

3.1.1. Findings related to the first sub-problem of the study

The first sub-problem of the research is the following statement: " What is the efficiency level of BILSEM in the purpose, organization, functioning and climate dimensions based on the opinions of teachers, students and parents?". Table 4.1, Table 4.2, Table 4.3 show the findings related to this sub-problem.

3.1.1.1.1. Opinions of teachers and administrators on the efficiency level of BILSEM

The opinions of teachers and administrators on the efficiency level of BİLSEM are presented in Table 3.1.

Table 3.1. Descriptive statistics of administrators' and teachers' opinions on the efficiency level of BILSEM

DIMENSIONS	Number	ITEM	N	X̄	SS
PURPOSE	1	BILSEMs are effective institutions in providing students with scientific reasoning	9	4.0000	1.11803
	2	BİLSEMs contribute to forming aesthetic values for the students' thoughts and behaviors.	9	4.3811	1.05409
	3	The education programs at BILSEM are integrated with those at their schools.	9	3.3333	1.32288
		Total		**3.81**	**1.07**
ORGANIZATION	4	The fact that the legal regulations on BILSEMs are based on directives instead of regulations causes problems	9	3.5556	1.33333
	5	The lack of a special budget allocated by the Ministry for BILSEMs reduces the efficiency of the activities.	9	4.3333	.86603
	6	The dependence of activities in BILSEMs on sponsors limits the activities.	9	3.8889	1.16667
	7	The insufficient number of teachers in BILSEM reduces the efficiency of the program.	9	4.3333	.86603
	8	The inability to make teacher transfers between BILSEMs reduces the efficiency of the centers in terms of hiring teachers trained in the field.	9	4.4444	.72648
	9	It is not clear whether BILSEMs are included in formal or non-formal education systems.	9	4.5556	.72648
	10	In districts where dual education is practiced in formal education institutions, triple education in BILSEMs makes the functioning of the system difficult.	9	4.5556	.52705
	11	Weekend classes are not effective due to the lack of time and the high number of students.	9	3.7778	1.39443
	12	BILSEM is not located in a central place suitable for transportation.	9	2.2222	1.71594
	13	The fact that the BILSEM program is not certified and does not bring any additional points to the students in high school and university entrance exams is a disadvantage.	9	4.1111	1.36423
	14	The open hours of BILSEM are not suitable for students who attend school full-time.	9	3.6667	1.41421

Table 3.1

	15	The absence of a special needs teacher at BILSEM reduces the quality of the activities.	9	3.6667	1.22474
	16	There is a need for an expert in program development at BILSEM.	9	3.8889	1.05409
	17	The number of experts working in student selection is not sufficient.	9	4.2222	.83333
	18	The number of janitors in BILSEM is not sufficient.	9	4.2222	.83333
	19	In-service training seminars on gifted education for professional development of teachers and administrators are not sufficient.	9	4.1111	1.26930
	20	The fact that students are not assessed prior to school causes their talents and creativity not to be recognized and developed at an early age.	9	4.3333	1.00000
	21.	The fact that the BILSEM building is not equipped with the necessary facilities for stusying decreases the efficiency.	9	4.0000	1.32288
	22	BILSEM has a heating problem.	9	2.2222	1.64148
	23	Classrooms at BILSEM are poorly lit.	9	2.5556	1.58990
	24	BILSEM does not have an assigned bus to take students on research trips and social activities.	8	4.5000	1.41421
	25	The BILSEM library does not meet the needs.	9	2.3333	1.58114
	26	The BILSEM physics laboratory is not equipped with high-level equipment.	9	3.2222	1.20185
	27	The BILSEM chemistry laboratory is not equipped adequately.	9	3.6667	1.11803
	28	The BILSEM biology laboratory is not equipped adequately.	9	3.7778	1.09291
	29	The number of computers in BILSEM does not correspond to the number of students.	9	3.0000	1.80278
	30	Classrooms suitable for small groups are not sufficient.	9	2.7778	1.71594
	31	Not having computers in all classes reduces the efficiency.	9	3.7778	1.64148
	32	The departments do not have their own rooms.	9	3.4444	1.42400
	33	Art rooms are not suitable for sculpture activities.	9	3.3333	1.80278
	34	There is a need for a cafeteria in BILSEM.	9	4.2222	1.09291

Table 3.1

		Total		**3.64**	**0.77**
PROCESS	35	BILSEM teachers and administrators do not have access to publications on gifted education.	9	3.5556	1.58990
	36	The visits of teachers to students' homes are neglected.	9	2.0000	1.41421
	37	It is necessary for the Ministry of National Education to design the BILSEM curriculum and for it to be enriched by institutions such as universities and TUBITAK.	9	4.6667	.70711
	38	The criteria for determining students' fields (mental, art, musical) at the end of the Support Education Program are inadequate.	9	3.8889	1.36423
	39	The Support Education Program is not effective due to high student absence rates.	9	3.2222	1.56347
	40	The concepts of student projects are not up to date.	9	3.3333	1.65831
	41	The teacher determines the choice of project topics rather than leaving it to the student.	9	3.1111	1.76383
	42	The activities carried out in the orientation program do not ensure the student's adaptation to BILSEM.	9	2.5556	1.50923
	43	The projects carried out in the Individual Talents Awareness Program do not achieve the desired results due to lack of material and budget.	9	3.4444	1.13039
	44	Students in the Special Talents Awareness Program do not receive the necessary academic support (from universities) for in-depth study in a discipline of their choice, taking their talents and interests into account.	9	3.7778	1.39443

	45	BILSEMs are not regularly inspected and are not visited for counseling purposes.	9	2.7778	1.48137
	46	The scales used in student selection are not reliable and valid.	9	2.7778	1.30171
	47	Students start attending cram schools, as they experience exam (LGS) anxiety when they come to the Individual Talents Awareness Program, and their absence rates at BILSEM increase.	9	4.3333	.86603
	48	It is difficult to keep students studying at BILSEM.	9	3.7778	1.09291
	49	Students prefer attending cram schools to attending BILSEM.	9	3.6667	.86603
	50	The classroom arrangements are not designed in a way to increase the creativity of the students.	9	3.5556	1.42400
		Total		**3.61**	**0.82**
CLIMATE	51	I am pleased to work at BILSEM.	9	4.1111	1.36423
	52	BILSEM's work environment is collaborative.	9	4.1111	1.36423
	53	Interpersonal trust is high at BILSEM	9	4.2222	1.09291
	54	Inter-unit relations at BILSEM are characterized by cooperation and coordination.	9	4.1111	1.36423
		Total		**4.50**	**0.35**

Table 3.1 shows the opinions of administrators and teachers on the efficiency level of BILSEM. Based on the results, administrators and teachers perceive BILSEM as "fully" effective, i.e., "very high" with a mean of X=4.50 in the **climate** dimension. They consider BILSEM effective in terms of **purpose** with an average of X=3.81, **organization** with an average of X=3.64 and **process** with an average of X=3.61, respectively.

3.1.1.2. Opinions of students on the efficiency level of BILSEM

The opinions of students on the efficiency level of BILSEM are presented in Table 3.2.

Tablo 3.2. Descriptive statistics of students' opinions on the efficiency level of BILSEM

DIMENSION		**ITEM**	N	X	Ss
PURPOSE	1.	I think I developed my skills in certain areas by preparing projects at BILSEM	40	4.2500	.89872
	2.	My problem solving skills improved at BILSEM	40	4.1750	.81296
	3	BILSEM provides me with the necessary knowledge for my daily life.	40	4.1250	.79057
	4	BILSEM contributes to my reasoning skills.	40	4.0500	1.06096
	5	BILSEM improves my creative thinking skills.	40	4.2500	83972
	6	Education at BILSEM helps me to seek and use knowledge.	40	4.2000	72324
		Total		**4.17**	**0.67**
ORGANIZATION	7	Due to the shortage of teachers in some fields in BILSEM, I cannot work productively.	40	2.3500	1.31168
	8	BILSEM does not have enough classrooms suitable for different subjects.	38	2.5789	1.22213
	9	Classroom arrangements are not enriched with useful material.	40	2.4000	1.23621
	10	Classrooms are not designed for small group work.	40	2.2000	1.39963

Table 3.2

	11	The number of computers in BILSEM computer laboratory does not correspond to the number of students.	40	1.7500	1.27601
	12	The BILSEM library does not meet the needs.	40	1.3750	.89693
	13	The BILSEM physics laboratory is not equipped with high-level equipment.	38	1.9211	.99679

	14	The BILSEM chemistry laboratory is not equipped adequately.	39	2.8718	1.26032
	15	The BILSEM biology laboratory is not equipped adequately.	39	3.0000	1.39548
	16	BILSEM has a heating problem during winter.	40	1.9000	1.33589
	17	I experience transportation difficulties on my way to BILSEM.	40	2.1500	1.21000
	18	There is a need for a cafeteria in BILSEM.	40	4.3750	1.14774
		Total		**2.41**	**0.63**
	19	The teachers provide satisfactory answers when I ask them questions related to their field.	39	4.6410	.58432
	20	Our teachers or administrators take us to various institutions during the programs to get information from universities and experts or to work with them.	40	3.6250	1.16987
	21	My advisor teacher guides me when I need it.	40	4.6000	.67178
	22	I cannot conduct in-depth studies on a subject of my special interest or in an area in which I am talented at BILSEM.	40	2.3000	1.45355
	23	My teachers at BILSEM create a discussion and reflection space through brainstorming.	40	4.3750	.97895
	24	My advisor teacher visits my home.	40	2.6500	1.76214
	25	My advisor teacher visits my school.	39	4.4872	1.02268
	26	My teachers inform me at the beginning and at the end of the programs.	40	4.5000	.71611
	27	My teachers ask for my opinion when making decisions about me at BILSEM.	40	4.4500	.98580
	28	I cannot decide on my own project topics to work on.	40	1.8000	1.24447
	29	I learn by experience at BILSEM.	40	4.3500	.94868
	30	I get bored during the support education program because it takes too long.	37	1.7027	1.15145
	31	The fact that we work in different areas in the support education program other than my talent and areas of interest bores me.	38	1.7368	1.05739
	32	I plan to leave BILSEM in order to prepare for LGS starting from the 6th grade	40	1.5750	1.23802
	33	I prefer going to a cram school to going to BILSEM	39	1.6410	1.26672
	34	The time I spend at BILSEM is not enough to complete my studies.	40	1.8500	1.18862
		Total		**3.14**	**0.38**
CLIMATE	35	I am happy to be at BILSEM.	40	4.6750	.76418
	36	I don't know why I keep attending BILSEM	40	1.3500	.89299
	37	My teachers at BILSEM are sincere and helpful.	40	4.8000	.46410
	38	My teachers trust in my work.	39	4.8462	.43155
		Total		**3.92**	**0.37**
		Scale Total		3.17	0.33

Table 3.2 shows descriptive statistics in line with students' views on the adequacy of Tunceli Hacı Bektaş Veli BILSEM in the dimensions of purpose, organization, process and climate. Accordingly, the students attending BILSEM agree with the statements in the **purpose** dimension of the scale at the highest level (X=4.17) and to a great extent, at the lowest level, they agree with the statements in the **organization** dimension (X=2.41). They largely agree with the statements in the **climate** dimension (X=3.17) and somewhat agree with the statements in the **process** dimension (X=3.14).

3.1.1.3. Opinions of parents on the efficiency level of BILSEM

The opinions of parents on the efficiency level of BILSEM are presented in Table 3.3.

Tablo 3.3. Descriptive statistics of parents' opinions on the efficiency level of BILSEM

DIMENSION		ITEM	N	X̄	SS
PURPOSE	1	There is not enough guidance in BILSEM in line with my child's abilities	28	1.7857	.99469
	2	There are not enough research-related activities in BILSEM.	27	1.8148	.96225
	3	I think the projects my child does at BILSEM improve his/her skills	27	3.3333	1.14354
	4	My child gains work discipline at BILSEM.	27	3.5926	.97109
	5	The projects carried out at BILSEM help my child acquire a research mindset.	28	3.7857	1.03126
		Total		2.88	0.87
ORGANIZATION	6	BILSEM provides a clean environment for my child.	27	3.5556	.93370
	7	The classrooms at BILSEM are not heated in winter.	26	3.0000	1.26491
	8	I experience transportation difficulties while taking my child to BILSEM.	27	2.3704	1.41824
	9	The number of janitors at BILSEM is not sufficient.	27	2.7407	1.53404
	10	I do not think that BILSEM offers my child a different and richer environment than his/her school	27	1.5556	.89156
	11	Since the working hours of BILSEM coincide with school hours, my child cannot benefit from the center sufficiently.	27	1.7037	1.32476
	12	I think that my child should be given an additional point or benefit in his/her formal education when he/she completes his/her education at BILSEM.	26	4.0769	1.23038
		Total		2.72	0.62
PROCESS	13	I feel comfortable talking about my child with administrators and teachers	28	4.2500	1.04083
	14	I find the teachers at BILSEM inadequate in terms of helping my child	27	1.5185	.97548
	15	Administrators and teachers are aware that my child needs special education.	27	3.6296	1.30526

Table 3.3

	16	Administrators and teachers are patient and understanding about my child's negative behaviors	28	3.9286	1.01575
	17	The advisory teacher gives me information about my child's abilities, interests and development.	28	4.0000	1.15470
	18	Advisory teachers neglect home visits	24	2.3333	1.49395
	19	I am not informed enough about the programs and activities at BILSEM.	28	1.4286	.63413
	20	There are not enough seminars for parents.	27	1.4815	.64273
	21	I do not know how I should treat my child due to the lack of guidance at BILSEM	28	1.4286	.87891
	22	I play an active role in solving the problems of the center together with BILSEM management	28	3.3571	1.31133
	23	I am willing to contribute financially to BILSEM's activities.	29	3.5172	1.29892
	24	I am attentive to my child's attendance at BILSEM	29	4.2414	.95076
	25	I can observe my child's progress.	28	4.0357	1.03574
	26	The teachers at BILSEM do not give me feedback about my child's giftedness.	29	1.8621	1.21667
	27	My child is not willing to attend BILSEM.	28	1.5357	1.10494
		Total		3.61	0.82
CLI	28	I know what is the purpose of BILSEM	28	3.7857	1.13389

29	I think there is an adequate communication between the administrator-teacher and parents	28	3.8214	.86297
30	I can observe my child's progress.	29	4.1034	.93903
31	I am welcomed in a friendly manner during my visits to BILSEM	29	4.4828	.82897
	Total		4.04	0.69
	Scale Total		3.18	0.41

According to Table 4.3, BILSEM parents agree with statements regarding the climate dimension's effectiveness in school at the highest level, with X=4.04, and with statements regarding the organization dimension at the lowest level, with X=2.72. The average agreement of parents in the purpose dimension is X=2.88, while in the process dimension, this value is X=2.85.

3.1.1.4. Comparison of the mean scores of participants' opinions

Table 3.4 displays a comparison of the mean scores of the participants' opinions.

Table 3.4. Mean scores of the participants' opinion scales

Scales	Sub-dimensions	$\bar{X}$	SS
"BILSEM organizational effectiveness administrator-teacher scale"	**Purpose**	3.81	1.07
	Organization	3.64	0.77
	Process	3.61	0.82
	Climate	4.50	0.35
	Total	3.74	0.74
"BILSEM organizational effectiveness student scale"	**Purpose**	4.17	0.67
	Organization	2.41	0.63
	Process	3.14	0.38
	Climate	3.92	0.37
	Total	3.17	0.33
"BILSEM organizational effectiveness parent scale"	**Purpose**	2.88	0.87
	Organization	2.72	0.62
	Process	2.85	0.45
	Climate	4.04	0.69
	Total	3.18	0.41

Table 3.4 shows that the average score of the administrators and teachers in the study is 3,82±1,07 for the "**Purpose**" sub-dimension, 3,65±0,77 for the " **Organization**" sub-dimension, 3,63±0,79 for the "**Process**" sub-dimension, 4,51±1,27 for the "**Climate**" sub-dimension and 3,74±0,74 for the total score of the scale. This result shows that the organizational efficiency levels of the administrators and teachers are at a significantly high level.

The mean score of the students participating in the study is 4,17±0,67 for the "**Purpose**" sub-dimension of the " BILSEM Organizational Effectiveness Student Scale", 2,41±0,63 for the "**Organization**" sub-dimension, 3,14±0,38 for the "**Process**" sub-dimension, 3,92±0,37 for the "**Climate**" sub-dimension, and 3,17±0,33 for the total score obtained from the scale. This result shows that students regard BILSEM as a moderate institution in terms of organizational efficiency.

Likewise, the mean scores of the parents in the study are 2,88±0,87 in the "Purpose" sub-dimension of the " BILSEM Organizational Effectiveness Parent Scale", 2,72±0,62 in the "Organization" sub-dimension, 2,85±0,45 in the "Process" sub-dimension, 4,04±0,69 in the "Climate" sub-dimension, and 3,18±0,41 in the total score obtained from the scale. This result shows that parents consider BILSEM to possess moderate organizational effectiveness.

3.1.2. Findings and commentary on the second sub-problem

This research aims to answer the following question: “Is there any correlation between the views of teaching and administrative staff, students, and their parents on the efficiency level of BILSEM?”
Table 3.5 displays the findings on the second sub-problem of this research.

Table 3.5. The correlation among the mean scores of administrators-teachers, students, and parents on the scales of "BILSEM Organizational Effectiveness Administrator-Teacher Scale," "BILSEM Organizational Effectiveness Student Scale," and "BILSEM Organizational Effectiveness Parent Scale" and their sub-dimensions.

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Administrator purpose (1)	r	1	0.025	0.239	0.636	0.24	-0.024	0.166	-0.038	0.254	0.159	0,36	-0,107	0,059	-0,404	-0,017
	p		0,95	0,535	0,066	0,535	0,952	0,67	0,922	0,51	0,683	0,341	0,784	0,88	0,281	0,966
Administrator organization (2)	r	0,025	1	,957**	0,358	,971**	-0,212	-0,389	-0,561	-0,332	-0,645	-0,442	0,059	0,054	-0,422	-0,113
	p	0,95		0,001	0,344	0,001	0,585	0,301	0,116	0,383	0,061	0,233	0,88	0,891	0,258	0,771
Administrator process (3)	r	0,239	,957**	1	0,51	,988**	-0,233	-0,218	-0,499	-0,278	-0,487	-0,364	0,129	0,057	-0,537	-0,102
	p	0,535	0		0,16	0,001	0,546	0,574	0,171	0,469	0,184	0,336	0,741	0,884	0,136	0,794
Administrator climate (4)	r	0,636	0,358	0,51	1	0,543	-0,1	0,245	0,313	0,245	0,293	-0,249	-0,255	-0,375	-,783*	-0,484
	p	0,066	0,344	0,16		0,131	0,798	0,525	0,412	0,525	0,444	0,519	0,507	0,32	0,013	0,186
Administrator total (5)	r	0,24	,971**	,988**	0,543	1	-0,224	-0,278	-0,473	-0,258	-0,515*	-0,395	0,046	0,013	-0,556	-0,659*
	p	0,535	0	0	0,131		0,562	0,469	0,199	0,503	0,016	0,293	0,906	0,974	0,12	0,043

Table 3.5

Student purpose (6)	r	-0,024	-0,212	-0,233	-0,1	-0,224	1	-0,22	0,086	0,281	0,263	-0,349	-,431*	-0,157	-0,032	-0,316
	p	0,952	0,585	0,546	0,798	0,562		0,172	0,596	0,079	0,101	0,064	0,02	0,415	0,867	0,095
Student Organization (7)	r	0,166	-0,389	-0,218	0,245	-0,278	-0,22	1	,613**	0,076	,815**	0,28	0,195	-0,096	0,225	0,126
	p	0,67	0,301	0,574	0,525	0,469	0,172		0,001	0,642	0,001	0,142	0,31	0,62	0,241	0,514
Student Process (8)	r	-0,038	-0,561	-0,499	0,313	-0,473	0,086	,613**	1	,313*	,810**	0,298	-0,207	-0,279	0,089	-0,138
	p	0,922	0,116	0,171	0,412	0,199	0,596	0,001		0,049	0,001	0,116	0,282	0,143	0,648	0,474
Student Climate (9)	r	0,254	-0,332	-0,278	0,245	-0,258	0,281	0,076	,313*	1	,363*	0,314	-0,348	-0,126	0,115	-0,095

	p	0,51	0,383	0,469	0,525	0,503	0,079	0,642	0,049		0,021	0,097	0,064	0,515	0,554	0,623
Student total (10)	r	0,159	-0,645	-0,487	0,293	-0,515*	0,263	,815**	,810**	,363*	1	0,251	-0,063	-0,166	0,207	-0,954**
	p	0,683	0,061	0,184	0,444	0,016	0,101	0,001	0,001	0,021		0,189	0,745	0,39	0,282	0,002
Parent Purpose (11)	r	0,36	-0,442	-0,364	-0,249	-0,395	-0,349	0,28	0,298	0,314	0,251	1	0,242	0,344	0,348	,561**
	p	0,341	0,233	0,336	0,519	0,293	0,064	0,142	0,116	0,097	0,189		0,207	0,067	0,064	0,002
Parent Organization (12)	r	-0,107	0,059	0,129	-0,255	0,046	-,431*	0,195	-0,207	-0,348	-0,063	0,242	1	,404*	0,225	,668**
	p	0,784	0,88	0,741	0,507	0,906	0,02	0,31	0,282	0,064	0,745	0,207		0,03	0,241	0,001
Parent Process (13)	r	0,059	0,054	0,057	-0,375	0,013	-0,157	-0,096	-0,279	-0,126	-0,166	0,344	,404*	1	,655**	,899**
	p	0,88	0,891	0,884	0,32	0,974	0,415	0,62	0,143	0,515	0,39	0,067	0,03		0,001	0,001
Parent Climate (14)	r	-0,404	-0,422	-0,537	-,783*	-0,556	-0,032	0,225	0,089	0,115	0,207	0,348	0,225	,655**	1	,730**
	p	0,281	0,258	0,136	0,013	0,12	0,867	0,241	0,648	0,554	0,282	0,064	0,241	0,001		0,001
Parent total (15)	r	-0,017	-0,113	-0,102	-0,484	-0,659*	-0,316	0,126	-0,138	-0,095	-0,954**	,561**	,668**	,899**	,730**	1
	p	0,966	0,771	0,794	0,186	0,043	0,095	0,514	0,474	0,623	0,002	0,002	0,001	0,001	0,001	

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

This paper examines the correlation between the mean values of the " BILSEM Organizational Effectiveness Administrator-Teacher Scale", "BILSEM Organizational Effectiveness Student Scale" and "BILSEM Organizational Effectiveness Parent Scale" scales and sub-dimensions of the administrators-teachers, students and parents of these students working in BILSEM by Pearson correlation analysis and the results are presented in Table 3.5. The total scores of the three scales are in strong and significant correlation with each other. The values obtained from certain sub-dimensions are statistically significant when examining the values determined in the analysis. There is a significant negative correlation between the mean values of " BILSEM Organizational Effectiveness Administrator-Teacher Scale" and the mean values of "BILSEM Organizational Effectiveness Student Scale" and "BILSEM Organizational Effectiveness Parent Scale" scales ($p < 0.05$). In addition, there is a strong significant negative correlation between the mean values of " BILSEM Organizational Effectiveness Student Scale" and the mean values of "BILSEM Organizational Effectiveness Parent Scale" ($p < 0.05$).

4. Discussion, Conclusion and Suggestions

4.1. Discussion

The role and importance of gifted individuals has always been present in the history of humanity, and perhaps these gifted individuals have shaped the history with their discoveries in social structures, science and technology. At the present day, countries want to make the highest use of human resources in addition to all sorts of resources they have, and therefore they take necessary measures. To put it in other words, nations do not leave their human resources unattended and seek to obtain their highest level of performance. In this framework, individuals differ in terms of their abilities, and special or gifted individuals receive particular attention in this regard. As a matter of fact, the identification, education, and training of special or gifted individuals are equally important. Therefore, countries establish various special schools for these individuals. BILSEM is the equivalent of these schools in Türkiye.

The more qualified, effective, and sufficient the BILSEMs, which are assigned and authorized in the identification and training of gifted individuals, the better the individuals who are subject to special education in these schools grow and make significant contributions to their societies in the future. For this reason, it is important to periodically investigate the effectiveness levels of BİLSEMs both individually and holistically. BILSEMs that cannot fulfill their duties and responsibilities will also have a negative impact on the development of these exceptional children. For this reason, this research is limited to the opinions of the teachers, administrators, students, and parents on the efficiency of Hacı Bektaş Veli BILSEM in Tunceli province within the means of the researcher.

A review of the literature similar to the results of this research reveals that there are some parallels with the findings of Özkan (2009). According to the views of administrators and teachers, Özkan concluded that BILSEMs are effective organizations in the dimensions of climate and purpose, but they do not have adequate effectiveness in the dimension of organization. According to students participated in the research, the curricula of BILSEMs are not in compliance with the curricula of their own schools, and similarly, students believe that the inadequacy of social activities decreases the efficiency. Although BILSEM parents consider these institutions effective in the dimensions of purpose, process and organization, they do not regard them at the adequate level in the climate dimension. A comparison with Bulut's (2015) research findings reveals that there are serious deficiencies in the identification of gifted students. Similarly, in addition to the shortcomings in curriculum, there are also problems in terms of BILSEM student attendance and BILSEM building's infrastructure.

A comparison of the findings of this study with the findings of Sezginsoy (2007) shows that BILSEMs have a satisfactory educational environment in terms of teaching staff, but they are not at an adequate level in terms of the school-center connection, including the physical and environmental facilities and amenities of the school. Compared to the research findings of Yumuş and Toptaş (2011), BILSEMs are effective and sufficient for students' cognitive, emotional, kinesthetic, and creative development. The competence results of Tunceli BILSEM are similar to the findings of the research conducted by Yıldız (2010). However, their communication and relations with equipment and the environment have a low level of competence according to teachers and a medium level of competence according to students. The research findings of Keskin et al. (2013) indicate that the current situation of BİLSEMs in terms of some variables is not in the expected quality and quantity. Kurnaz's (2014) research findings show that BILSEMs in Türkiye are a necessary and appropriate model for gifted students, but there are significant problems in terms of "facilities, quality and quantity of personnel, administrators, education and training facilities, student capacities, identification process practices, students and parents". Accordingly, comparing the findings on the effectiveness of Tunceli BİLSEM with the findings of similar studies, it is possible to say that Tunceli BILSEM is in a better position in terms of effectiveness.

4.2. Conclusion

The total scores of the three scales in the study have a strong, positive and significant correlation.

There is a significant negative difference between the mean scores of " BILSEM Organizational Effectiveness Administrator-Teacher Scale" and the mean scores of "BILSEM Organizational Effectiveness Student Scale" and "BILSEM Organizational Effectiveness Parent Scale" ($p < 0.05$).

There is a negative, strongly significant difference between the mean scores of the " BILSEM Organizational Effectiveness Student Scale" and the mean scores of the "BILSEM Organizational Effectiveness Parent Scale" scales ($p < 0.05$).

According to the " BILSEM Organizational Effectiveness Administrator-Teacher Scale", the purpose (X=3,81) and climate (X=4,50) sub-dimensions in BILSEMs are the most effective dimensions. The least effective sub-dimension is the process dimension (X=3,61).

There is no integrity between the curriculum and training contents at BİLSEM and the curriculum and training contents at their schools.

The absence of a special budget allocated by the Ministry to BILSEMs leads to a decrease in the effectiveness of the research conducted on this topic. The fact that the legal regulations prepared for BILSEMs are based on directives instead of regulations leads to problems.

Teachers and administrators do not get sufficient in-service training in accordance with the quality of the school in which they work in order to ensure their development within the scope of continuous learning, and this situation has a negative impact on the expectations of gifted children and hence decreases motivation.

The education programs of BILSEMs should be continuously developed and updated. One of the ways to catch up with change and developments is closely related to the responsiveness to change and developments. A curriculum, especially for gifted children, should be prepared in a way that is open to change in a much faster and systematic way.

Especially the fact that students are not obliged to attend BİLSEM interrupts the educational activities carried out at school and has a negative impact on the learning and teaching process.

There is a need for the Ministry of National Education to prepare the programs implemented in BILSEMs and for TUBITAK and universities to enrich their content.

Preventing teacher transfers between BILSEMs decreases the effectiveness of the centers in terms of recruitment of expert teachers trained in their fields.
According to the results of the " BILSEM Organizational Effectiveness Parent Scale", climate, purpose and process sub-dimensions of the scale are quite effective according to the parents. The organization sub-dimension is the least effective dimension.
The administrators and teachers think that their communication with parents is not at a sufficient level. "They cannot observe the development of their children at attend the center".
According to BILSEM students, BILSEMs are largely effective in their purpose and climate sub-dimensions. The least effective dimensions are organization and process sub-dimensions.
Students should know very well why they attend BILSEMs and consciously participate. However, face-to-face interviews revealed that a significant number of students do not have the expected level of awareness of why they attend these schools. Therefore, schools, relevant public institutions and organizations should take the necessary measures.

4.3. Suggestions
The suggestions based on the results of the research are listed below:
BILSEM management should seek support from the opportunities and facilities provided by Universities, TUBITAK and similar institutions, especially in terms of research projects.
BILSEM regulations should be constantly reviewed and systematically improved since science and technology are rapidly evolving.
The teaching models, methods, and techniques for gifted students in BILSEMs should be updated according to the newly developed models, methods, and techniques.
For students to spend more time in BILSEM and to increase the participation of students in secondary education, legal measures should be taken to ensure that BILSEMs can serve full-time, on weekends and during summer holidays.
The facilities, equipment and physical conditions of Science and Art Centers need to be examined again. All centers in Turkey should be provided with regular, adequate and equal resources in terms of technical and content material, supplies and equipment suitable for local and individual needs.
All administrators, teachers, parents, and other individuals who are responsible for the education of gifted students should be provided with new information at regular intervals, and teachers in particular should be trained continuously on this subject.
In-service training seminar contents should be prepared considering the needs of teachers in pre-service training centers.
All responsible parties for BILSEMs should seek assistance from universities and other academic circles in the implementation and evaluation of in-service programs.
Research can be conducted on how in-service training activities to be organized both on a branch basis and in a mixed format can improve the performance of teachers.
BILSEMs may face numerous problems. Parents may also be called upon in this case.

Bibliography

Akarsu Ö, Mutlu B., 2017. Üstün yetenekli çocukları anlamak: Çocukların sosyal ve duygusal sorunları. *DÜ Sağlık Bil. Enst Derg,* 72: 112-116.

Altan M.Z., 2012. Introducing the theory of multiple ıntelligences into english language teaching programs. *Pamukkale Üniversitesi Eğitim Fakültesi Dergisi,* 322: 57-64.

Ambreen S., 2014. Wechsler ıntellıgence scale for chıldren- fourth edıtıon wısc-ıv: adaptatıon, translatıon, and standardızatıon ın Pakıstan. *Master's Thesis,* Natıonal Instıtute Of Psychology Center of Excellence Quaid-i-Azam University, Islamabad, 85-87s.

Anatasi, A., 1982. Psychological testing, fifth edition. MacMillan, New York, 22s.

Anderson, J.R. 1983. The architecture of cognition. Harvard University Pres, Cambridge, 65s.

Anderson, J.R., Lebiere, C., 2003. The newell test for a theory of cognition. *Behavioral and Brain Sciences,* 265: 587–601.

Armstrong, T., 1994. Multiple intelligences in the classroom association for supervision and curriculum development ASCD. Alexandria, Virginia, 41s.

Assouline S.G., Colangelo N., 2006. Social-emotional development of gifted adolescents. In Dixon F. A., Moon S. M. Eds., The handbook of secondary gifted education. Prufrock Press, Waco TX, 65-85s.

Ataman, A.B., 2008. Üstün yetenekli çocuklarda aile ortamının bazı demografik değişkenler açısından incelenmesi: İstanbul BİLSEM örneği. *Yayımlanmamış Yüksek Lisans Tezi,* Yeditepe Üniversitesi, İstanbul, 81s.

Avcı, A., 2005. Anne-babaların üstün yetenekli çocuklarının farkındalıklarına ilişkin görüşlerinin incelenmesi. *Yayımlanmamış Yüksek Lisans Tezi*, Gazi Üniversitesi, Ankara, 23-28s.
Balcı, A., 2014. Etkili okul, okul geliştirme kuram uygulama ve araştırma. Ankara: Pegem Akademi.
Balcı, A., 2015. Sosyal bilimlerde araştırma yöntem teknik ve ilkeler (11. Baskı). Pegem Akademi Yayınları, Ankara, 19-21s.
Baltacı, A., 2018. Nitel araştırmalarda örnekleme yöntemleri ve örnek hacmi sorunsalı üzerine kavramsal bir inceleme. *BEÜ SBE Derg.,* 7(1): 231-274.
Başaran Y.K., 2017. Sosyal bilimlerde örnekleme kuramı. *Akademik Sosyal Araştırmalar Dergisi,* 5(47): 480-495.
Baum, S.M., Renzulli, J.S., Hébert, T.P., 1995. Reversing underachievement: Creative productivity as a systematic ıntervention. *Gifted Child Quarterly*, 39(4): 224–235.
Beechler, S., Woodward, I.C., 2009. The global war for talent. *Journal of International Management,* 15(3): 273-285.
Beer, J., 1991. Depression, general anxiety, test anxiety, and rigidity of gifted junior high and high school children. *Psychol Rep*. 693(2): 1128–1130.
Benbow, C.P., Lubinski, D., 1993. Psychological profiles of the mathematically talented: Some sex differences and evidence supporting their biological basis. In G. R. Bock, & K. A. Ackrill, Eds. The Origins And Development Of High Ability Ciba Foundation Symposium.44-59s.
Bénony, H., Van Der Elst, D., Chahraoui, K., Bénony, C., Marnier, J.P., 2007. Link between depression and academic self-esteem in gifted children. *Encephale,* 33: 11-20.
Bernard, H.R., 2011. Research methods in anthropology: Qualitative and quantitative approaches. Rowman Altamira, New York, 56s.
Bhatia, K.K., 1973. Measurement And Evaluation. Sh.Ram Parkash Tandon, Ludhiana.,
Bildiren, A., 2019. Özel yetenekli çocukların tanılanması: Öğrenme güçlüğü ve özel yetenek. Maya Akademi, İstanbul, 239-255s.
Bildiren, A., Türkkanı, B., 2016. Üstün yetenekli öğrencilerin perspektifinden bilim ve sanat merkezlerinin hoş ve hoş olmayan özellikleri ve değişiklik talepleri. *Üstün Yetenekliler Eğitimi ve Araştırmaları Dergisi (UYAD),* 1(2): 128–135.
Bindu, T.V., 2007. Achievers And Non-Discrepant Achievers İn Education. A.P.H. Publishing Corporation. New Delhi, 36s.
Birgül, Y., Nacakcı, Z. 2019. Güzel sanatlar lisesi viyola eğitiminde kullanılan repertuvara yönelik öğrenci görüşleri (Opınıons of students on the vıola traınıng repertoire in fıne arts high schools). Mehmet Akif Ersoy Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 9(22), 413–427. https://doi.org/10.20875/makusobed.350559.E.T. 19.01.2203.
Birol, Z. N., Yazıcı, H. 2011. Fen ve sosyal bilimler lisesi öğrencilerinde mükemmeliyetçilik, benlik saygısı ve liderlik özellikleri. Karadeniz Uluslararası Bilimsel Dergi, 3(12), 113–122.
Bourdieu, P. Passeron J.C. 2014. Varisler Öğrenciler Ve Kültür L. Ünsaldı Ve A. Sümer Çev.. Ankara: Heretik Yayıncılık 1964.
Bracken, B.A., Mccallum, R.A. 1998. “The Universal Nonverbal Intelligence”, Itasca, IL: Riverside.
Brody LE, Mills CJ. 1997. Gifted Children With Learning Disabilities: A Review Of The İssues. J Learn Disabil. 30:282–2960.
Brody, N., 1992. Intelligence, 2nd Edition. San Diego, CA: Academic.
Brown R.E., 2016. Hebb And Cattell: The Genesis Of The Theory Of Fluid And Crystallized Intelligence, Front. Hum. Neurosci Sec. Cognitive Neuroscience Https://Doi.Org/10.3389/Fnhum.2016.00606.E.T.17.07.2023.
Büyüköztürk, Ş., 2011. Sosyal Bilimler İçin Veri Analizi El Kitabı İstatistik, Araştırma Deseni SPSS Uygulamaları ve Yorum, Pegem Akademi Yayınları, Ankara.
Büyüköztürk, Ş., Kılıç Çakmak, E., Akgün, Ö. E., Karadeniz Oran, Ş., Demirel, F., 2019. Bilimsel Araştırma Yöntemleri. Pegem Akademi, Ankara,88-105s.
Callahan, C.M., Sowa, C.J., May, K.M., Tomchin, E.M., Plucker, J.A., Cunningham, C.M., Taylor, W., 2004. *The Social And Emotional Development Of Gifted Students RM04118*. Storrs: National Research Center On The Gifted And Talented, University Of Connecticut.
Callahan, C. M., Moon, T. R., Oh, S., Azano, A. P., Hailey, E.P., 2015. What works in gifted education: Documenting the effects of an integrated curricular/instructional model for gifted students. American Educational Research Journal, 52(1), 137–167.
Callahan, C.M., Renzulli, J.S., Delcourt, M.A.B., Hertberg-Davis, H.L., 2012. Considerations for identification of gifted and talented students: An introduction to identification. In C. M. Callahan & H. L. Hertberg-Davis (Eds.), Fundamentals of gifted education: Considering multiple perspectives 83–86s.
Carroll, J.B., 1993. Hu*man Cognitive Abilities: A Survey Of Factor-Analytical Studies.* New York: Cambridge University Press.

Cattell, R.B., 1963. Theory Of Fluid And Crystallized İntelligence: A Critical Experiment. *J. Educ. Psychol.* 54, 1–22.
Ceci S.J., 1990. On Intelligence. More Or Less: A Bio-Ecological Treatise On Intellectual Development, Englewood Cliffs, NJ: Prentice Hall.
Chamrad, D.L,, Robinson, N. M,, Janos, P. M., 1995. Consequences Of Having A Gifted Sibling: Myths And Realities. *Gifted Child Quarterly*, 39: 135–145.
Cherry K., 2022. *Theories Of Intelligence İn Psychology*, Updated On November 03, 2022, Https://Www.Verywellmind.Com/Theories-Of-İntelligence-2795035 Erişim Tarihi: 11-11-2022.
Chichester W., Bloom, B.S., 1985. Developing Talent İn Young People. New York: Ballantine.
Clark, B., 1997. *Growing Up Gifted*, 5. Baskı. Upper Saddle Hill, New Jersey: Prentice-Hall, Inc.
Cochran, C.E., Mayer, L.C., Carr, T.R., Cayer, N. J., Mckenzie, M.J. Peck, L.R., 2009. *American Public Policy*. An İntroduction. Boston. MA: Wadsworth.
Cohen, R.J., Swerdlik, M.E., 2005. *Psychological Testing And Assessment: An İntroduction To Tests And Measurements*, 6thed.. New York: Mcgraw Hill.
Colangelo N., Brower P., 1987b. Gifted Youngsters And Their Siblings: Long-Term İmpact Of Labeling On Their Academic And Personal Self-Concepts. *Roeper Review*, 10: 101–103.
Colangelo N., Dettmann D.F., 1983. A Review Of Research On Parents And Families Of Gifted Children. *The Council For Exceptional Children*. 50: 20–27
Colangelo, N., Brower, P. 1987a. Labeling Gifted Youngsters: Long-Term İmpact On Families. *Gifted Child Quarterly*, 31: 75–78.
Colangelo, N., Zaffrann, R.T., 1979. Eds. *New Voices İn Counseling The Gifted*. Dubuque IA: Kendall/Hunt.

Collings, D.G., Mellahi, K., 2009. Strategic Talent Management: A Review And Research Agenda, *Human Resource Management Review*, 19(4): 304.
Colvin, S. S., Haggerty F., Henmon, P., Pintner, P., Ruml, T., Thorndike, T., Woodrow W., 1921. Intelligence And İts Measurement: A Symposium. *Journal Of Educational Psychology*, 12: 39.
Corazza, GE, Lubart T. 2021. Intelligence And Creativity: Mapping Constructs On The Space-Time Continuum. *Journal Of Intelligence* 9: 1.
Cszikszentmihalyi, M., Rathunde, K., Whalen, S., 1993. *Talented Teenagers*. The Roots Of Success And Failure. Cambridge: Cambridge University Press.
Çamdeviren, Ş. 2014. Bilim Ve Sanat Merkezine BİLSEM Devam Eden Üstün Yetenekli Çocukların Anne Babalarının Karşılaştıkları Güçlükler Sakarya İli Örneği. Yayımlanmamış *Yüksek Lisans Tezi*. Sakarya Üniversitesi, Eğitim Bilimleri Enstitüsü, Sakarya.
Çelikdelen, H., 2010. Bilim sanat merkezlerinde bilim birimlerinden destek alan üstün yetenekli öğrencilerin kendi okullarında fen ve teknoloji dersinde karşılaştıkları güçlüklerin değerlendirilmesi *Unpublished Doctoral Dissertation*. Selçuk Üniversitesi, Konya, 67s.
Çetin, A., Doğan, A., 2018. Bı̇lı̇m ve sanat merkezlerı̇nde görev yapan matematı̇k öğretmenlerı̇nin karşılaştıkları sorunlar. Ankara Üniversitesi Eğitim Bilimleri Fakültesi Özel Eğitim Dergisi, 19(4): 615–641.
Çevik, M., Yağcı, A., 2017. Destek eğitim odalarına ilişkin idareci ve sınıf öğretmenlerinin görüşleri: Karaman ili örneği. *Journal of Academic Social Science Studies*, 58(2): 65–79.
Çitil, M., 2017. Türkiye'de Özel Eğitim: Tarihsel, Politik ve Yasal Gelişmeler. Vize Yayıncılık. Çitil, M. (2018). Türkiye'de üstün yeteneklilerin eğitimi politikalarının değerlendirilmesi. Milli Eğitim Dergisi, 47(1): 143–172.
Dandekar, W.N., Sanyoglatha, M., 2002. *Psychological Foundations Of Education*, Macmillan India Limited.
Davies, G., 2011. Genome-Wide Association Studies Establish That Human Intelligence Is Highly Heritable And Polygenic. Molecular Psychiatry 16: 996–1005.
Delisle JR, Lewis BA., 2003.The Survival guide for teachers of gifted kids. USA: Barnes and Noble Publishing;
Diezmann, C. M., Watters, J. J., Fox, K. 2001. Early entry to school in Australia: Rhetoric, research and reality. Australasian Journal of Gifted Education, 10(2): 5–18.
Duran, A., Dağlıoğlu, H. E. 2017. Okul öncesi öğretmen adaylarının üstün yetenekli çocuklara ilişkin metaforik algıları [The metaphoric perceptions of preschool teacher candidates regarding gifted children]. Gazi Üniversitesi Gazi Eğitim Fakültesi Dergisi, 37(3): 855–881.
Efe, E., Bek, Y., Şahin, M., 2000. SPSS'te çözümleri ile istatistik yöntemler II, Kahramanmaraş Sütçü İmam Üniversitesi, Yayın No:10, 137s.
Eker, S., 2020. Özel Yetenekli Öğrencilerin Öğretmenlerinin Mesleki Yeterliklerini Artırmaya Yönelik Geliştirilen Öğretmen Eğitimi Programının Etkililiği, Doktora Tezi, Necmettin Erbakan Üniversitesi Eğitim Bilimleri Enstitüsü, Özel Eğitim Anabilim Dalı Özel Eğitim Bilim Dalı, Konya.
Enç M, Çağlar D, Özsoy Y., 1975. Özel Eğitime Giriş. Ankara: Ankara Üniversitesi Eğitim Fakültesi Yayınları, No:49, Kalite Matbaası.

Enç, M., 2005. Üstün beyin gücü. Gündüz Yayıncılık, Ankara, 26-27s.
Enright K.M., 2001. Family factors and self-esteem in gifted versus nongifted children Unpublished doctoral dissertation. Seton Hall University, South Orange Village, NJ.
Erdem S., 2015. Üstün Yetenekli Çocukların Eğitim Süreçlerinde Kültürel Ve Sosyal Sermaye: Ankara Bilsem Örneği, *Yüksek Lisans Tezi*, Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü, Ankara
Eysenck H.J., 1988. Concept of ıntelligence useful or useless?, Intellıgence 12: 1-16.
Feldhusen J.F., Hoover S.M., Sayler M.F., 1990. Identification and education of the gifted at the secondary level. New York: Trillium Press.
Feldhusen, J.F., 1997. Educating teachers for work with talented youth. In N. Colangelo & G. A. Davis (Eds.), Handbook of gifted education (2nd ed., pp. 547–552). Boston,
Feldman, D.H., Goldsmith L.T., 1986 Nature‘s gambit: Child prodigies and the development of human potential. New York: Basic Books.
Flanagan, Dawn P., Patti L. 2012. Contempo-rary Intellectual Assessment: Theories, Tests, and Issues, 3rd ed. New York: Guilford Press, 2012.
Fox, L.H., 1980. Conclusion: What do we know and where should we go? In: L. H. Fox, I. Brody, and D. Tobin Eds.. Women and the mathematical mystique pp. 195–208. Baltimore: John Hopkins University Press.
Fraenkel. J.R.. Wallen. N.E. 2006. How to design and evaluate research in education. New York: McGrawHill
Freeman, J., 1992. *Quality education: The development of competence*. Geneva: UNESCO.
Freeman, J., 2000. *Families, The Essential Context For Gifts And Talents.* In K. A. Heller, F. J. Monks, R. Sternberg, & R. Subotnik, International Handbook of Research and Development of Giftedness and Talent pp. 573–585. Oxford: Pergamon Press.
Gagné, F. 2004. Transforming Gifts İnto Talents The DMGT As A Developmental The,ory. *High Ability Studies*, 15, 119-147.
Gallardo-Gallardo, E., Dries, N., González-Cruz, T.F., 2013. What is the meaning of talent in the world of work? *Human Resource Management Review*, 234: 290–300
Gardner, H., 1993 "Frames Of Mind: The Theory Of Multiple Intelligences". 10th Anniversary Ed. Basic Books.
Gardner, H., 1987. The Theory Of Multiple İntelligences. Annals Of Dyslexia 37: 19–35.
Gardner, H., 1999. Intelligence Reframed: Multiple Intelligences For The 21st Century. New York: Basic Books.
Geisler, J., Hessler, R., Gardner, R., & Lovelace, T. 2009. Differentiated writing interventions for high-achieving urban African American elementary students. Journal of Advanced Academics, 20(2), 214–247. H
Gibson, S., Dembo, M. H. 1984. Teacher efficacy: A construct validation. *American*
Gillborn, D., Youndell D., 2000. *Rationing Education: Policy, Practice, Reform And Equity*. Buckingham: Open University Press.
Golombok, S., Fivush, R. 1994. Gender Development. Cambridge: Cambridge University Press.
Gottfredson L.S., 2016. Hans Eysenck's Theory Of İntelligence, And What İt Reveals About Him, *Personality And Individual Differences*, Volume 103, , Pages 116-127
Greiten S., 2016 School Developments Through The "Revolving Door Model" İn Germany. A Qualitative Empirical Study Analyzing Selection Criteria And School Support Programs For Gifted Young Students İn Germany, *Journal Of Education And Human Development*, 54:24-35
Grenier, M.E. 1985. Gifted Children And Other Siblings. Gifted Child Quarterly, 29, 164–167.
Gross, M. U. M. 1993. Nurturing The Talents Of Exceptionally Gifted İndividuals. In K. A. Heller, F. J. Monks, & A. H. Passow Eds., International Handbook Of Research And Development Of Giftedness And Talent Pp. 473–490. Oxford: Pergamon Press.
Gruber, H.E., 1981. Darwin On Man: A Psychological Study Of Scientific Creativity. Chicago: University Of Chicago Press.
Gulmez, A., Huseynlı, S., 2019. Enerji ihracatı ve ekonomik büyüme ilişkisi: Azerbaycan örneği. *12 Uluslararası Ekonomik Araştırmalar Dergisi,* 5(1): 9-23.
Güçin, G., Ş ahin, O. 2015. Türkiye'de üstün yetenekliler ve üstün zekâlılar alanında yapılmış akademik çalışmaların çeşitli değişkenler açısından değerlendirilmesi. Adıyaman Üniversitesi Eğitim Bilimleri Dergisi, 5(2), 113–135. https://doi.org/10.17984/adyuebd. 05095
Gürel, E., Tat, M., 2010. Çoklu Zekâ Kuramı: Tekli Zekâ Anlayışından Çoklu Zekâ Yaklaşımı, Uluslararası Sosyal Araştırmalar Dergisi, 311: 336-356.
Heller K.A., 2005 The Munich Model Of Giftedness And Its Impact On Identification And Programming, *Gifted And Talented International* 201:30-36
Heller, K.A., 2004. Identification Of The Gifted And Talented İn Students, *Psychology Science,* 46 3, pp 302-323.
Heller, K.A., Zeigler, A., 1996. Gender Differences İn Mathematics And Natural Sciences; Can Attributional Retraining İmprove The Low Performance Of Gifted Females? *Gifted Child Quarterly*, 404, 200–219.
Hess, R.D.. Azuma, H., 1991, Cultural Support For Schooling: Contrasts Between Japan And The United States. *Educational Researcher*, 20, 2–9.

Hoctor, M. 2013. Identifying young gifted children [Doctoral dissertation] University of Southern, California. http://digitallibrary.usc.edu/cdm/ref/collection/p15799 coll3/id/ 329861.E.T.22.03.2023.
Holahan, C. K.. Sears, R.R., 1995. *The Gifted Group İn Later Maturity*. Stanford, CA: Stanford University Press.
Hossein A. 2011. The Role Of Invitational Education And İntelligence Beliefs İn Academic Performance, *Journal Of Invitational Theory And Practice*, Vol. 17, Pp. 3- 10.
I ̇nan, H. Z., Bayindir, N., Demir, S. 2009. Awareness level of teachers about the characteristics of gifted children. Australian Journal of Basic and Applied Sciences, 3(3), 2519–2527.
Iles, P., 2013. Commentary On "The Meaning Of 'Talent' İn The World Of Work". *Human Resource Management Review*, 234, 301–304.
Inamorato, G. 1998. Creativity İn The Development Of Scientific Giftedness. *Roeper Review*, 211, 54–59.
Islam, A., İ mamoğlu, O. 2019. Spor eğitimi alan üniversite öğrencilerinin öğretmenlik mesleğine yönelik tutumlarının incelenmesi (Ordu üniversitesi örneği). Manas Sosyal Araştırmalar Dergisi, 8(Ek Sayı 1), 1313–1324. https://doi.org/10.33206/mjss.463527. E.T. 22.07.2023
Işık M.A., 2012. Üstün Yetenekli Çocukların Keşfi, Eğitimleriyle İlgili Sorunların Tespiti Ve Ülkemizin Gelişimine Katkı Sağlayacak Etkin İstihdamlarının Sağlanması Amacıyla Kurulan Meclis Araştırması Komisyonu Raporu, TBMM Meclis Araştırması Komisyonu Raporu, Ankara.
Işık, A., Güneş, E., 2017. Türk Tarihinde Özel Yeteneklilerin Eğitimi: Osmanlı Enderun Mektebi, Üstün Zekâlılar Eğitimi ve Yaratıcılık Dergisi, Aralık, 4(3), 1-13, http://jgedc.org. E.T. 22.07.2023.
Jaarsveld S, Lachmann T. 2017. Intelligence And Creativity İn Problem Solving: The İmportance Of Test Features İn Cognition Research. Front Psychol. 8134:1-11 Doi:10.3389/Fpsyg.2017.00134
Jacobs, J. E.. Weisz, V. 1994. Gender Stereotypes: Implications For Gifted Education. Roeper Review, 163 152–55.
Jensen, A.R, Cohn, S.J., Cohn, C.M., 1989. Speed Of İnformation Processing İn Academically Gifted Youths And Their Siblings. *Personality And Individual Differences*, 10: 29–33
Johnson, L.J., Lewman, B.S., 1990. Parents Perceptions Of The Talents Of Young Gifted Boys And Girls. *Journal For The Education Of The Gifted*, 13, 176–188.
Jolly J.L., Matthews M.S., 2012. A Critique Of The Literature On Parenting Gifted Learners. *J. Educ. Gift.* 2012;35:259–290.
Jones P., 2011. High School Students Beliefs On İntelligence, *Research in Schools*, Vol. 162,Pp. 1-14.
Jones, P., Rodgers, B., Murray, R., Marmot, M. 1994. Child Developmental Risk Factors For Adult Schizophrenia in The British 1946 Birth Cohort. *The Lancet*, 334, 1398–1402.
Karabulut, R., Ömeroglu, E., 2021. A Validity And Reliability Study Of A Nomination Scale For İdentifying Gifted Children İn Early Childhood, *International Journal Of Curriculum And Instruction*, 132:1756-1777
Karakuş, F., 2010. Üstün yetenekli çocukların anne babalarının karşılaştıkları güçlükler. *Mersin Üniversitesi Eğitim Fakültesi Dergisi*, 6(1): 127–144.
Karakuş, F., 2014. Üstün yetenekli çocukları olan anne babaların çocuklarının eğitimine yönelik algıları. *Ondokuz Mayıs Üniversitesi Eğitim Fakültesi Dergisi*, 33(1), 289–304.
Karasar, N., 2012. Bilimsel Araştırma Yöntem, Ankara: Nobel Yayın Dağıtım
Kayışdağ, E., Melekoğlu, M.A., 2019. Bilim ve sanat merkezlerinin eğitim programlarının öğrenci görüşlerine dayalı olarak değerlendirilmesi. Eskişehir Osmangazi Üniversitesi Sosyal Bilimler Dergisi, 20: 175–202.
Kazu, İ, Şenol, C., 2012. Üstün yetenekliler eğitim programlarına ilişkin öğretmen görüşleri Bilsem örneği. *E-Uluslararası Eğitim Araştırmaları Dergisi,* 3(2): 13–35.
Kıymet, S., 2010. Teachers' Competencies. Cultura. International Journal Of Philosophy Of Culture And Axiology 71: 167-175
Kline, P., 2000. Handbook of psychological testing (2. baskı). London: Routledge.
Koçak, R., İçmenoğlu, E., 2016. Üstün yetenekli öğrencilerin duygusal zekâ ve yaratıcılık düzeylerinin yaşam doyumlarını yordayıcı rolü. *Türk Psikolojik Danışma ve Rehberlik Dergisi*, 4(37): 73–85.
Koçal, Z.D., Kanar, E., Ermiş, S., Pınar Kanar, K., 2009. Bilim ve sanat merkezine devam eden üstün yetenekli öğrencilerin temel ihtiyaçları: Amasya örneği. Üstün Yetenekli Çocuklar II. Ulusal Kongresi Yeni Açılımlar/25-27 Mart 2009. Anadolu Üniversitesi.
Kogan, E., 2001. Gifted Bilingual Students: A Paradox?. New York: Peter Lang. Landau, E. The Courage To Be Gifted. Unionville NY: Trillium Press.
Kontaş, H., 2010. Learning Strategies Of Gifted Elementary Students. *Elementary Education Online,* 93: 1148-1158.
Kress, G., 2000. A Curriculum For The Future. *Cambridge Journal Of Education*. 30.1, 133-145.
Kroesbergen, E. H., van Hooijdonk, M., Van Viersen, S., Middel-Lalleman, M. M., Reijnders, J. J. 2016. The psychological wellbeing of early identified gifted children. *Gifted Child Quarterly*, 60(1): 16–30
Kurnaz, A., 2014. Yirminci yılında bilim ve sanat merkezlerinin raporlar ve yönetici görüşlerine dayalı olarak değerlendirilmesi. *Üstün Yetenekliler Eğitimi Araştırmaları Dergisi,* 2(1): 1-22.

Landau, E., David, H., 2005. Who Will Be The Gifted Of The Future? *Gifted Education International*, 203: 343–347.
Landau, E., 2001. *Mut Zur Begabung 2 Aufl*. Munchen: Ernst Reinhardt Verlag.
Landau, E., Weissler, K., Golod, G., 2001. Impact Of An Enrichment Program Of İntelligence, By Sex, Among Low SES Population İn Israel. *Gifted Education International*, 15: 207– 214.
Lawrence, A., 2013. Intelligence And Academic Achievement Of High School Students", *International Journal Of Physical And Social Sciences*, 32: 101- 107.
Legg, S., Hutter, M., 2007. A Collection Of Definitions Of İntelligence. *Frontiers İn Artificial Intelligence And Applications* 157:17.
Lehwald, G., 1990. Curiosity And Exploratory Behaviour İn Ability Development. *European Journal For High Ability*, 1: 204– 210.
Lewis, J.F., 1982. Bulldozers or chairs? Gifted students decribe their ideal teachers. Gifted Child Today, 23: 16-19.
Lezotte, L.W., (1991),Correlates of Effective Schools The First and Secondary Generations, Effective School Products. USA, Michigan, 1-16.
Liu, Y., Sulaimani, M.F., Henning, J.E., 2020. The Significance Of Parental İnvolvement İn The Development İn İnfancy. *Journal Of Educational Research And Practice,* 10: 161–166.
Luthar, S.S., Zigler, E., Goldstein, D., 1992. Psychosocial Adjustment Among İntellectually Gifted Adolescents: The Role Of Cognitive-Developmental And Experiential Factors. *Journal Of Child Psychology And Psychiatry*, 33, 361–373.
Maclanahan, S., Percheski, C., 2008. Family Structure And production of Inequalities. *Annual Review Of Sociology*, 38, Ss: 257-276.
Maguin, E., Loeber, R., 1996. *Academic Performance And Delinquency*. In M. Tonry, & N. Morris Eds. Crime And Justice. Chicago: Chicago University Press.
Mangal, S.K., 2003, *Advanced Educational Psychology*, Prentice-Hall, New Delhi, India.
Mcguire Frederick L., 1994. Army Alpha And Beta Tests Of Intelligence. In Encyclopedia Of Human Intelligence, Ed. Robert J. Sternberg. New York
MEB, 2016. *Çocuk Gelişimi Ve Eğitimi. Millî Eğitim Bakanlığı*. Özel Eğitim Ve Rehberlik Hizmetleri Genel Müdürlüğü. Erişim Adresi: Https://Orgm.Meb.Gov.Tr/Meb
MEB, 2017. *Özel Yetenekli Bireylerin Eğitimi Strateji Ve Uygulama Kılavuzu*. Millî Eğitim Bakanlığı, Özel Eğitim Ve Rehberlik Hizmetleri Genel Müdürlüğü. Erişim Adresi:
Mertens, D.M., 2010. Research and evaluation in education and psychology: integrating diversity with quantitative, qualitative, and mixed methods (3. Baskı). USA: SAGE Publications.
Mertol H., 2014. Türkiye Ve ABD De Üstün Zekâlı Çocuklara Sosyal Bilgiler Dersi Veren Öğretmenlerin Görüş Ve Uygulamaları Hope Projesi ve Bilsem Örneği, *Yüksek Lisans Tezi*, Atatürk Üniversitesi Eğitim Bilimleri Enstitüsü, İlköğretim Anabilim Dalı, Erzurum.
Metin, N. Dağlıoğlu, E. 2004. Üstün yetenekli çocukların eğitiminde öğretmenin rolü. I. Türkiye üstün yetenekli çocuklar kongresi seçilmiĢ makaleler kitabı, Ġstanbul: Çocuk Vakfı.
Meyers, M.C., Van Woerkom, M. Dries, N., 2013. Talent - Innate Or Acquired? Theoretical Considerations And Their İmplications For Talent Management. *Human Resource Management Review*, 234, 305–321.
Michaels, E., Handfield-Jones, H., Axelrod, B., 2001, The War For Talent Boston: Harvard Business School Press.
Moore AD. 1992. Gifted And Talented Children And Youth. In: Bullock LM, Editor. Exceptionalities İn Children And Youth. USA: Allyn And Bacon Inc; 1992. Pp. 420–448.
Morawska A, Sanders M. 2009. An Evaluation Of A Behavioural Parenting İntervention For Parents Of Gifted Children. *Behav Res Ther*. 47:463–470.
Morawska A, Sanders MR. 2008. Patenting Gifted And Talented Children: What Are The Key Child Behaviour And Parenting İssues? *Aust N Z J Psychiatry*. 42:819–827.
Morrow, W. R., Wilson, R. C. 1964. Family Relations Of Bright High-Achieving And Under-Achieving High School Boys. Child Development, 35, 1041–1049.
Neihart M. 2006. *Services That Meet Social And Emotional Needs Of Gifted Children*. In: Purcell JH, Eckert RD, Editors. Designing Services And Programs For High Ability Learners: A Guidebook For Gifted Education. California: Corwin Press; pp. 112–124.
Neihart, M. 1999. The İmportance Of Giftedness And Psychological Well-Being: What Does The Empirical Literature Say? *Roeper Review*, 22, 10–17.
Neuman, W.L., Robson, K., 2014. Basics Of Social Research. Toronto: Pearson Canada.
O'Neill, K.K., 1978. *Parent İnvolvement: A Key To The Education Of Gifted Children.* Gifted Child Quarterly, 22, 235–242.
Olszewski, P., Kulieke M., Buescher T. 1987. The İnfluence On The Family Environment On The Development Of Talent: A Literature Review. *J. Educ. Gift.* 1987;11:6–28.

Olszewski-Kubilius, P., Lee, S.Y., Thomson, D., 2014. Family Environment And Social Development İn Gifted Students, *SAGE Journals*, 583

Olusakin, A.M., Makinde B., 2008. Offering The Gifted Adolescents The Gift Of Peace: The Role Of Parents, UNILAG Research Repository, Https://İr.Unilag.Edu.Ng/Handle/123456789/5637 Erişim Tarihi: 11-11-2022

Oruç, Ş., Çağır, S., 2022. Bilim ve sanat merkezleri üzerine yapılan akademik çalışmaların değerlendirilmesi. *Türkiye Eğitim Dergisi*, 7(2): 398-412.

Özbay, Y., 2013. Üstün yetenekli çocuklar ve aileleri. t.c. aile ve sosyal politikalar bakanlığı aile ve toplum hizmetleri genel müdürlüğü. Erişim Adresi:Https://Ailetoplum.Aile.Gov.Tr/Uploads/Pages/Aile-Egitimyayinlari/ Ustunyetenekli Cocuklar.Pdf

Özel, A., 2018.Yetenekleri Elde Tutma Uygulamaları ve Çalışan Sesliliğinin Çalışanların İş Tutumları Üzerindeki Etkisi, *Yüksek Lisans Tezi*, İstanbul Teknik Üniversitesi Fen Bilimleri Enstitüsü, İstanbul.

Özkan, N., 2009. Üstün Zekâlı-Üstün Yetenekli Çocukların Eğitiminde Okulun, Öğretmenin ve Ailenin Yeri. *Yayınlanmamış Yüksek Lisans Tezi,* Beykent Üniversitesi Sosyal Bilimler Enstitüsü İşletme Yönetimi Anabilim Dalı, İstanbul

Pak, M.D., Özden, S.A., 2018. Üstün Yetenekli Çocukların Eğitim Hakkı, *Türkiye Sosyal Hizmet Araştırmaları Dergisi*, 21:1-23

Pal, H.R., Pal, A., Tourani, P., 2004. Theorıes Of Intellıgence, *Everyman's Science,* 4.

Papadopoulos, D., 2020. Psychological Framework For Gifted Children's Cognitive And Socio-Emotional Development: A Review Of The Research Literature And İmplications. *J. Educ. Gift. Young Sci.* 28:305–323. Doi: 10.17478/Jegys.666308.

Papadopoulos, D., 2016. Psycho-pedagogical and educational aspects of gifted students, starting from the preschool age; How can their needs be best met? Journal of Psychological Abnormalities, 5(2), 153.

Petkovic, M., Dordevic, B., 2013, Global Talent Management As A Factor Of Multinational Companies, *Competitiveness Economic Themes*, Vol. 51, No.4, P791.

Pfeiffer, S.I., 2013. Serving the Gifted: Evidence-Based Clinical and Psychoeducational Practice. Routledge-Taylor & Francis Group; New York, NY, USA: 2013.

Pfeiffer, S.I., 2009. The Gifted: Clinical Challenges For Child Psychiatry. *J Am Acad Child And Adolesc Psychiatry*. 48:787–790.

Plomin, R., 1995. Genetics And Children's Experiences İn The Family. *Journal Of Child Psychology And Psychiatry,* 36: 33–68.

Plomin, R., Thompson, LA., 1993. Genetics And High Cognitive Ability. *Ciba Foundation Symposiums,* 178: 67–79.

Plomin, R., Deary, I.J., 2015. Genetics And Intelligence Differences: Five Special Findings. *Molecular Psychiatry* 20: 98–108.

Plucker, J.A., Woong, L., Kyoungmin, L., 2017. Viewing Through One Prism Or Two? Discriminant Validity of İmplicit Theories of İntelligence and Creativity. *Psychology of Aesthetics, Creativity, And The Arts* 11: 392–402.

Polgar, S., 2022. Intelligence, http://www.psych.purdue.edu/~willia55/120/10 .ıntelligencemm.pdf. Erişim Tarihi: 13-11-2022.

Power, S., Whitty, G., Edwards, T., Wigfall, V. 1998. Schoolboys And Schoolwork: Gender İdentification And Academic Achievement. International Journal Of Inclusive Education, 2, 135–153.

Radford, J., 1990. Child Prodigies And Exceptional Early Achievers. London: Harvester Wheatsheaf.

Renzuli, J.,S., 1986. *Systems And Models For Developing Programs For The Gifted And Talented* .Mansifled Center, Montana: Creative Learning Press. Robinson

Renzulli, J.S., 1999.*The Definition Of High-End Learning.* University of Connecticut, Storrs, CT: Neag Center for Gifted Education and Talent Development.

Renzulli, J.S., 2003. The School wide Enrichment Model: An overview of the theoretical and organizational rationale. *Gifted education international*, 18: 4–15.

Renzulli, J.S., Reis, S.M., 1985.The School wide Enrichment Model. A Comprehensive Plan for Educational Excellence. Mansfield Centre: Creative Learning Press.

Renzulli, J.S., 1976. Enrichment Triad Model – Guide For Developing Defensible Programs For Gifted And Talented. *Gifted Child Quarterly: Official Journal Of National Association For Gifted Children*, 203: 303-326.

Renzulli, J.S., 1977. The Enrichment Triad Model: A Guide For Developing Defensible Programs For The Gifted And Talented. Mansfield Center C.T.: Creative Learning Press.

Renzulli, J.S., 1977b. *Enrichment Triad Model: A Guide For Developing Defensible Programs For The Gifted And Talented: Part II*. Gifted Child Quarterly: Official Journal Of National Association For Gifted Children, 212: 227-233.

Renzulli, J.S., 1978: What Makes Giftedness? Reexamining A Definition. Phi Delta Kappa, 603, 180–184.

Renzulli, J.S., 1986. *The Three-Ring Conception Of Giftedness: A Developmental Model For Creative Productivity*. In R. J. Sternberg & J. E. Davidson Eds., Conceptions of giftedness. pp.53–92. New York: Cambridge University Press.
Renzulli, J.S., 1994. Research related to the School wide Enrichment Triad Model. *Gifted Child Quarterly*, 38, 1, 7–20.
Renzulli, J.S., Reis, S.M. Smith, L.H., 1981. *The Revolving Door Identification Model.* Mansfield Centre: Creative Learning Press.
Renzulli, J.S., Reis, S.M., Stedtnitz, U., 2001. *Das Schulische Enrichment Modell SEM.* Aarau: SauerländerVerlag.
Renzulli, J.S., 1999. What is thing called giftedness and how do we develop it? A twenty five year perspective, Journal for the Education of Gifted, 23 1, 3-54.
Renzulli, J.S., Reis, S.M., 2012. *A Virtual Learning Application Of The School Wide Enrichment Model And High-End Learning Theory*. Gifted Education İnternational, 28: 19–40.
Renzulli, J.S., Smith, L.H., 1979. A Guidebook for Developing Individualized Educational Programs for Gifted and Talented Students. Mansfield Centre: Creative Learning Press.
Robert Kaplan, M., 1993, *Psychological Testing, Principles, Applications, and Issue*, Third Edition, Brooks/Cole Publishing Company, California.
Robinson, N.M., 2000. Giftedness in very young children: How seriously should it be taken? In: Friedman R.C., Shore B.M., editors. Talents Unfolding: Cognition and Development. *American Psychological Association*; Washington, DC, USA, 7–26s.
Robinson, R., Garnier, M., 1985. Class reproduction among men and women in France. *American Journal of Sociology*, 91(2): 250-258
Robinson, R.V., 1984. Reproducting Class Relations In Industrial Capitalism, *American Sociological Review*, 91, 250-8.
Roebers, C.M., 2017. Executive function and metacognition: Towards a unifying framework of cognitive self-regulation. Developmental Review, 45, 31–51.
Rogan, E.L., 2009. Aşiret Mektebi: Abdülhamid II's School for Tribes 1892–1907, *International Journal of Middle East Studies*, 281:83 – 107
Rudd, R., Baker, M., Hoover, T., 2000. Undergraduate agriculture student learning styles and critical thinking abilities: Is there a relationship? *Journal of Agricultural Education*, 413, 2-12.
Rulh, C., 2020 Intelligence: Definition, Theories and Testing, https://www.simply psychology.org/intelligence.html Erişim Tarihi: 11-11-2022
Sak, U., 2018. Üstün Yeteneklilerin Tanılanması, Vize Yayıncılık ISBN: 978-605-9278-49-2
Sak, U., 2004. A Synthesis of research on psychological types of gifted adolescents. The *Journal of Secondary Gifted Education*, 152, 70–79
Sak, U., 2011. *Üstün Yetenekliler Eğitim Programları*. Ankara: Maya Yayınları.
Saranlı, A.G., Metin, N., 2012. Üstün yetenekli çocuklarda gözlenen sosyo duygusal sorunlar Social emotional problems observed in gifted children. *Ankara Üniversitesi Eğitim Bilimleri Fakültesi Dergisi,* 451, 139-163.
Schmidt, F.L., Hunter, J.E., 2014. Methods Of Meta-Analysis: Correcting Error And Bias In Research Findings. New York: Sage.
Scott, S.G. Bruce, R.A., 1995. Decision making style: The development and assessment of a new measure. *Educational and Psychological Measurement*, 55, 818-831.
Shaughnessy, M.F., Senior, J., 2022. Teachers of gifted children: the essential core competencies. *Journal of Gifted Education and Creativity*, 92, 219-225.
Shen, J., Chanda, A., D'Netto, B., Monga, M., 2009, Managing diversity through human resource management: an international perspective and conceptual framework, *The International Journal of Human Resource Management*, Vol.20, pp.235-251.
Siegle, D., Moore, M., Mann, R.L., Wilson, H.E., 2010. Factors That Influence In-Service and Preservice Teachers' Nominations of Students for Gifted and Talented Programs, *Journal for the Education of the Gifted*, Vol.33, No:3, pp. 337-360.
Silverman L.K. 1998. Through the lens of giftedness. *Roeper Rev.* 20:204–210.
Sisk, D. 1987. Creative teaching of the gifted. New York: McGraw-Hill Book Company.
Spearman, C., 1904. General ıntelligence, objectively determined measured. *American Journal of Psychology*,15: 201-293
Spearman, C., 1927. The Abilities of Man. London: Macmillan.
Steinberg, L., Lamborn, S.D., Dornbusch, S.M., Darling, N., 1992. Impact of Parenting Practices on Adolescent Achievement: Authoritative Parenting, School Involvement and Encouragement to Succeed. Child Development, 63, 1266-1281.
Sternberg, R.J., 1985. *Beyond IQ: A triarchic theory of human intelligence*. CUP Archive.

Sternberg Robert, J., 1990. *Metaphors of Mind: Conceptions of the Nature of Intelligence.* Cambridge: Cambridge University Press.

Sternberg, Robert, J., 2020. *The Augmented Theory of Successful Intelligence*. In The Cambridge Handbook of Intelligence, 2nd ed. Cambridge: Cambridge University Press

Sternberg, Robert J., Davidson, Janet E., 2005. *Conceptions of Giftedness* - Second Edition; Cambridge University Press, Cambridge s. 147-170

Sternberg, Robert J., Linda A. O'Hara., 1999. *Creativity and Intelligence*. In 1999. Handbook of Creativity. Edited by Robert J. Sternberg. Cambridge: Cambridge University Press, pp. 251–72.

Stones, E., 1974. An Introduction to Educational Psychology. London Methuen & Co. Ltd., 1974. 17.

Şenol, C., 2011. Üstün yetenekliler eğitim programlarına ilişkin öğretmen görüşleri *Yayımlanmamış yüksek lisans tezi*. Fırat Üniversitesi Eğitim Bilimleri Enstitüsü, Elazığ. Erişim adresi: http://tez2.yok.gov.tr/http://perweb.firat.edu.tr/personel/ yayinlar/fua_35/35_69331.pdf. E.T. 23.07.2023.

Tabachnick, B.G., Fidell, L.S., 2001. Using Multivariate Statistics. United States of America: Pearson.

Tansley, C., Sempik, A., 2008. Talent Management: Design, Implementation and Evaluation, London: CIPD

Tarkun, E.T. 1996. Alternatif Korelasyon Teknikleri, M. Ü. Atatürk Eğitim Fakültesi Eğitim Bilimleri Dergisi, 8:237-249

Tekin, V.N., 2006. İstatistiğe giriş. Seçkin Yayıncılık, Ankara.

Terman, L.M., 1916. *The Measurement of Intelligence.* Boston: Houghten Miffin, 1916. 18.

Terrassier, J.C., 2009. Intellectually precocious children. *Arch Pediatr.* 16:1603–1606.

Terzi, Y., 2018, Temel İstatistik II Ders Notları, Ondokuz Mayıs Üniversitesi Fen-Edebiyat Fakültesi İstatistik Bölümü

Thorndike, R.L., Hagen E.P., 1977. *Measurement and Evaluation in Psychology and Education.* New York: Wiley,

Tomlinson, C.A. 2005.Grading and differentiation: Paradox or good practice? *Theory Pract.* 44:262–269.

Torrance, E.P., Myers, R.E., 1970. *Creative Learning and Teaching*, New York:Dood Mead Company.

URL-1, 2004. https://courses.aiu.edu/BASIC%20PROCESSES%20OF%20THOUGHT/ Sec%204/SEC%204 %20BASIC.pdf, E.T. 24.08.2023.

Ünver, Ö., Gamgam, H., 2006. Uygulamalı istatistik Yöntemler, Seçkin yayıncılık, Ankara.

Vaivre-Douret, L., 2011. Developmental and cognitive characteristics of "high-level potentialities" highly gifted children. *Int J Pediatr.* 11;420297.

Vanmeerbeek, M, Van, O.S., Boüüaert, C., Burette, P., 2006. Gifted children and the family physician. *Presse Med*. 351 Pt 2:86–90.

Vernon, P.E., 1969. *Intelligence and Cultural Environment*. London: Methuen.

Vogt, W.P., Gardner, D. C., Haeffele, L. M. 2012. When To Use What Research Design. New York: Guilford Press.

Waterhouse, L., 2006. Inadequate Evidence for Multiple Intelligences, Mozart Effect and Emotional Intelligence *Theories. Educational Psychologist*, 414, 2006, pp. 247–255

Webb, J.T., DeVries A.R. 2007. Gifted Parent Group: The SENG Model. 2nd ed. Great Potential Press; Scottsdale, AZ, USA.

Wicker, Allan W. 1985. Getmiştirng out of our conceptual ruts: Strategies for expanding conceptual frameworks. *American Psychologist* 40: 1094–103.

Woolfolk, A., 2001. *Educational Psychology*. Boston. Allyn and Bacon.

Yaman, S., 2020. Bilim ve sanat merkezlerinde öğrencilere sunulan eğitim etkinliklerinin yönetimine ilişkin paydaş görüşleri. *Yüksek Lisans Tezi,* Marmara Üniversitesi, İstanbul, 81-83s.

Yıldız, S, Altay N., 2021. The parenting attitudes and effects on their gifted children: a literature review. *Journal for the Education of Gifted Young Scientists*, 92: 123-132.

Yıldız, H., 2010. Üstün yeteneklilerin eğitiminde bir model olan bilim ve sanat merkezleri (BİLSEMLER) üzerine bir araştırma. Yayınlanmamış Yüksek Lisans Tezi, Gazi Üniversitesi, Ankara.

Yun, K., Chung D., Jang B., Kim J.H., Jeong J., 2011. Mathematically gifted adolescents have deficiencies in social valuation and mentalization. *Plos One;* 6:e18224

Yücel, H.S., 2012. Üstün yetenekli çocukların, çok alanlı sanat eğitimi yöntemini kullanarak sanat tarihi alanında gerçekleştirdikleri müze gezisinin sanatsal uygulamalarına etkisi. *Soyal Bilimler Dergisi*, 22:63-101.

Zenasni, F., Mourgues, C., Nelson, J., Muter, C., Myszkowski, N., 2016. How does creative giftedness differ from academic giftedness? A multidimensional conception. *Learning and Individual Differences*, 52: 216–223.

Zıegler, A., Stöger, H., 2004. Identification based on ENTER within the Conceptual Frame of the actiotope model of giftedness. *Psychology Science*, 46(3): 324-341.

Services for Disabled People in TRNC: Legislation and Communication Perspectives, Disabled People, Social Life, Education and Interaction Process

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Abstract
This study comprehensively analyzes the effectiveness of the services provided to disabled people in the Turkish Republic of Northern Cyprus (TRNC) within the legislation framework and the communication barriers experienced by these individuals. The research examines how disability affects individuals' participation in social life and how TRNC legislation limits this participation. While attention is drawn to the communication difficulties faced by disabled people, especially those living in rural areas, it is emphasized that technological innovations and updating existing legislation are of critical importance in solving these problems. The article provides recommendations for education, awareness programs and policy changes to improve services for people with disabilities. This study aims to serve as an essential resource for developing disability policies in TRNC.
Keywords: Disability, Communication Problems, Social Participation, Awareness, Disability Policies, Technological Innovations, Education.

Introduction
This article examines the obstacles in communication processes for people with disabilities and ways to overcome these obstacles. "In the communication process, many factors can be mentioned that prevent mutual meaning sharing, the success and establishment of a correct and dynamic communication process and manifest themselves as problems. These can be grouped as physical, technical, psychological or social factors" (Yılmaz, 2018, p.893). This determination draws attention to the diversity and complexity of the obstacles in the communication process. Man is a part of society and plays an active role in social interactions. As Yılmaz (2022) states, while society offers the individual a space to exhibit his behaviour, it also functions as a set of rules that shape and direct his reactions. This highlights the importance of the individual's social environment and society on interaction. He also defines the phenomenon of socialization as the process of acquiring personal characteristics that enable the individual to adapt to the material, physical and sociocultural environment. This process involves the individual's involvement in social groups and establishing and maintaining relationships. Individuals learning what social choices to make and interacting with others are part of this process. These thoughts show that we need to consider the importance of individuals' interactions with their social environments and socialization processes when addressing the services and communication problems offered to disabled people in TRNC. This perspective requires individuals' social and cultural contexts to be considered in designing services and communication strategies.
This study aims to improve services and policies for disabled people by discussing these various obstacles in communication processes and the importance of social interaction. It examines in detail the obstacles encountered in communication processes for disabled people and how to overcome them. Disability is directly related to many difficulties individuals face in social life, and communication problems are at the forefront. Depending on their disability, individuals may be exposed to significant effects on their social lives, education, and business lives due to the communication problems they encounter in social life, especially in corporate enterprises.
The primary purpose of this study is to analyze in depth the effectiveness of the services offered to disabled people in the Turkish Republic of Northern Cyprus (TRNC) against the legislation and the effects of these services on the communication access of disabled people. This analysis aims to make a comprehensive assessment of the current situation of the services provided to disabled people in TRNC, to identify problems related to communication and to reveal the existing deficiencies in this field.
Disability is a significant social challenge facing societies. The quality of services provided to disabled people is a fundamental factor that determines the participation of these individuals in social life and their general quality of life. This study aims to contribute to a detailed understanding of the current situation of services provided to disabled people in TRNC and to develop suggestions for solving communication-related problems. Additionally, this article can guide policies and practices on improving services for disabled people in TRNC and significantly contribute to national and international studies in this field. The importance of this study stems from its contribution to achieving the goals of social inclusion and equality for people with disabilities.

In countries such as the Turkish Republic of Northern Cyprus, the status of services for disabled people vis-à-vis the legislation can play a directly influential role in the communication problems that disabled people face in social life. This article aims to examine the status of services for disabled people in TRNC vis-à-vis the legislation and how this situation affects the communication problems of disabled people. It aims to investigate how the communication problems faced by disabled people in social life may change depending on the quality and accessibility of services.
This study will reveal how the status of services for disabled people vis-à-vis the legislation affects their communication problems by analyzing the literature on disability and the current legislation in TRNC. The research results may provide important clues for improving services for disabled people in TRNC and reducing their communication problems.

The Concept of Disability and Its Situation in TRNC
Disability is a concept that expresses the difficulties individuals face in their social lives due to limitations in their physical, mental, sensory or cognitive abilities (World Health Organization [WHO], 2020, p. 45). The development of psychiatric services in TRNC has also affected the evolution of disability understanding and services. Especially since the 1974 war, the challenges and advances in mental health services have been significant (Aydındoğmuş & Meriç, 2022).
The evolution of the concept of disability throughout history has affected the way we understand and address disability. While in ancient times, disability was seen as a punishment from the gods or an imbalance of nature, in modern societies, disability is accepted as a condition that prevents the individual from integrating into society. The definition of disability may differ depending on the social and cultural context, and these differences may affect the lives of individuals with disabilities. The definition and perception of disability in TRNC depend on national legislation and social awareness (TRNC Social Services Law for Disabled People, 2015).
Communication problems are part of the difficulties disabled individuals face in social life. These problems can limit the participation of individuals with disabilities in areas such as education, employment, and social interaction. The concepts discussed in this section provide a basic framework to understand the disability situation in TRNC better and examine communication problems. The following sections will focus on how the current legislation in TRNC addresses these problems and how the communication barriers faced by disabled individuals can be overcome.

The Relationship Between Disability and Communication
The concept of disability can directly or indirectly affect individuals' communication abilities. Verbal communication for deaf individuals and written communication for visually impaired individuals are full of difficulties. While alternative communication methods such as hearing aids or sign language can be used for deaf individuals, technological solutions such as the Braille alphabet or speech recognition software are available for visually impaired individuals (Altınay et al., 2023).
These communication difficulties may cause the individual to experience social isolation, decrease participation in social activities, or be deprived of professional opportunities. For example, a deaf individual may experience communication difficulties during a job interview or workplace meeting, which may affect job opportunities. For a visually impaired individual, access to written materials is one of the main difficulties encountered in education or employment.
This complex relationship between disability and communication can further increase the obstacles an individual encounters in his or her social life. It is of great importance to develop policies and practices for disabled people so that they can improve their communication skills and participate more actively in social life. Disabled people can overcome communication barriers in their daily lives, increase their social integration and participate more in many areas of society.
Therefore, understanding the relationship between disability and communication is critical for developing policies and practices for people with disabilities. Additionally, the development of communication technologies and accessibility measures can help people with disabilities overcome difficulties in communication (Kasap, Dolunay, & Gürçınar, 2018).

Legislation and Communication Problems for Disabled People in TRNC
Legislation for disabled people in TRNC was created to facilitate their participation in society and to protect their rights. However, there are some difficulties and shortcomings in implementing these legislations. In this section, a general evaluation of the legislation regarding disabled people in TRNC will be made, and the communication problems will be focused on.
There are many laws and regulations regarding disability in TRNC. These legislations regulate disabled people's access to fundamental rights such as education, health, transportation and employment. In particular, documents such as the "Law on the Rights and Freedoms of Persons with Disabilities" are designed to protect the rights of disabled people and promote their integration into social life.

However, there are some difficulties in the effective implementation of these laws. For example, the inadequacy of services for people with disabilities may prevent these legislations from becoming fully functional. Communication problems experienced by disabled people should also be considered in this context. Verbal communication for deaf individuals may cause written communication difficulties for visually impaired individuals. Additionally, physical access problems of physically disabled individuals may limit their communication opportunities (Aydındoğmuş & Meriç, 2022).
The general evaluation of disability legislation in TRNC is essential to understand the progress and challenges experienced by existing laws and regulations in protecting the rights of disabled people. Improving the applicability of this legislation and the quality of services provided to people with disabilities could form the basis of future policy changes.

Communication Problems and Services for Disabled People
Communication problems of people with disabilities can greatly affect their daily lives and limit their social participation. For hearing impaired individuals, difficulties in verbal communication can lead to loss of meaning and isolation. Therefore, access to hearing aids, sign language, and other alternative communication methods is of critical importance for these individuals (Aydındoğmuş & Meriç, 2022).
There may be difficulties in written communication and access to information for visually impaired individuals. These individuals can access texts written in Braille alphabet, which can be read by touch. Additionally, special technologies such as speech recognition software and audiobooks can assist the visually impaired with communication. However, there may be barriers to accessing and using these technologies.
Individuals with physical disabilities may experience communication problems due to limited mobility. For example, verbal communication may be difficult for some physically disabled people. Therefore, alternative communication devices can help them communicate freely. Additionally, access to the physical environment for physically disabled individuals is of great importance. Disabled-friendly infrastructures and accessibility standards support the communication and social participation of these individuals (Yesilyurt Davulcu & Tezer, 2020).
Addressing communication issues for people with disabilities should be considered as part of a more comprehensive strategy. This strategy should aim to provide better services to people with disabilities and increase their social participation. Therefore, steps should be taken such as developing communication methods suitable for disabled people, investing more in accessible technologies and creating disabled-friendly infrastructures. In this way, people with disabilities can better respond to communication problems and participate fully in their societies.
The social interaction and socialization processes of disabled people may present difficulties due to the communication barriers they face. Hearing, visual, or physical disabilities can limit individuals' ability to interact in social settings and lead to social isolation. Especially for hearing-impaired individuals, the use of alternative communication methods such as sign language can play an important role in social interaction. However, the fact that these methods are not widely known and used may limit the social interactions of hearing impaired people.
For visually impaired individuals, difficulties in accessing written information and environmental perception can create obstacles in social interactions. Technological solutions such as Braille and speech recognition software can help overcome these barriers, but access to these technologies may not always be possible (Altınay et al., 2023).
Physical disabilities can make it difficult for individuals to participate in social activities and integrate into social life. Lack of disabled-friendly infrastructures and transportation facilities can limit the participation of physically disabled individuals in social life.
Social interaction and socialization are vital for the quality of life and psychological health of people with disabilities. In order to increase the participation of disabled people in social life, it is necessary to develop policies that increase public awareness and strengthen social support mechanisms for disabled people. These policies may include educational programs for disabled people, appropriate regulations in workplaces, and the promotion of social activities for disabled people (Aydındoğmuş & Meriç, 2022; Altınay et al., 2023; Yesilyurt Davulcu & Tezer, 2020).
As a result, overcoming the difficulties faced by disabled people in the interaction, socialization and socialization processes requires comprehensive efforts at the individual and societal levels. These efforts can improve the overall well-being of both individuals and society by enabling people with disabilities to take a more active and integrated role in society.

Suggestions for Solutions to Legislative Deficiencies and Communication Problems
The effectiveness of services and legislation for disabled people in TRNC is a factor that directly affects the participation of these individuals in social life. Although the rights and services for disabled people are specified in the current legislation, it is observed that these rights and services are not fully implemented. This situation constitutes a significant obstacle that limits the participation of disabled people in social life.
Special training programs and support services need to be developed for the communication problems of disabled people. Programs such as sign language training for deaf individuals and Braille alphabet teaching for visually

impaired individuals can reduce communication problems and encourage more active participation of these individuals in social life.
Deficiencies in the legislation are a factor that prevents the full provision of services for people with disabilities. In order to eliminate these deficiencies, the legislation determining the services and rights of disabled people needs to be reviewed and updated. In addition, establishing an independent audit mechanism to monitor the implementation of the legislation that determines the services and rights of people with disabilities can ensure the adequate provision of services for people with disabilities.
There are also some deficiencies in the financing of services for people with disabilities. Allocating an adequate budget for financing services for the disabled and using this budget effectively can improve the quality of services for people with disabilities. Finally, one of the biggest problems encountered in providing services for people with disabilities is that the services are not sufficiently widespread. More widespread provision of services for disabled people allows disabled people to have easier access to these services.
It is essential for developing policies and practices for disabled people in TRNC. Solving communication problems can encourage disabled people to participate more in social life and be an essential step in protecting their rights. Therefore, it is crucial to take the necessary steps to implement services and legislation effectively for people with disabilities.

Communication Problems and Legislation
One of the most critical factors that prevent disabled people from participating in social life is communication problems. Communication causes many difficulties in daily life, especially for people with hearing, vision and orthopaedic disabilities. These challenges restrict disabled people's access to fundamental rights such as education, health and employment. Monitoring disability rights in TRNC and raising awareness of the universal dimensions of these rights is an essential step in addressing communication problems.
There are no specific regulations regarding communication problems for disabled people in the TRNC legislation. However, there are general provisions regarding communication problems in the laws regarding general rights for disabled people. These provisions aim to facilitate the participation of disabled people in social life. For example, general principles such as accessibility and comprehensibility of services for disabled people are included in these laws (TRNC Official Gazette, 2020).
However, some things could be improved in the implementation of these provisions. The inadequacy of communication tools for disabled people, especially in public spaces, restricts the participation of disabled people in social life. For example, problems such as the lack of sign language interpreters for deaf individuals or limited Braille alphabet teaching for visually impaired individuals may make daily communication difficult for disabled people (Aydındoğmuş & Meriç, 2022). In addition, the fact that institutions and organizations providing services to disabled people have not received disability-related training further increases communication problems. Regarding disability and identity, the presentation of online news in TRNC may affect the perception and awareness of disability.
Therefore, it is essential to take the necessary steps to implement services and legislation effectively for people with disabilities. Introducing services for disabled people and facilitating access to these services can enable disabled people to benefit from these services more effectively.
In order to solve the communication problems of disabled people in TRNC, more effective and comprehensive services need to be provided to disabled people. In this context, the recommendations detailed below can be taken into account:

Education and Awareness: Institutions and organizations providing services to disabled people should be encouraged to receive training on disability. These trainings will ensure more effective service delivery to disabled people. Barriers to communication can be overcome by organizing programs such as sign language training for deaf individuals and Braille alphabet teaching for visually impaired individuals. Additionally, awareness campaigns should be organized to make society more aware of disability.

Communication Tools in Public Spaces: Communication tools for disabled people should be increased in public areas. In particular, finding sign language interpreters for deaf individuals and providing access to the Braille alphabet for visually impaired individuals can reduce communication problems. It is also essential to increase information signs and directions for disabled people.

Legislative Regulations: Specific regulations regarding communication problems for disabled people should be made in the legislation. These regulations will provide disabled people with greater access to communication and facilitate their participation in social life. Articles that determine the service standards for disabled people and require compliance with these standards should be added to the legislation.

Technological Solutions: Technological solutions can also solve communication problems for disabled people. Especially on digital platforms, content should be prepared by accessibility standards for disabled people. In addition, mobile applications and websites should be developed for disabled people, and technological solutions should be offered to facilitate their daily lives. These solutions should include voice communication systems in elevators, voice warnings at pedestrian crossings and voice libraries.
Financing and Support: An adequate budget must be allocated to finance services for disabled people. This budget can be used to improve the quality of services for disabled people. In addition, cooperation can be made with non-governmental organizations and international organizations that support projects for disabled people.
Social Participation: In order to encourage the participation of disabled people in social life, social and cultural events should be organized for them. These events will enable disabled people to integrate into society.
Accessibility: Some arrangements should be made regarding the accessibility of services for disabled people. Accessibility standards should make arrangements for disabled people, especially in public spaces.
These suggestions may contribute to the solution of communication problems for disabled people in TRNC. Effective implementation of services and legislation for disabled people will encourage more active participation in social life.

Services Provided to Disabled People in TRNC and Communication Problems
The services offered to disabled people in TRNC aim to facilitate the participation of disabled people in social life. However, there are some difficulties in the provision and access of these services. In this section, a general evaluation of the services offered to disabled people in TRNC will be made and how these services affect communication problems will be examined.
Communication problems have an important place in the services offered to disabled people in TRNC and the effectiveness of these services. In this context, the effects of social changes on individuals and family structures discussed by Yılmaz (2022) can provide us with a deep understanding of the meaning and scope of services for the disabled. According to Yılmaz, "Social changes are observed in all individuals that make up the society and in the family and family members, which is its essential element. Those who have an important place in people's lives give way to other and brand new things of importance, people attribute new meanings to these things instead of the meanings they previously attributed to them, and Thus, a change in values is observed" (Çopur & Şafak, 2001, pp. 211-217, cited in Yılmaz, 2022). In this context, it is emphasized that communication forms the basis of social life and shapes the basis of interactions between individuals. Yılmaz said, "Since the day they have been in communities, people have been constantly receiving and sending messages in order to make sense of everything that is happening around them and to explain themselves to those around them. These sendings ensure the transformation of a person from being an individual to being a collective. Communication, which forms the basis of social life, is the He stated that "it can be defined as the mutual giving and receiving of messages carrying perception and meaning and the transfer of information" (Bilgin, 2016, p. 211-217, cited in Yılmaz, 2022). It is also stated that communication is an important method that affects individual attitudes and movements: "In addition to being a tool that ensures the systematic and proper functioning of the social body, communication can also be expressed as a method that reveals and affects individual attitudes and movements" (Akpınar, 2015, pp. 211-217, cited in Yılmaz, 2022). This perspective emphasizes the importance of taking into account the effects of social changes and communication at the individual level in the analysis of services and communication problems offered to disabled people in TRNC.

General Evaluation of Services Provided to Disabled People in TRNC
Services provided to disabled people in TRNC can be categorized as education, health, transportation and social services. These services aim to facilitate the participation of disabled people in social life. However, there are some difficulties in accessing these services. In particular, access to these services may be more difficult for disabled people living in rural areas than in city centres.
A general evaluation of services for disabled people in TRNC can be made as follows:

Educational Services: Although there are educational services for disabled individuals in TRNC, more support and resources are needed, especially for those with special needs. Improvements are needed, especially in access to special education programs for disabled people with communication difficulties.

Health Services: Health services for disabled people are provided in TRNC, but these services must be made more accessible. Training of communication tools and personnel in health institutions is essential for disabled people who have communication difficulties.
Transportation Services: Transportation services for disabled people are critical for social participation. However, disabled people may experience physical obstacles and communication problems in accessing transportation services. It is essential to increase accessible transportation for disabled people.

Social Services: Social services for disabled people are provided in TRNC, but the coordination and communication of these services need to be strengthened. It is essential to expand social services for disabled people further and support their integration with society.

Communication Problems and Services Provided to Disabled People
The impact of services offered to disabled people in TRNC on communication problems is significant. People with disabilities with communication problems may have difficulties accessing these services, limiting their social participation. These services need to be made more effective by focusing on communication problems.

Language Problems
Language problems are one of the primary sources of communication problems in services provided to people with disabilities. Especially in services provided for people who are deaf or hard of hearing, the lack of personnel who know sign language may lead to communication problems. This situation may make accessing health services complex for deaf individuals (Aydın & Özkan, 2022). Sign language training is a critical step in solving this problem, and this skill needs to be expanded among healthcare providers.

Material Incompatibility
The fact that the materials used to promote services for people with disabilities are not suitable for people with disabilities also causes communication problems. The fact that brochures and booklets prepared especially for the visually impaired are not printed in the Braille alphabet restricts disabled people's access to these materials (Demir & Kaya, 2023). This may negatively impact these individuals' access to health, education and other services. Increasing the use of the Braille alphabet and offering alternatives, such as audio descriptions on digital platforms, can be effective methods to solve this problem.

Technological Barriers
Technological barriers cause communication problems, especially for the hearing and visually impaired. With the spread of internet-based services, technical difficulties in accessing these services may increase the communication problems of people with disabilities (Smith & Johnson, 2020). Developing disabled-friendly technological solutions can help overcome this problem. For example, designing websites and mobile applications by accessibility standards can enable disabled people to benefit from these platforms more effectively.

Educational Gaps
Providers of services to people with disabilities may cause communication problems if they do not receive disability-related training. The staff of institutions and organizations serving disabled people must be trained to communicate effectively with disabled people (Turner & Williams, 2019). These trainings can improve the quality of services for disabled people and facilitate disabled people's access to these services.
In order to overcome these problems, the services offered to disabled people in TRNC must be designed and implemented sensitively to communication problems. Accessibility of services should be increased, considering hearing, vision and other types of disabilities. Additionally, it is possible to overcome these problems with technological solutions and training programs. For example, installing voice communication systems in elevators and pedestrian crossings will be a significant improvement for the visually impaired. Audio libraries and audio descriptions of digital content can facilitate visually impaired people's access to education and information.

Communication Methods by Disability Type
In services offered to disabled people, communication methods should be determined according to the type of disability of the individuals. For example, communication tools such as sign language interpreters or the use of hearing aids should be provided for hearing-impaired individuals. Appropriate communication methods such as Braille alphabet or speech recognition software should be used for visually impaired individuals (Turner & Williams, 2018).

Suitability of Communication Language and Methods
The communication language and methods of services offered to disabled people should be made suitable for disabled people. It may be necessary to use sign language for the hearing impaired or to present audio materials with subtitles or voice-over suitable for the hearing impaired. Enriching the materials prepared for the visually impaired with Braille alphabet or audio explanations can reduce communication problems.

Disabled Accessible Material
Promotional materials of services for disabled people should be prepared in formats suitable for disabled people. Printing brochures prepared for the visually impaired in Braille alphabet or presenting informative videos for the

hearing impaired in sign language can facilitate access to these materials. It is also important that these materials are made available on the Internet in accessible and disabled-friendly formats.
Physical accessibility is an important factor in services offered to people with disabilities. Making arrangements for disabled people, especially in public buildings, transportation vehicles and public spaces, can increase the participation of these individuals in social life (Karagöz & Yılmaz, 2021). Arrangements such as ramps, disabled elevators and accessible toilets are necessary to increase physical accessibility.

Education and Awareness Raising
Staff of institutions and organizations serving disabled people must have received training on disability. Regular training programs should be organized to increase their awareness of hearing, vision and other types of disabilities. In this way, disabled people can be served more effectively and communication problems can be reduced.
Social support and counseling services for people with disabilities are critical to support the social integration of these individuals. These services should be designed to meet both the psychological and social needs of people with disabilities (White & Yıldız, 2020). Additionally, counseling services for disabled people and their families can help these individuals cope with the difficulties they face in daily life.
Social awareness and education are important factors to increase the effectiveness of services provided to people with disabilities. Being more aware of society about disability and reducing prejudices against disabled people can enable these individuals to integrate into social life more easily. Educational programs and awareness campaigns about disability can be effective tools to increase society's knowledge and sensitivity on this issue.
Implementation of these recommendations can increase the quality of services provided to disabled people in TRNC and enable these individuals to participate more effectively in social life. Improving services for people with disabilities will be beneficial not only for these individuals but for the whole society.

Difficulties in Implementing Communication Provisions
Communication provisions for disabled people in the TRNC legislation aim to protect their rights and facilitate social participation. However, there are some difficulties in implementing these provisions and differences depending on the type of disability.

Challenges in Rural Areas
Considering the geographical structure of the TRNC, implementing communication provisions may pose a more significant challenge for disabled people living in rural areas. People with disabilities in rural areas may have more limited access to resources than in urban centres. This may lead to difficulties in delivering services, particularly for specialist staff or people with disabilities, to rural areas. These difficulties may result in disabled people living in rural areas not being able to benefit from communication provisions fully.

Differences According to Disability Types
There are differences in the implementation of communication provisions for disabled people depending on the type of disability. In particular, the difficulties encountered in providing communication services for people who are deaf or hard of hearing come to the fore. Deaf people may need to use sign language or hearing aids. However, the need for more qualified personnel to provide these services may cause communication problems. In order for people with disabilities to benefit from communication provisions, their specific communication needs must be taken into account.
In addition, differences should be taken into account in the provision of services for disabled people according to disability types. For example, materials prepared for the visually impaired may need to be printed with the Braille alphabet, or sign language may be used for people who are deaf or hard of hearing. This can help make enforcement of communications provisions more effective.

Improving Communication Provisions
The following suggestions can be taken into consideration to overcome the difficulties in the implementation of communication provisions for disabled people in the TRNC legislation and to address communication problems:
Better Access Should Be Provided to Rural Areas: A more effective way should be found to provide services for disabled people living in rural areas. Methods such as mobile services or remote access can be used.

Services Specific to Types of Disability: Providing specific communication services and materials for people with hearing, visual, physical and mental disabilities can facilitate the implementation of communication provisions for people with disabilities.
Training and Awareness: To ensure the correct implementation of the legislation, training personnel working in public services and social awareness-raising programs should be organized.
These suggestions can be necessary to ensure better implementation of communication provisions in the TRNC and more effective participation of disabled people in social life.

Educational Programs Should Be Organized According to Disability Type
Personnel involved in the implementation of communication provisions for disabled people in TRNC are required to receive training specific to their type of disability. Personnel who will work with deaf people must know sign language and the visually impaired must be able to understand the Braille alphabet. In this way, better implementation of communication provisions can be achieved. These training programs can also reduce discrimination against disabled people by increasing social awareness.
These recommendations may help in the more effective implementation of communication provisions for disabled people in TRNC and the better participation of disabled people in social life. Additionally, these recommendations could help legislation better deliver on its commitment to protecting the rights of people with disabilities.

Solution Suggestions for Communication Problems for Disabled People in TRNC
Communication problems for disabled people are an essential problem faced by disabled people in all areas of social life. This section includes suggestions for solving communication problems for disabled people in TRNC.

Education and Awareness
Solving communication problems for disabled people and increasing social awareness can be possible through various education and awareness programs. For this purpose, the following suggestions can be considered:

Raising Awareness of the Society on Disability: Misinformation and prejudices regarding disability can lead to communication problems in society. Therefore, it is essential to inform the society correctly about disability. Awareness-raising activities about disability should be carried out using various communication tools such as public service announcements, documentaries, seminars and workshops. In addition, disability-related training programs should be organized in schools and workplaces (Acar & Yılmaz, 2019).

Communication Training for People with Disabilities: A meaningful way to overcome communication problems for people with disabilities is to understand the types of disabilities and communication needs of individuals. For this reason, training to provide practical communication skills for disabled people should be given to professional groups such as health professionals, educators and public employees. These trainings should include topics such as sign language for people who are deaf or hard of hearing, Braille alphabet for the visually impaired, and alternative communication methods for the physically disabled. In this way, it will be possible for society to create a more inclusive and accessible communication environment (Güneri & Şahin, 2021).

Adding Disability Courses to the School Curriculum: The subject of disability should be part of the curriculum. Special lessons or modules can be created to teach students about disability and help them develop empathy skills. These courses help students reduce disability-related prejudices and increase social awareness.

Technological Solutions: Technological tools can be essential in solving communication problems for disabled people. These technological solutions are developed for different types of disabilities and provide great convenience in communication.

Conclusions And Recommendations
Disability can be defined as the inability of individuals to fully participate in social life due to physical or mental limitations. However, this definition ignores that disability is not only an individual problem but also a social problem. The services offered to disabled people in TRNC, and the current legislation is among the factors that make it difficult for disabled people to participate in social life. In this section, results and suggestions regarding the status of services for disabled people in TRNC vis-à-vis the legislation and the communication problems faced by disabled people are presented.
Disability is not just an individual problem; it is a social problem. The status of the services provided to disabled people in TRNC against the legislation makes it difficult for disabled people to participate in social life. Although technological solutions have great potential to overcome communication problems for disabled people, the necessary infrastructure must be created to use these solutions effectively.
There is a need for the TRNC government to update the legislation on services provided to disabled people constantly and to carry out more comprehensive studies in this field. Campaigns and training programs should be organized to draw attention to communication problems regarding disabled people and to increase social awareness. Necessary infrastructure work should be accelerated in order to use technological solutions effectively. It is of great importance to consider the concept of disability as a social problem and to develop policies accordingly.
Technological advances can revolutionize the delivery of services for people with disabilities. In particular, technological tools such as artificial intelligence, voice assistants and virtual reality can improve the services offered to people with disabilities. Education and awareness not only improve the quality of services provided to

people with disabilities but also make society more aware of disability. Updating legislation and international cooperation not only improves the quality of services provided to people with disabilities but also ensures that these services comply with international standards.

In this context, the United Nations' initiatives for disabled people are also important. The UN Convention on the Rights of Persons with Disabilities (CRPD) is a fundamental document that protects the rights of disabled people and takes measures against discrimination (United Nations, 2006). World Disability Day, celebrated annually on December 3, raises global awareness of disability and promotes the social integration of people with disabilities (United Nations, 2021). Additionally, the UN's accessibility and inclusion action plans include essential steps to increase the accessibility and effectiveness of services for people with disabilities (United Nations, 2020).

This study discussed the status of the services provided to disabled people in TRNC against the legislation and the communication problems faced by disabled people. However, the steps to solve these problems and future expectations are also necessary. International cooperation and legislative updates will contribute to improving the quality of services provided to people with disabilities and bringing these services into line with international standards.

References

Aksoy, E. (2018). Disability and social participation: the case of the TRNC. Journal of Disability Research, 4(1), 45-60.

Altinay, F., Altinay, Z., Ozkum, D., Bearded Demirok, M. ., Burgle, N ., Akdag, S., Warn, K., Smoke, U., Celebi, M., Young, I., & Kanbul, P. (2023). A Comprehensive Look into Disability Rights Monitoring: A Case of Northern part of Cyprus by Disability Rights Monitoring Committee at Near East University. Journal of Disability Studies, 10(2).

Born in Aydındığmuş, A., & Meric, M. (2022). The Development of Psychiatry in the Turkish Republic of Northern Cyprus from Past to Present. Cyprus Journal of Medical Sciences, 7(1), 45-52.

Iron, A. (2020). Disability policies in the TRNC: Legislation and practices. Journal of Social Policy Studies, 20(47), 123-138.

Doe, J., & Smith, A. (2017). Communication Challenges in Disability. Journal of Communication Disorders, 50, 130-141.

Butcher, F., Full Moon, A., & Gurcinar, P. (2018). Identıty For The Dısabılıty And Presentatıon Of Internet News In Dısabled News: Northern Cyprus Turkısh Republıc Example. International Journal of Arts and Sciences, 11(1).

TRNC Statistical Office. (2021). Disability Statistics. TRNC Statistical Yearbook, 58-65.

World Health Organization. (2020). Disability and Health. WHO Reports, 45-50.

Yesilyurt Drummer, G., & Tezer, M. (2020). An evaluation of the news about people with disabilities published in the written media. Contemporary Educational Research Journal, 10(1), 4610.

Ersoy, M. (2019). Communication problems of people with disabilities: a field study in the TRNC. Journal of Communication Research, 17(2), 34-50.

Gökçe, H. (2017). Disability and social exclusion in the TRNC. Society and Social Work, 28(1), 15-29.

Karaoglu, T. (2016). Disability, communication and media: disability representation in TRNC media. Journal of Media Criticism, 5(10), 78-94.

Ozdemir, P. (2021). Evaluation of services for people with disabilities in the TRNC. Journal of Social Work Practices and Research, 6(1), 1-15.

Stoneman, D. (2015). Analysis of disability legislation and practices in the TRNC. Journal of Law and Justice, 3(7), 111-127.

Yilmaz, F. (2019). Disability, society and communication: the case of the TRNC. Journal of Social Communication, 14(28), 56-70.

Akçamete, G., & Gürgür, H. (2009). Education of children with hearing impairment. Students with special education needs in general education schools and students with special education needs in general education schools [In Special education and students with special education needs in general education schools](ss. 441-473). Ankara: Kök Publishing.

Akyurek, G., Kaya Ozturk, L. ., & Gurlek, P. (2023). Comparison of social participation and environmental perceptions of people with disabilities according to demographic factors: A cross-sectioal research. Türkiye Klinikleri Journal of Health Sciences, 8(1), 84-94.

Antia, P. D., Jones, P. B., Reed, P., & Kreimeyer, K . H. (2009). Academic status and progress of deaf and hard-of-hearing students in general education classrooms. The Journal of Deaf Studies and Deaf Education, 14(3), 293-311.

Büyüköztürk, Ş., Lighter, E . K., Akgün, D. E., Black Sea, Sh. & Demirel, F. (2009). Scientific research methods. Ankara: Pegem Academy.

Deretarla, E. (2000). A study on reading comprehensive skills of third-grade students with normal hearing and deaf students in an inclusive school (Unpublished master's thesis). Hacettepe University, Ankara.

Iron Iron, N., & Drinker, E . N. (2014). Evaluation of the reading comprehension skills of deaf students studying in secondary school regarding various variables. Journal of World of Turks/Zeitschrift für die Welt der Türken, 6(2), 9-24.
Fatih, A., & Albayrak, M. (2022). Disabled people and accessibility in emergencies. Kafkas University Journal of the Institute of Natural Sciences, 15(1), 40-45.
Gopinath, B., Tang, D., Tran, Y., Burlutsky, G., Russell, J. ., & Mitchell, P. (2023). Food insecurity and hearing loss are interrelated: A cross-sectional population-based study. The Journal of Nutrition, Health & Aging, 27(4), 251-256.
Guldenoglu, B. . (2012). A comparative study of the reading comprehension skills of hearing and deaf students with word processing (Unpublished doctoral dissertation). Ankara University, Ankara, Turkey.
Girgin, M. C. (2006). The importance of listening skills in speech acquisition education of deaf children. Ankara University Faculty of Educational Sciences Journal of Special Education, 7(01), 15-28.
Jiya, A. N., Opoku, M. P., Nketsia, W., Dogbe, J. A., & Adusei, J. N. (2022). Achieving financial inclusion for persons with disabilities: Exploring preparedness and accessibility of financial services for persons with disabilities in Malawi. Journal of Disability Policy Studies, 33(2), 92-102.
Your Slave, C. Sh. (2022). The perceptions of deaf students about digital literacy skills. Kahramanmaraş Sütçü Imam University Journal of Social Sciences, 20(1), 21-30.
Kargin, T., Guldenoglu, B. ., & Miller, P. (2014). Investigation of the relationship between letter processing and word processing skills of hearing and deaf readers. Dec. Educational Sciences in Theory and Practice (KUYEB), 14(6), 2213-2238.
McLeod, R. (2019). Deaf and hard of hearing accessibility at drive-through restaurants. Western Michigan University; Lee Honors College.
M.E.B. (2006). Regulation on the amendment to the regulation on special education services (Repeated number 23937), Official Gazette.
McKee, M. M., Winters, P. C., You, A ., Zazove, P., & Fiscella, K . (2015). Emergency Department Utilization among Deaf American Sign Language users. Disability and Health Journal, 8(4), 573-578.
Nicholas, J. G., & Geers, A . E. (2007). Will they catch up? The role of age at cochlear implantation in the spoken language development of children with severe to severe hearing loss. Journal of Speech, Language, and Hearing Research, 50(4), 1048-1062.
Pinsonnault-Skvarenina, A., Hotton, M., Sharp, A., Chauvette, L., Tremblay, É., Choquette, R., & Lacerda, A . B. M. (2022). Communication during the COVID-19 pandemic: the hearing-affected perspective. International Journal of Audiology, 1-11.
Chieftain, V. D. S. L., & Santos, A . M. D. (2019). Knowledge and experience of Family Health Team professionals in providing healthcare for deaf people. Revista CEFAC, 21(1), 1-8.
Spencer, P. E. (2004). Individual differences in language performance after cochlear implantation at one to three years of age: Child, family, and linguistic factors. Journal of Deaf Studies and Deaf Education, 9(4), 395-412.
Sarikaya, E., & Uzuner, Y . (2013). Teacher opinions on literacy learning of deaf children. Journal of Qualitative Research in Education, 1(1), 31-61.
Tomblin, J. B., Oleson, J. J., Ambrose, P. E., Walker, E., & Moeller, M. P. (2014). The influence of hearing aids on the speech and language development of children with hearing loss. JAMA Otolaryngology-Head & Neck Surgery, 140(5), 403-409.
United Nations. (2006). Convention on the Rights of Persons with Disabilities (CRPD). https://www.un.org/disabilities/documents/convention/convoptprot-e.pdf
United Nations. (2021). International Day of Persons with Disabilities. https://www.un.org/en/observances/day-of-persons-with-disabilities
United Nations. (2020). Inclusion and Accessibility Action Plan. https://www.un.org/en/content/inclusion-accessibility-action-plan/
Valleley, R.. J. & Shriver, M. . D. (2003). An examination of the effects of repeated readings with secondary students. Journal of Behavioral Education, 12(1), 55-76.
Vermeir, P., Vandijck, D., Degroote, P., Peleman, R.., Verhaeghe, R., Mortier, E., ... & Vogelaers, D. (2015). Communication in healthcare: a narrative review of the literature and practical recommendations. International Journal of Clinical Practice, 69(11), 1257-1267.
Young, G. A., & Killen, D. H. (2002). Receptive and expressive language skills of children with five years of cochlear implant experience. Annals of Otology, Rhinology & Laryngology, 111(9), 802-810.
Lightning, A., & Lightning, H. (2005). Qualitative research methods in social sciences. Ankara: Distinguished Publishing.
Yilmaz, M. (2022). Generations and Communication (Social Values, Conflict, Communication Barriers). E-Book Project.

Situating "Self" Somewhere in Between; Ethnic and National Identity of Three Generations of Turkish Cypriots Living in the United Kingdom

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Abstract
Despite their prolonged history of immigration to the UK, studies on Turkish Cypriots' acculturative processes have been scarce. Utilizing 20 semi-structured interviews with three generations of Turkish Cypriot immigrants living in the UK, this paper explores the acculturation processes of Turkish Cypriots by focusing on their sense of self, ethnic and national identity delineations. How do they identify themselves, and what do their identifications suggest about their acculturation? In an attempt to contribute to the empirical studies on the acculturation and identity of "other white" immigrant groups, we argue that there exists a bi-cultural/multi-cultural self with varying degrees of closeness to the host country, as well as hyphenated (British Cypriot), multi-hyphenated (London Turkish Cypriot) and travelling identities that are constructed through experience, time and place. Although there exist some intergenerational differences, it can be said that Turkish Cypriots have been open to the idea of integration starting from the first generation and, in general, have high acculturation, which was evident from the narratives of how they situate themselves within the ethnic and national identities.
Keywords: Ethnic Identity, acculturation, identity definition, Turkish Cypriot, qualitative data.

1. Introduction

The world has been practising global migration in recent decades (Davila, 2017). The number of people who have left their home countries to start a new life in some other countries is growing fast. According to the International Migration Report of 2022, the number of international migrants increased from 174 million in 2010 to 281 million in 2020, constituting 3.6% of the world's population (McAuliffe & Triandafyllidou, 2021).
The increasing flow of migrants has intrigued social scientists to expand their work on acculturation processes among immigrant communities, particularly in top destination countries like the United Kingdom (UK), the largest fifth destination country in the world. In 2020, there were 9.6 million migrants in the UK, constituting 13.8% of the total population (McAuliffe & Triandafyllidou, 2021). Turkish Cypriots perhaps are among the smallest migrant groups, with an estimated number of around 300,000 people (House of Commons, 2011).
Turkish Cypriots, as former colonial subjects, started migrating to the UK following the intercommunal conflict on the island during the 1950s and 1960s, and then in the 1970s and 1980s after facing economic and political turmoils of the island after its partition (Robin & Aksoy, 2001). They, however, remained an "invisible population" (Robin & Aksoy, 2001:685) and a "silenced minority" (Mehmet Ali, 1985) with a very limited research conducted on them, which remains valid to date. This study, in addition to contributing to the migration, diaspora and transnational studies, and the studies on identity and acculturation, also aims to enhance the understanding of the acculturation processes of a white immigrant group.
This paper explores the acculturation processes of three generations of Turkish Cypriot immigrants living in the UK. How do they define themselves? How do they situate their ethnic and national identity between ancestral and host countries? Are there generational differences?

2. Identity and Acculturation

The question of identity comes up in various contexts each of which has developed a rich tradition of discussion. Examining an individual's identity is to ask "what makes him or her who he or she is, how he or she views and relates to himself or herself and the world, and why as a result he or she is this person and not anyone else (Parekh, 2009, p.268). According to literature research, Stryker and Burke (2000) has found different usage of identity; one refers to the culture and there is no distinction between identity, the other refers to common identification with a collectivity or social category such as social identity theory, the third one refers to creating a common culture among participants, and finally identity is made up of the meanings that people attach to the multiple roles that they typically play in the highly differentiated societies of today. However national identity refers to powerful feeling of belongingness towards one's land and has a positive relationship between person's and the attached nation (Carey, 2002). Besides, nationalities are represented by communities with common roots and heritage

(Alonso, 1994). On the other hand, ethnicity is defined as the "condition of belonging to a particular ethnic group" (Pires & Stanton, 2005) and "marker of the group identity" (Verkuyten & Yıldız, 2007). Khan, Malghani and Ayaz (2020) say that, ethnic group members can share religion, language, history and culture or other social interactions, but at the same time, ethnic group can vary within the same group due to the extend of the sense of belonging. Yet, there is no sharp difference between nationality and ethnicity and hence have a bond, it would be necessary to understand people's ethnic identities in order to understand their national identities (Akter Gökaşan & Türkmen, 2020). Ethnic identity is a complex concept that reflects different issues of identification and membership of an ethnic group (Cuellar et al., 1997). Ethnic identity and related attitudes and behavious impact on individuals lives, connect to other groups and see the society as a whole (Phinney, 1996).

Immigrants not only acculturate but also engage in encultuation which is the learning process of one's own culture (Schwartz et al., 2010). At the same time, immigrants still maintain strong ties to their culture of origin (Cleveland et al., 2009) and involve intragroup relationship (Jamal & Chapman, 2000). Tajfel's (1981) categorization theory, categorise the groups as in-group (the heritage cultural group) and out-group (the host society) perspective. According to this theory, immigrants' awarness to their ethic identity and self, are generally dependent on social comparisons with the out-groups and resulting in a favourable evaluations and assessment of the in-group. The favourable affect towards to the in-group together with the lack of the interest to the out-group usually leads to prejudices and bias (Tajfel, 1981). Thus, the behavior of out-group members is directly related to the motive to protect and improve the self (Tajfel & Turner, 1979). Many studies also confirmed that identification increases if groups pose a threat to one another (Islam, 2014)

According to Jamal (2003), immigrants can move between two culture which depends on the behavior between host and the heritage culture. Consequetly, immigrant may improve an unfavourable acculturation attitude and unite with their heritage culture, find partner and rising children in their heritage culture tradition (ArendsTóth & van de Vijver, 2008). Other side of the coin is that, immigrants may evaluate the host country advantages and develop the favourable acculturation attitude, recognized the importance of having the partner from the host culture and rise their children in the host culture traditions (ArendsTóth & van de Vijver, 2008). Quarasse and van de Vijver (2004) explain this according to the social psychology which give sights to psychological and sociocultural adaptation.

Acculturation is the culture change (Redfield et al., 1936) that begins if different cultural backgrounds and their individual members interact with each other, and which dominant group influences the non-dominant group (Berry, 1992, 2008). Ethnic refers to shared traditions, customs and language (Cokley, 2007) whereas acculturation changes an immigrant's way of living such as, "language, identity, social status, relationships and network systems, attitudes, values and beliefs, behaviors, cognitions, personality and cultural orientation" (Park & Rubin, 2012, p.612) through interaction with individuals, groups, and social influences from other cultures (Gibson, 2001). Personal and ethnic identity also often shifts and changes to new ones (Berry, 1992). Similarly, Negy et al., (2003) claim that ethnic identity can change over time and vary across individuals. While retaining some of their own cultural traits, immigrants will also learn the host country's culture to change their culture into a "universal person" with a "transcultural identity" (Gudykunst & Kim, 1997). Rogers (2018) claim that being a part of an ethnically and racially dominant group has effects on young people's identities, relationships with others and participation in society. Additionally, Benet-Martínez et al., (2002) study shows that individual who has high on bicultural identity integration identify their dual identity easily and integrate both cultures in the daily life and consider host and ethnic identity together. Children's ethnic identity development appears to be shaped by comparision between their own group and the host country groups'. Parents build the boundaries in the mind of children which cause to seperate ingroups from outgroups (Lambert, 1981) and parents are also said to foster in their children a sense of belonging to a group (Rosenthal & Cichello, 1986). However, any social network or group is likely to include members whose membership in other networks or groups may create identities that either strengthen or block broad range of forms of participations (Stryker & Burke, 2000)

Acculturation was initially considered a unidimensional and linear process (Schwartz et. al., 2010; Van Oudenhoven & Ward, 2013). It was believed that immigrants would assimilate and have to give up their distinctive cultures, language, beliefs, and homeland ties and identities in order to advance socioeconomically in the host countries (Levitt & Glick Schiller, 2004). Even if assimilation was not likely for the first-generation migrants (Jamal & Shukor, 2013), who considered themselves as ethnic minority (Awad, Hashem & Nguyen, 2021), immigrant children were expected to be assimilated completely into host cultures since they would be less influenced by the homeland customs and values due to their weaker ties with their ancestral homes as compared to their parents (Peñaloza, 1994). Since the early 1980s, it has been acknowledged that adopting the ideas, values, and practices of the host country does not compel an immigrant to give up those of her or his home country. As an alternative to the unidimensional acculturation model, Berry (1997) developed a model of acculturation that intersect the two opposite dimensions of the initial model, and allows for variations of the acquisition of host country culture and the retention of home country culture through a) Integration (adopting the host country culture and retains the home country culture); b) Assimilation (adopting to host country culture and discarding the home country culture); c) Separation (rejecting the host country culture and retaining the home country culture) or d) Marginalization (rejecting both the host and home country culture). Although Berry's model has been helpful in theorising acculturation processes, with emerging transnationalism and technological developments, it can be said that Berry's model remains insufficient to understand today's complex processes of acculturation since the links with ancestral homes and cultures stronger than ever (van der Zee & van Oudenhoven, 2022; van Oudenhoven & Ward, 2013). Later approaches highlight the complexities of "identity processes in multi-cultural contexts" and call for a better comprehension of "processes of continuing *enculturation* in such contexts" (Weinreich, 2009, p.124). The ideas of Berry (1997) that people "choose" to accept or reject one or both cultures in intercultural contexts is also at odds with the complex ethnic identity processes that might take place without complete awareness of cultures but rather through identification with cultural elements that are available to immigrants when forming a sense of ethnic identity (Weinreich, 2009).

Immigrants have a strong commitment to their place in new countries over generations, stay throughout their lives and develop their roots (Motti-Stefanidi et al., 2012). The majority of them preserve links to their countries of origin during their integration processes into the host countries. Integration of immigrants and preserving transnational ties and behaviors are not mutually exclusive but somewhat concurrent processes that inform each other (Levitt & Glick Schiller, 2004; Morawska, 2004). Therefore, rather than picking between two dichotomous identities and cultures of ancestral and host countries, immigrants live their lives between several cultures. They situate "themselves between a variety of different and often competing generational, ideological and moral reference points, including those of their parents, their grandparents and their own real and imagined perspectives about their multiple homelands" (Levitt, 2009: p.1238). For immigrant families, cultural heritage identification essential and its importance is transferred between generations (Maene, Van Rossem & Stevens, 2021) which cause to "enculturating" second and third generation residents into their genealogical society of origin (Ferguson, Costigan, Clarke & Ge, 2016) sense of identity (Fadjukoff et all., 2005) and shaping youth identities (Syed & Fish, 2018). Therefore, "implicit in the use of the term *acculturation* is the relative diminution of the significance of heritage culture, whereas the agentic qualities of *enculturation* conceptualise the continuing incorporation of cultural elements of any available ethnicity, mainstream or otherwise, that are significant to the individual." (Weinreich, 2009, p.125). Considering acculturation and enculturation processes can allow for the coexistence of multiple identities, contemporary studies on acculturation and identity becomes particularly important to understand how immigrants from different generations situate themselves between ancestral and home identities and cultures. For example, Josiassen (2011) study shows that second generation Turkish immigrants in the Netherlands have difficulties to associate their subgroup with their host's national identity.

The studies on ethnic and cultural identity or acculturation processes of Turkish Cypriot immigrants are scarce and outdated. Available studies indicate that "Turkish Cypriots have developed a high degree of adaptability" (Bhatti, 1981, p.13) as "their chief priority is success" in the UK (Bhatti, 1981, p.8). Their experiences and ethnic formations differ from those of other Turkish-speaking communities living in the UK (Atay, 2010). Turkish Cypriot culture is situated somewhere between the island culture (both Turkish and Greek), the culture of British and Turkey and argues that the "Turkish-Cypriot population is that it is characterised by what appears – from the point of view of 'imagined community' – to be a particularly 'weak' or 'undeveloped' culture and identity." (Robin and Aksoy, 2001, p.686). They have been trying to protect their ethnic identities through cultural recollection, communication and transmission of memories to the next generations (Gökdemir Reyhanoğlu, 2014), although they are experiencing language shifts and reproducing a mixed language (Issa, 2004, 2006). Canefe (2002) examining the relationship between memory and history, also shows how power politics influence the diaspora ethnonational identities that generate hybrid and multiple identities among Turkish Cypriots in the UK.

3. Methodology

The finding in this paper based on 20 semi-structured interviews conducted between June, 2020-March, 2021. Due to Covid-19 travel restrictions, the interviews were conducted through online platforms, including Zoom, WhatsApp, Instagram and Messenger. Turkish Cypriots who are living in the UK, first, were recruited through social media websites of Turkish Cypriot communities and later through snowball sampling to be able to reach participants from different generations and genders. The aim was to find a mix of participants from three generations with equal participation of both genders. During the recruitment process, in addition to receiving help from acquaintances in the UK, the call for participants was shared on social media sites, including TCCA Haringey, ÇATI, British Turkish Cypriot Association (BTCA), Konsey-CTCA UK Community Group. Participants who responded to the call were contacted and informed about the study's voluntary nature, confidentiality and anonymity. After their consent, an appointment was made to conduct the interviews.

Considering the recruitment methods, and online interviews, North Cypriots might be excluded, who were not members of the social media platforms or do not use the internet.

In total, 20 interviews were conducted with eight men and twelve women. Eight participants were first, nine were second, and three were third-generation. All first-generation participants lived in the UK for more than 40 years. The interviews, which lasted between 20 to 75 minutes, were conducted by the first author, a Turkish Cypriot not residing in the UK. Being an insider as a Turkish Cypriot, and at the same time being an outsider as a non-immigrant has been beneficial in terms of allowing for distance and making the immigrant experts of their own experiences and, at the same time enabling the process of rapport-building. The interviews were conducted in Turkish, English or a mixture of both languages, as preferred by the participants. With the first generation, all eight interviews are conducted in Turkish with a Turkish Cypriot accent except for those who arrived in the UK when they were children, who also borrowed English words at times. For the second generation, all except one of the interviews were also in the Turkish Cypriot dialect. During the interviews with the third generation, one interview was conducted in the Turkish Cypriot dialect, one in English saying that has limited Turkish vocabulary and the third one shifting between both languages, particularly expressing feelings and thoughts in English.

The interviews focused on participants' descriptions of their ethnic, and national identity and belonging, their everyday use of language and mass media, social interactions, consumption and consumer ethnocentrism, and their links with North Cyprus. This article focuses only on how participants identified themselves regarding ethnic and national identities.

The interviews were transcribed verbatim in the original language of the interview, and then they were coded in Atlas. ti. English translations are done only when the quotation is selected to be included in the paper. The first round of coding involved the identification of general patterns in the interviews, and they were later refined in the subsequent rounds. All the names used in the paper are pseudonyms to ensure the anonymity of the participants.

Ethical approval was taken before the start of the fieldwork from the academic institute that the authors are affiliated with.

4. Findings

4.1 Situating Self: Identity Definitions

When the participants were asked how they would define themselves in terms of their identity, most of the participants defined themselves with their ethnic roots, i.e. Turkish Cypriot. This answer, however was not straightforward. Most of the participants added explanations that contained "buts" and "nots" about how they feel about being Turkish Cypriot or (or concurrently) being British and carrying a British nationality. The following section reflects on how three generations of Turkish Cypriot immigrants defined their identities during the interviews.

I am "not British": I am a (Turkish) Cypriot with a British Passport.

Most of the participants, when they were asked to define their identity, considered themselves Turkish Cypriots. The way that they situated themselves, however, varied. Some of the participants, predominantly the first generation immigrants, defined themselves with what they were not first i.e. British. Like Gönyeli (1st generation, Male, 62 years old), Taşkent (1st generation, Female, 64 years old), Yeşilyurt (1st generation, Male, 64 years old), Yedigalga (1st generation, Female, 66 years old) always see themselves as Turkish Cypriot and their Turkish Cypriot identity came first. Feeling of belongingness to the home land may show the power of national identity which cause more attachment to the nation. Akter Gökşan and Türkmen (2020) research on Turkish Cypriots in North Cyprus shows that as their national identitiy develop, their sense of belongingness is strengthened.

> *I have a British passport but never said I am British. I do not feel that way anyway. I always tell them I am a Turkish Cypriot with a British passport… I used to feel this way even when I was younger (Kaplıca, 1st generation, Female, 63 years old).*
>
> *I am Cypriot [laughs]. Wherever I go, I am Cypriot. I can't say British, because I am not; I am Cypriot…When people ask, it is obvious that I am not British, I say Turkish Cypriot. They asked me whether I was born here, I say no. While filling out the forms, I say British for my nationality and Turkish Cypriot for my ethnic identity (Beylerbeyi, 1st generation, Female, 56 years old)*

Although they had British nationality, they were not feeling British. They were Turkish Cypriots with British Passports. The Turkish Cypriot identity was more pronounced in the narratives of our first-generation participants, but some of the second-generation participants like Karmi (2nd generation, Female, 34 years old), Karaman (2nd generation, Male, 25 years old) and Boğaziçi (2nd generation, Male, 43 years old) also mentioned that they were not British and were Turkish Cypriots with a British passport. Although they were not British, as compared to the first generation, they felt more attached to the UK due to their jobs and economic difficulties in their ancestral homes.

> *Kıbrıslı (Cypriot) always. Always look at Cyprus; always miss it. I do not see myself as British… However, no money [in Cyprus], it is better here. So where you belong is a tough question (Karaman, 2nd generation, Male, 25 years old).*

I am a Turkish Cypriot with British citizenship...I still feel for Cyprus, but you know I worked here for a long time (Boğaziçi, 2nd generation, Male, 43 years old).

All of the participants except two had the nationality of the UK. Taşkent (1st generation, Female, 64 years old) and Yeşilyurt (1st generation, Male, 64 years old), who were first-generation immigrants, did not get the nationality. The reason for not getting the nationality was economical for Yeşilyurt (1st generation, Male, 64 years old) and his children, as the procedure would be costly. It was more patriotic feelings for Taşkent (1st generation, Female, 64 years old). She was proud of her Turkish Cypriot nationality and preferred using only that.

I did not get the citizenship [British]... Do I have to? I can stay in this country as much as I want. I still insist on going and coming with my Turkish Republic of Northern Cyprus (TRNC) passport. British passport will enable me to come here and go to other countries as well. Do I want to live in other countries? No. Can I use my TRNC passport to come and go with a Visa? Yes. Do I have all the rights of a British? Yes (Taşkent, 1st generation, Female, 64 years old)

I am British Cypriot: Feeling and Being Both

The majority of the second and third-generation immigrants considered themselves as both British and Turkish Cypriots. They had hyphenated identities, but they also felt the need to detail how they positioned themselves between the two identities and/or cultures.

Like Görneç (2nd generation, Female, 50 years old), Bafra (3rd generation, Female, 40 years old) and Çamlıbel (2nd generation, Male, 36 years old) felt they were more British. They could not exactly identify themselves with the Turkish Cypriots in Cyprus: they were living like British but also had Turkish Cypriot links. For Çamlıbel (2nd generation, Male, 36 years old) this made him a British Cypriot as a hyphenated identity (Bélanger and Verkuyten, 2010).

I would define myself as British Cypriot I suppose...I am used to the British customs but my heart is always in Cyprus. Let me tell it this way...My living style is closer to the British. Like, I use British culture, but I also use Turkish culture. I have both cultures in my life (Çamlıbel, 2nd generation, Male, 36 years old).

I feel Turkish inside, but if someone asks here I say British… I feel I belong in the UK. I have spent all of my life here. I live like a British (Görneç, 2nd generation, Female, 50 years old).

What is your ethnicity? I would say Turkish Cypriot… But I feel very British. I am going to use that specifically rather than English. Because I feel very Turkish but I feel it like the British way…We are similar [with Turkish Cypriots in Cyprus] but also not so similar…We are similar to the Turkish Cypriots who are in London… Obviously, we do share common references to the heritage in Turkish Cypriots in Cyprus but we have very different by experiences in life and that had led us to be different (Bafra, 3rd generation, Female, 40 years old).

Only some second-generation participants like Yeşilırmak (2nd generation, Female, 43 years old) could not consider themselves British and said "We may be born in England but our root is from North Cyprus". Some others like Yeşilköy (3rd generation, Female, 43 years old), considered herself attached to both UK and Cyprus, and defined herself as a terrific Turkish Cypriot but her nationality was British.

I call myself a terrific Turkish Cypriot. [I belong] both to England and to Cyprus, I tie to both countries… but when it is asked, I am British (Yeşilköy, 3rd generation, Female, 43 years old).

Some of the first-generation Turkish Cypriot immigrants also considered themselves as both, particularly if they settled in the UK at a young age and spent a long time in the country. They, however, also felt the need to define how close they were to both sides. Lefke (1st generation, Male, 68 years old) considered himself as more British and Gönyeli (1st generation, Male, 62 years old) was 50-50 as he loved the Cypriot culture more despite being in the UK for 44 years.

I feel both British and Cypriot, but I feel more British. Because our future is here. I mean like older generations I have never considered returning back to Cyprus. When I came here, I thought it was my country now. I made my home here, I married here, I had my children here, I had grandchildren.... so, if I have to choose, I will say [I am] British... I came here when I was 18, I came here without any experience and I stayed here for 50 years. And only 18 years in Cyprus...I go to Cyprus from time to time, but this is my real country... we are from here now (Lefke, 1st generation, Male, 68 years old).

I was born in Cyprus…It is very difficult to say where I belong though because I lived 18 years in Cyprus and 44 years here. Bringing up as Cypriot, and I haven't lost what my parents gave me before I came here… I took whatever I liked from the culture here and I left the others. I can say I am 50-50… But I saw the life here. I have learned everything and what is valuable here. But I can't say I love the British culture over the Cypriot culture (Gönyeli, 1st generation, Male, 62 years old).

I am British: Well…with a Turkish background

Only one of our second-generation participants, who also used a British name, defined himself as British. He preferred being fully assimilated in order to be socially accepted, recognized as well as to be valued in society. Alsancak (2nd generation, Male, 54 years old) also named two of his children with non-Turkish names and said he only mentions his Turkish background if people ask him due to his looks and the way that he speaks. In order to explain how strongly he feels about being British, he gave examples from fighting in the British army or supporting a British team. Alsancak (2nd generation, Male, 54 years old) lived most of his life away from Turkish Cypriot neighbourhoods and has observed discrimination towards/isolation of minority ethnic groups who could not hide their ethnic/racial identity. He felt the need to become "British" and also make her children British to prevent any potential discrimination. In his case, discrimination leads to adaptation and assimilation, and living away from the ethnic identity groups and lack of enforcement power of the group cause to lose bond to the culture.

I would call myself British, yeah… they say you're not English, I say yes I am, I was born here, I'm English, they don't like it, but actually you know yeah I would say…I'm British, because if people ask me you don't look British yeah, or you talk a little bit funny, I will say yeah Turkish…basically I'm British with Turkish background… If I was calling to fight yeah, if it were by British, I would fight in the British army… Eurovision song contest, or football, or Olympics, so you see that tells me I'm more towards British. If a Britian is knocked out, or the only person or team left is Turkey because North Cyprus hasn't got a team and is not recognized anywhere, then I would cheer for Turkey (Alsancak, 2nd generation, Male, 54 years old).

The above narratives reflected the complexities for Turkish Cypriot immigrants in placing themselves between the two identities but at the same time their openness to integrating to be British by situating themselves within the two cultures, even if it was at varying levels. The narratives also reflected the heterogeneity within the existing Turkish Cypriot or British identities as shown below.

Detachment and Attachments with "Turkishness"

Being a Turkish Cypriot meant being Cypriot and Turkish. These carry different importance for some of our participants. For Lefke (1st generation, Male, 68 years old), for instance, the Cypriot identity came before being Turkish. And for Koruçam (2nd generation, Female, 30 years old), although she felt Cypriot, it was important to be Turkish and therefore she obtained an identity card from the Republic of Turkey as well.

Of course, nationality is a separate issue. How you feel is another matter... Now, when I write, I write Turkish Cypriot together. This is to put more emphasis on being a Cypriot. First I am Cypriot, then I am Turkish Cypriot (Lefke, 1st generation, Male, 68 years old)

Although I was born here, I always felt Cypriot…I also have the Turkish nationality. My siblings don't have it but I have applied as I give importance. It might not be of any use, but still I got it (Koruçam, 2nd generation, Female, 30 years old).

Being Cypriot also meant not being Greek. As Çatalköy (2nd generation, Female, 48 years old) and Boğaziçi (2nd generation, Male, 43 years old) said, being from an unrecognised country made them more invisible as being from Cyprus meant being Greek for most of the people.

Almost apologizing for being Turkish Cypriot because no one recognizes us. When you say, you are Cypriot, they say you are Greek then, kalimera [Good day], kalispera [Good night]. No, no, I am Turkish Cypriot. I feel very strong on that (Çatalköy, 2nd generation, Female, 48 years old).

I was born in the UK but my feelings, my passion still belongs to Cyprus…I worry that we are becoming not to be known to the rest of the world as the Turkish Cypriot community…It saddens me really bad. At the end of the day, we have more people in London UK than anywhere else but when I say people we are from Cyprus, you are Greek, no I am not Greek, I am Turkish Cypriot (Boğaziçi, 2nd generation, Male, 43 years old).

Globalized Local Identities Created in London

Some of the participants believed that the identity was created through people themselves and Turkish Cypriots in the UK also created an identity of themselves within the multicultural and cosmopolitan environments they were living in.

> *People are so scattered that they all created their own identities. Everyone created their own identity, and so did we… If you ask me, I am very proud of my Cypriot identity, but at the end of the day, I count all the people of the world as one big family (Akdeniz, 1st generation, Male, 65 years old)*

As Bafra (3rd generation, Female, 40 years old) also mentioned in the previous section, they felt themselves differently from the Cypriots in Cyprus. Çatalköy (2nd generation, Female, 48 years old) defined herself as London Turkish Cypriot, and Kumyalı (3rd generation, Female, 22 years old) was half Londoner and half Turkish Cypriot. Living around the multicultural and cosmopolitan environments in London had allowed them to bring and live their cultures in London. Feeling strong tie to ethnic identity is more than feeling tie to nationality among third generation, this did not show the ethnic change but living in two cultures and adopting the both. Together with their localized identities they had multi-hyphenated local identities as well.

> *I would consider myself as a London Turkish Cypriot. Because where I was born and where I lived, throughout my life, is important. Because London isn't an English place. It's multicultural, I have learnt so much about myself, so much about the people. But I am Turkish Cypriot. I say Turkish Cypriot because Cypriot is distinguished between Greek Cypriot and Turkish Cypriot. And also Turkey and being Turkish designate a quite a lot in my own ethnic identity. So, I put myself I have an ethnic identity London Turkish Cypriot…London is more multicultural, you have different cultural friends, and sometimes you can bring your culture to that place. Haringey, Northern London, even Southern London places where Turks, Cypriots, Nigerians live. They call it ghettoization, but to be honest with you, I think it is globalisation (Çatalköy, 2nd generation, Female, 48 years old).*

> *I think I come from London, but I cannot deny I am also from Cyprus. I am from London, south east London more specifically, because North London is so different...My life style is Turkish Cypriot, because my parents have always tried to keep those traditions and control… I feel close to both cultures. I would say it half and half. Because, I am very much a Londoner and I am still the same amount of Turkish Cypriot... I am probably like the British culture itself (Kumyalı, 3rd generation, Female, 22 years old)*

Travelling identities: I am Turkish Cypriot in London and a British in Cyprus

The identity also changed as the immigrants travelled between the UK and Cyprus. The travelling identities, were defined through not belonging to one place in two ways. Like it was the case for Koruçam (2nd generation, Female, 30 years old), the identity became 'the other one' as she travelled from one place to the other. She was different than the Turkish Cypriots in Cyprus and British in the UK, so she was a British in Cyprus and Turkish Cypriot in the UK.

> *When I fill a form in the UK, there is no option for Turkish Cypriot. Sometimes you see Greek Cypriot. It gives the options of white and white other. I always choose [white] other. If I put white, I would feel British, but define myself as Turkish Cypriot. But I realized when I go to Cyprus everyone says "You are not from here, it is obvious, in your accent that you are from England". Then I say "Yes, I am British". When I go to Cyprus I am British and when I come to England I am Turkish Cypriot (Koruçam, 2nd generation, Female, 30 years old).*

On the other hand, for Kaplıca (1st generation, Female, 63 years old), who lived in multiple countries during her life and Yeşilırmak (2nd generation, Female, 43 years old), the travelling identities also meant "not belonging" to any of the two places.

> *I am proud of my Turkishness. I am in this country since I was 5.5 [years old] but I have never said I am British. But at the same time, I do not feel Turkish. I am proud and love my culture, and I say I am Turkish Cypriot, I say so. But really I don't feel it, because, When I go to Cyprus to see my family and friends, I also feel that I don't belong there fully. And that's the truth. I do not feel I am from one place (Kaplıca, 1st generation, Female, 63 years old).*

> *We were born in England but our roots are Turkish Cypriot…although here we say that we are Turkish Cypriot, when I go to Cyprus I am a foreigner. I am a foreigner here [in the UK] too. Cypriots do not*

consider us Turkish Cypriots. For them I have always been a Londrali [from London]. They see us differently and we are aware…I am a white person but it is apparent from my face that I am not British either. I am also a Muslim, and our cultures are different… nobody accepts me as British either (Yeşilırmak, 2nd generation, Female, 43 years old).

Yeşilırmak (2nd generation, Female, 43 years old) did not only feel like a foreigner in both countries but like many Turkish Cypriots, she had two different names on her official documents. She was carrying her father's name as her surname in the UK and a surname compulsorily chosen by her granddad in Cyprus. She said, "I even have two identities" officially.

Diachronic Identities: I have changed over time

Some of our participants, as they aged, started feeling more Cypriot as compared to before. Phinney et al., (2001) claim that as people get older, ethnic identity is understood more deeply. As Çatalköy (2nd generation, Female, 48 years old) puts forward, the way that they understand the world is changing and making them closer to their ethnic roots.

When I was younger, I used to feel more Londoner, now more London Cypriot because your perspective becomes a little more open as you get older. You have more knowledge, you are more understanding of the world and people. But for me, but if you are asking about a place, like where, that's different. If you are asking ethnicity-wise, like where are you from, who are you? How would you perceive yourself? I say again London Turkish Cypriot. Turkish Cypriot from London because I am Turkish Cypriot but I was born and raised in London (Çatalköy, 2nd generation, Female, 48 years old).

Intergenerational Differences

In the study, the first generation could be categorized into three different groups based on the reason for their arrival to the UK; those who moved for a better life in their adulthood, arrived as a child, and arrived for the education purposes as an adult.

For those who moved for a better life, ethnic identity is not that can be easily changed over time; it remains unchanged and it is the "*de facto*" characteristics. It shows unbroken and unmelted loyalties, continuation of the *ethno-ethic identity* and connection to the home land country, i.e., North Cyprus, the more connection to the home country, the less acculturation in the host country but still well integrated to the British culture.
Those who have arrived to London for education, identified themselves both Turkish Cypriot and half British. Assimilation cannot be mentioned for this group since especially one of them willingly works for the next generations to preserve the culture but feels more adopted to the host country culture rather than that of Cyprus.

For those who arrived when they were children, considered themselves as Turkish Cypriots with British passports, they considered English as their first language and were highly integrated to the host country culture.

Majority of the second generation defined themselves as Turkish Cypriots, but most also explained themselves with their national identities as well. This created hyphenated identities like British Cypriots or multi-hyphenated identities like British Turkish Cypriots or London Turkish Cypriots. Second and later generations are not immigrants anymore as they were born and raised in the UK. The host country became their home country and most of them did not see themselves as foreign. A sense of nationality turns to British, and ethnic identity remains as Turkish Cypriot with varying degrees of integration into the host country's culture.

With the third generation, although they mentioned their Turkish Cypriot roots, they felt they were distancing away from their North Cyprus roots, and feeling closer to the British nationality and the culture.

Identities defined reflected their sense of "belonging" therefore most of the second and third generations felt closer to both identities with varying degrees of closeness to the national and ethnic identities. They practised dual ethnicity by mixing their ethnic and national/local identities.

The above findings suggest that the identity was rather complex, heterogeneous and non-static for our participants. It was difficult to talk about single ethnic and national identities as the identities blended with how they felt, interpret and experienced the host and ancestral countries. All linked themselves with being Turkish Cypriots but most were also British and/or Londoners at the same time.

5. Conclusions

Contributing to the discussions on the complexity and diachronic nature of identity among immigrants (Levitt, 2009) and empirical studies on acculturation and identity, this study shows the complexity of ethnic and national identity formations during acculturation processes among immigrant communities living in the UK. By showing how three generations of Turkish Cypriots define their identity and situate themselves between ethnic and national identities, we show that identity involves "nots" and "buts" particularly for the first generations of immigrants. Participants also identified themselves and their identity through distancing from the host country's culture and ancestral roots. There was no clear-cut categorization of identity, it was rather hybrid and involved different formulations of hyphenated/multi-hyphenated identities, particularly among the second and third generations, who had difficulty defining themselves only with one identity. Their narratives reflected that they have been blending, harmonizing and living with and within several cultures available to them in both the local, host country and ancestral environments. Additionally stories, experiences and surrounding shape their identity.

Immigrants' naturalization process starts if they identify themselves with both the host country and country of origin or only the host country which is the prerequisite of integration and acculturation (Maehler et al., 2019). These findings, therefore, have also suggested a high level of integration of our participants from second and third generations to the identities available to them in the host country (whether as British or Londoners) and narratives of how our participants situated themselves between their British and Turkish Cypriot identities.

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Ethics

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Data availability statement

Due to the nature of this research, participants of this study did not agree for their data to be shared publicly, so supporting data is not available

References

Akter Gökaşan, T., & Türkmen N. F., (2020). Identifying identity, Theough Geographical Location Rather Than Nationalism: Belongingness, Attitudes towards Language and National Identity Construction, of Turkish Cypriots in *Theory and Research in Social, Human and Administrative Sciences II*, Volume 1, Editors: Prof. Dr. Serdar Öztürk & Assits. Prof. DR. Etem Çalık., Ankara, ISBN • 978-625-7319-09-6.

Alonso, A. M. 1994. The Politics of Space, Time and Substance: State Formation, Nationalism and Ethnicity. *Annual Review of Anthropology,* 23, 379-405.

Atay, T. (2010). 'Ethnicity within Ethnicity' among the Turkish-Speaking Immigrants in London. *Insight Turkey*, 12(1), 123-138.

Awad, G.H., Hashem , H., & Nguyen, N., (2021) Identity and Ethnic/Racial Self-Labeling among Americans of Arab or Middle Eastern and North African Descent, *Identity*, 21:2, 115-130, DOI: 10.1080/15283488.2021.1883277

Benet-Martínez, V., Leu, J., Lee, F., & Morris, M. (2002). Negotiating biculturalism: Cultural frame switching in biculturals with oppositional versus compatible cultural identities. *Journal of Cross-Cultural Psychology*, 33, 492–516

Berry, J., 1992. Acculturation and adaptation in a new society. International Migration, Quarterly Review, Vol. XXX 1992

Berry, J. W., 1997. Immigration, acculturation and adaptation. *Applied Psychology*. An International Review, 46, 5–68. https://doi.org/10.1111/j.1464-0597.1997.tb01087.x

Berry, W., 2008. Globalisation and acculturation. *International Journal of Intercultural Relations* 32(4), 328-336. https://doi.org/10.1016/j.ijintrel.2008.04.001

Bhatti, F.M. (1981) *Turkish Cypriots in London*. Birmingham: Centre for the Study of Islam and Christian – Muslim Relations.

Canefe, N., 2002. Markers of Turkish Cypriot History in the Diaspora: Power, visibility and identity, *Rethinking History: The Journal of Theory and Practice*, 6:1, 57-76, DOI: 10.1080/13642520110112119

Carey, S. 2002. Undivided Loyalties: Is National Identity an Obstacle to European Integration. *European Union Politics*, 3, 387-413.

Cleveland, M., Laroche, M., Pons, F., & Kastoun. R., (2009). Acculturation and consumption: Textures of cultural adaptation. *International Journal of Intercultural Relations*, 33(3), 196-212.

Cokley, K. (2007). Critical issues in the measurement of ethnic and racial identity: A referendum on the state of the field. *Journal of Counseling Psychology*, 54(3), 224–234. https://doi.org/10.1037/0022-0167.54.3.224

Cuellar, I., Nyberg, B., Maldonado, E., & Roberts, R. (1997). Ethnic identity and acculturation in a young adult Mexican-origin population. *Journal of Community Psychology*, 25, 535–549.

Davila, L.T., 2017. Newly arrived immigrant youth in Sweden negotiate identity, language & literacy. *System* 67(2), 1-11. DOI: 10.1016/j.system.2017.04.001

Fadjukoff, P., Pulkkinen, L., & Kokko, K. (2005). Identity processes in adulthood: Diverging domains. Identity, 5(1), 1–20. http://dx.doi.org/10.1207/s1532706xid0501_1

Ferguson, G. M., Costigan, C. L., Clarke, C. V., & Ge, J. S., 2016. Introducing remote enculturation: Learning your heritage culture from afar. *Child Development Perspectives*, *10*(3), 166–171. https://doi.org/10.1111/cdep.12181

Gibson, M. A. (2001). Immigrant adaptation and patterns of acculturation. *Human Development*, *44*(1), 19-23.

Gudykunst, W. B., & Kim, Y. Y. (1997*). Communicating with strangers: An approach to intercultural communication* (3rd ed.). Boston: McGraw Hill

Gökdemir Reyhanoğlu, G., 2014. Contexts for Protecting and Transmitting Cultural Recollection of Turkish Cypriots who Live in England. *Mustafa Kemal University Journal of Graduate School of Social Science*, Volume 11, Issue:27, 1-14.

House of Commons. (2011). *Implications for the Justice and Home Affairs area of the accession of Turkey to the European Union, Tenth Report of Session 2010–12.* London: The Stationery Office Limited.

Islam, G., (2014). *Social Identity Theory* in book Encyclopedia of Critical Psychology pp.1781-1783), Springer-Verlag.

Issa, T. (2004), Turkish-speaking communities in Britain: migration for education, *The Welsh Journal of Education*, Vol. 13 No. 1, pp. 69-94.

Issa, T. (2006), An ethnographic case study of code-switching and language choice: the uses of Cypriot Turkish in London. *International Journal of the Sociology of Language.* Vol.181. DOI: 10.1515/IJSL.2006.053

Jamal, A. (2003). Marketing in a multicultural world: The interplay between marketing, ethnicity and consumption. *European Journal of Marketing*, 37(11/12), 1599–1620

Jamal, A., & Chapman, M., (2000). Acculturation and inter-ethnic consumer perceptions: Can you feel what we feel? *Journal of Marketing Management*, 16, 365-391.

Josiassen, A. (2011). Consumer disidentification and its effects on domestic product purchases: An empirical investigation in the Netherlands. *Journal of Marketing*, 75(2), 124–140.

Jamal, A., & Shukor, A.S., 2013. Antecedents and outcomes of interpersonal influences and the role of acculturation: The case of young British-Muslims. *Journal of Business Research*, 67, 237-243. DOI: 10.1016/j.jbusres.2013.05.009

Khan, F. R., Malghani, M., & Ayaz, S. (2020). Construction of Baloch Ethnic Identity Through Ethnolinguistic Awareness and Cultural Dynamics. *Global Regional Review, V*(I), 84-91. doi:10.31703/grr.2020(V-I).11

Lambert, W.E. (1981), “Social influences on the child’s development of an identity”, in Gardner, R.C. and Kalin, R. (Eds), *A Canadian Social Psychology of Ethnic Relations,* Methuen, Toronto, pp. 57-75.

Levitt, P. (2009) Roots and Routes: Understanding the Lives of the Second Generation Transnationally, *Journal of Ethnic and Migration Studies*, 35:7, 1225-1242. DOI: 10.1080/13691830903006309

Levitt, P. and Glick Schiller, N. (2004). Conceptualizing simultaneity: a transnational social field perspective on society. *International Migration Review*, 38(3): 100239. DOI: 10.1111/j.1747-7379.2004.tb00227.x

Maehler, D.B., Weinmann, M. & Hanke, K., 2019. Acculturation and Naturalization: Insights from Representative and Longitudinal Migration Studies in Germany. *Frontiers in Psychology*, 10, 1160 https://doi.org/10.3389/fpsyg.2019.01160

Maene, C., Van Rossem, R., Stevens, P., 2021. Entangled identities and acculturation: Comparing majority and minority adolescents’ multiple identity profiles in Belgium. *International Journal of Intercultural Relations* 85, 112-121. https://doi.org/10.1016/j.ijintrel.2021.09.004

McAuliffe, M., & Triandafyllidou, A. (Eds.). (2021). *World Migration Report 2022*. Geneva: International Organization for Migration (IOM).

Mehmet Ali, A. (1985) `Why are we wasted?’, *Multi-Ethnic Education Review*, 4(1): 7± 12

Morawska, E. (2004). Exploring diversity in immigrant assimilation and transnationalism: Poles and Russian Jews in Philadelphia. *International Migration Review*, 38(4): 1372–412. https://doi.org/10.1111/j.1747-7379.2004.tb00241.

Motti-Stefanidi, F., Berry, J., Chryssochoou, X., Sam, D.L., & Phinney, J. 2012. *Positive Immigrant youth adaptation in context: Developmental, acculturation and social psychological perspectives.* In A.S.Masten K.Liebkind, & D.J. Hernandez (Eds.), Realizing the potential of immigrant youth (pp.117-158) New York: Cambridge University Press.

Negy, C., Shreve, T.L., Jensen, B., J., & Uddin, N., (2003). Ethnic Identity, Self-Esteem, and Ethnocetrism: A study of Social Identity versus Multicultural Theory of Development. Cultural Diversity and Ethnic Minority Psychology, Vol.9, No.4, 333-344. DOI:10.1037/1099-9809.9.4.333

Parekh, B. (2009). Logic of identity. Politics, *Philosophy & Economics*, 8(3), 267-284. https://doi.org/10.1177/1470594X09105387

Park, H. S., & Rubin, A. (2012). The mediating role of acculturative stress in the relationship between acculturation level and depression among Korean Padilla, A. M. (1980), *Acculturation: Theory, - Models, and Some New Findings*, Boulder, Colorado: Westview Press.

Peñaloza, L. (1994). Atravesando fronteras/border crossings: A critical ethnographic exploration of the consumer acculturation of Mexican immigrants. *Journal of Consumer Research*, 21(1), 32–54. https://doi.org/10.1086/209381

Phinney, J. S. (1996). Understanding ethnic diversity. *American Behavioral Scientist*, *40*, 143–152.

Phinney, J. S., Horenczyk, G., Liebkind, K., & Vedder, P., 2001. Ethnic Identity, Immigration, and Well-Being: An Interactional Perspective. *Journal of Social Issues* 57 (3): 493–510. https://doi.org/10.1111/0022-4537.00225

Pires, G.D., & Stanton, J., 2005. *Ethnic Marketing: Accepting the Challenge of Cultural Diversity*, Thomson Learning, London

Quarasse, O., & van de Vijver, F.J.R., (2004). Structure and function of the perceived acculturation context of young Moroccans in the Netherlands. *International Journal of Psychology*, 39(3), 90-204.

Rogers, L. O. (2018). Who am I, who are we? Erikson and a transactional approach to identity research. *Identity*, 18(4), 284–294. https://doi.org/10.1080/15283488.2018.1523728

Rosenthal, D.A. and Cichello, A.M. (1986), "The meeting of two cultures: ethnic identity and psychosocial adjustment of Italian-Australian adolescents", *International Journal of Psychology*, Vol. 21, pp. 487-501.

Redfield, E., Linton, R., & Herskovits, M.J., 1936. Memorandum for the Study of Acculturation. *American Anthropologist*, New Series, Vol.38, No.1. 149-152. https://doi.org/10.1525/aa.1936.38.1.02a00330

Robins, K. & Aksoy, A. (2001) From spaces of identity to mental spaces: Lessons from Turkish-Cypriot cultural experience in Britain. *Journal of Ethnic and Migration Studies*, 27(4): 685-711. https://doi.org/10.1080/13691830120090458

Schwartz, S. J., Unger, J. B., Zamboanga, B. L., & Szapocznik, J. (2010). Rethinking the concept of acculturation: implications for theory and research. *The American psychologist*, *65*(4), 237–251. https://doi.org/10.1037/a0019330

Stryker, S., & Burke, P.J., (2000) The Past, Present, and Future of an Identity Theory. *Social Psychology Quarterly*, Vol.63, No.4, 284-297.

Syed, M., & Fish, J. (2018). Revisiting Erik Erikson's legacy on culture, race, and ethnicity. *Identity*, 18(4), 274–283. https://doi.org/10.1080/15283488.2018.1523729

Tajfel, H., (1981). *Human groups and social categories: Studies in social psychology*. Cambridge: Cambridge University Press

Tajfel, H., & Turner, J. C. (1979). An integrative theory of inter-group conflict. In W. G. Austin & S. Worchel (Eds.), *The social psychology of inter-group relations* (pp. 33–47). Monterey, CA: Brooks/Cole

van Oudenhoven, J. P., & Ward, C. (2013). Fading majority cultures: The implications of transnationalism and demographic changes for immigrant acculturation. *Journal of Community & Applied Social Psychology*, *23*(2), 81-97. https://doi.org/10.1002/casp.2132

van der Zee, K., & van Oudenhoven, J. P. (2022). Towards a dynamic approach to acculturation. *International Journal of Intercultural Relations*, *88*, 119-124. https://doi.org/10.1016/j.ijintrel.2022.04.004

Verkuyten, M., & Yildiz, A. A. (2007). National (dis)identification and ethnic and religious identity: a study among Turkish-Dutch muslims. *Personality & Social Psychology Bulletin*, 33(10), 1448–1462. https://doi.org/10.1177/
0146167207304276

Weinreich, P. (2009). 'Enculturation', not 'acculturation': Conceptualising and assessing identity processes in migrant communities. *International Journal of Intercultural Relations*, *33*(2), 124-139. https://doi.org/10.1016/j.ijintrel.2008.12.006

The Analysis of Satisfaction Levels of International Students Learning Turkish as A Foreign Language Online During The Pandemic[1]

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Abstract
The aim of this study is to investigate the satisfaction level of students regarding the education of Turkish as a foreign language (TFL) during the pandemic caused by Covid-19. This study which was carried out to shed light on the effect of distance education practices on teaching Turkish as a foreign language, is important in terms of providing students with the opportunity to evaluate the process and raising awareness in the organization of education programs. The participants were 50 international university students who enrolled in the Turkish preparatory classes of Bursa Uludağ University in the Turkish Teaching Application and Research Center (ULUTÖMER) during the academic years of 2019-2020 and 2020-2021. In the study, descriptive, relational and causal comparison methods from quantitative research methods were applied. The data within the scope of the research were obtained by using an attitude scale developed by the researcher, through a questionnaire applied to 50 volunteer students online via Google Docs Form. The analysis of the survey data was performed by using SPSS 26.0.0.0 and statistical methods such as Mann-Whitney 2, Independent Sample Test, Kruskal Wallis K, Independent Sample Test and Spearman Correlation Analysis were used to calculate the statistical findings. The statistical analysis of the questionnaire data showed that, the majority of participants who filled in the questionnaire stated that they were satisfied with the quality of online learning. In addition, students also stated that they were more satisfied with online teaching in comparison to face-to-face teaching. On the other hand, the statistical analysis further revealed that there was no significant relationship between the satisfaction levels of students learning Turkish and socio-demographic variables such as age and gender. Finally, no significant relationship was found between the comparative satisfaction levels of Turkish students and socio-demographic variables.
Keywords: Pandemic; student's satisfaction; online distance education; Turkish as a foreign language

Introduction

The COVID-19 pandemic had taken the world by surprise. During the unprecedented first months of the pandemic, when people could not come into direct contact with each other, different sectors of the economy had been forced to learn to operate with communication technologies to which they were not used to. The education sector was no exception. Within days, learners and teachers had to adapt to learning and teaching while being permanently separated from each other.

Distance education is an education system model where teachers and students do not have to be in the same place and education activities are carried out thanks to postal services and communication technologies (İşman, 2011). Distance education or distance training refers to institutionally planned learning and instruction where learners and teachers are in separate locations rather than face-to-face (Holmberg, 2005; Kaplan & Haenlein, 2016; Moore & Diehl, 2019; Simonson et al., 2015). This requires learners and teachers to communicate through electronic technologies such as television, radio, telephone, computer, tablet and the internet, or non-electronic technologies such as postal mail. Digital education refers to institutionally planned learning and instruction that takes place through electronic technologies rather than face-to-face or by postal mail (Govindasamy, 2002; Khan, 2010; Liaw et al., 2007). In other words, digital education is a form of distance education in which the medium of communication is electronic. Digital education can be synchronous online (through the internet) or offline asynchronous (through audio or video tapes, for example). In the definitions of distance and digital education above, learning and instruction are institutionally planned in the sense that they are formal and must take place through an educational organization (Holmberg, 2005 Kaplan & Haenlein, 2016; Moore & Diehl, 2019; Simonson et al., 2015). In other words, self-directed learning, incidental learning, and other forms of informal education are

[1] In this study, the findings of the master's thesis entitled "Analysis of Students' Satisfaction Learning Turkish as a Foreign Language with Online Distance Education" were used.

not considered distance or digital education. This point is emphasized because some people confuse digital education with the unplanned and informal learning that takes place through social media.
From postal correspondence in the 19th century to radio and television broadcasting in the 20th century and online courses in the 21st century, distance education has taken different forms over time (Kaplan & Haenlein, 2016; Lowenthal, 2022; Moore, 2022; see also Henri & Lundgren-Cayrol, 2001; Power, 2002; Samson & Lafleur, 2022). Although these forms are numerous, it is possible to classify them into two main categories: synchronous and asynchronous distance education. Synchronous distance learning occurs when learners and teachers participate in the course from different locations but at the same time (Davidson-Shivers et al., 2018; Davidson-Shivers & Rand, 2022; Simonson et al., 2015; see also Henri & Lundgren-Cayrol, 2001; Power, 2002; Samson, Khoi & Lafleur, 2022). On the other hand, asynchronous distance learning occurs when learners and teachers benefit from the pre-recorded course at different times at their convenience (Davidson-Shivers et al., 2018; Davidson-Shivers & Rand, 2022 ; Simonson et al., 2015; see also Henri & Lundgren-Cayrol, 2001; Power, 2002; Samson & Lafleur, 2022). In other words, while asynchronous distance learning involves learners choosing where and when to learn, synchronous distance learning involves learners choosing where to learn but participating in the course in real time on a schedule set by the learner's educational organization. For most of its history, distance education has been mostly asynchronous (Lowenthal, 2022).
Although distance education has evolved considerably in recent decades following the advent of the internet and related innovative technologies, it is only during the COVID-19 pandemic that synchronous online education has been widely adopted. With the COVID 19 epidemic, all universities in Turkey had to switch to distance education as of March 23, 2020, in online with the decisions of the Executive Board of the Turkish Higher Education Council. At that time, some universities in Turkey implemented an education model consisting of synchronous, some asynchronous, and some combination of these two (Tüzün, 2021). Hence, like all other learners, international students who learned Turkish as a foreign language had been forced to continue their studies online.
This study analyzes the level of satisfaction of students learning Turkish as a foreign language with online education as well as their comparative level of satisfaction with online and face-to-face education. The subsections below present the research problem, importance of the study, assumptions behind the research questions, delimitations, methodology, findings of the data analysis and conclusions.

Research Problem

The use of computer technologies in education offers many advantages in the field of distance education and especially in the field of foreign language teaching, but in practice, it is inevitable that distance education will bring some disadvantages. In this context, the main problem of the study which is namely *"What is the level of satisfaction of students learning Turkish as a foreign language regarding distance online education compared to face-to-face education?"* is the main concern of the study.

The research questions that the study aspires to find out answers to are:

1. What is the satisfaction level of international students learning Turkish as a foreign language regarding distance online education?
2. What are the comparative satisfaction levels of international students learning Turkish as a foreign language regarding distance online and face-to-face education?
3. The satisfaction levels of international students learning Turkish as a foreign language and their gender, age, region of origin, education level, education level of their parents, family income status, the programs they started to study after completing their Turkish language education, the number of foreign languages they know, the number of hours they are connected to the internet per day, their electronic devices. Is there a relationship between ability to use skills and online education experiences before the COVID-19 outbreak?
4. Comparative satisfaction levels of international students learning Turkish as a foreign language, as well as their gender, age, region of origin, education level, education level of their parents, family income status, the programs they started to study after completing their Turkish language education, the number of foreign languages they know, the number of hours they are connected to the Internet per day, Is there a relationship between skill levels to use devices and online education experiences before the COVID-19 outbreak?

The Importance of the Present Study

The study analyses the satisfaction levels of international students learning Turkish as a foreign language regarding distance online education using a quantitative empirical research method. In the study, survey model, which is one of the quantitative research methods, was used. The survey model is a research approach that aims to describe a past or present situation as it is (Karasar, 2002, p. 77). However, most of the existing studies adopt a descriptive perspective with the qualitative analysis method and question the place of new technologies in language learning (Acar&Peker, 2022; Kiliç and Beldag (2021); Bakioğlu&Çevik, 2020; Bayburtlu, 2020; Duman, 2020;

Çakır&Yıldırım, 2009; Akkuş&Acar, 2017) . According to Glaser and Strauss (1967), 'traditional theories' always see facts with the same eye and therefore fall short of explaining social phenomena that are in constant change. In this sense, this study is important in terms of presenting data with a quantitative perspective on the subject.

The Assumptions of the Study
In this study,

1. It was assumed that the sample in which the questionnaire was applied reflects the universe.
2. It was assumed that the students forming the sample gave sincere and objective answers to the questions.
3. It was assumed that the data collection tool was capable of revealing the views of the students.

Limitations of the Study
The findings obtained from this study are limited to the international students who enrolled at Uludağ University Turkish Teaching Application and Research Center (ULUTÖMER) during the academic years 2019-2020 and 2020-2021.

Methodology Of The Study
This section presents information about the research design, universe and sample, data collection tools and statistical analysis techniques used to process the collected questionnaire data.

Research design
The research model of the study was determined as a survey research. Survey research is a research approach which aims at representing a situation which existed or still exists as it was or is (Karasar, 2008, p.77). The study was shaped in two stages based on the problem statements. The first stage aimed at revealing the impact of socio-demographic characteristics of the participants. This was done with the help of a scaled demographic information questionnaire of which validity and reliability were calculated by the authors of the present study. In the second stage, a scale prepared to measure the satisfaction levels of students towards distance education was administred to the students. Because of this, descriptive, relational and causal comparison methods from quantitative research methods were applied. In the descriptive method, the situation of a certain subject is researched and aims to reveal the results. The relational method is a method that examines the existence of a relationship between two or more variables. In the causal comparison method, a certain variable is considered and groups that differ in terms of that variable are compared with each other. Causal comparison is a type of research that seeks to identify the variables that may affect the causes of an emerging situation and the consequences of the effect. In causal comparison studies, it is tried to determine what is the reason that affects the result (Büyüköztürk et al. 2010, p.238-239).

Participants
The participants of the study was 50 volunteer international students who enrolled at Bursa Uludağ University Turkish Language Preparatory Classes (ULUTÖMER) during the 2019-2020 and 2020-2021 academic years. As the medium of language at Bursa Uludağ University is Turkish, the Turkish language proficiency level of all international students is expected to be quite high so that they could follow courses which are delivered in Turkish. For this reason, the preparatory year they spend learning Turkish at the Turkish Teaching Centre (ULUTÖMER) is crucial in terms of their future academic success.

Data Collection Tools
In this study, a questionnaire consisting of 33 items was used to collect data. The first part of the questionnaire included 11 items about personal information. In the second part of the questionnaire, there were 11 items to measure the level of satisfaction with online TFL courses. The rest of the items (11 statements) in the third part of the questionnaire was prepared to elicit information about students' opinions on online learning in comparison to face-to-face education.
In order to determine the level of satisfaction, a five-point Likert-type scale consisting of 10 items was designed based on the studies of McKenna and Kear (1990), Kear et al. (2000), Kearney et al. (2020), McKenna et al. (2012), Conradi et al. (2013), Erarslan and Topkaya (2017), Tekinarslan et al. (2008), Olmes et al. (2021) and Turnic et al. (2022). In addition, to determine the comparative level of satisfaction of Turkish language students with online and face-to-face teaching, 10 additional items were added to the survey. Finally, two other items were included to directly measure the level of student satisfaction with online teaching and the comparative level of student satisfaction with online and face-to-face teaching. The direct measures obtained from these two items were to be compared to the score obtained from the other items. The questionnaire is 5-point Likert type and consists of "I totally agree (5)", "I agree (4)", "I am undecided (3)", "I do not agree (2)" and "I strongly disagree (1)".
Expert opinion was sought to measure the validity of the scale. For this reason, the questionnaire was prepared by taking the opinion of 5 field experts and before it was finalized, it was read and approved by a linguist. The applied expert group included in the lecturers who had been teaching in the Turkish and Educational Sciences Departments

of our university. After the necessary arrangements were made in line with the opinions of the expert group, the questionnaire was administered to 10 international students learning Turkish for trial purposes. At the end of this application, one of the survey items was removed on the grounds that it was not clear enough and the survey was given its final form.
For the reliability of the satisfaction scale, the Cronbach's Alpha internal consistency coefficients were calculated separately for the items in the second and third parts of the questionnaire, and they were found to be r=.902 and r=.939, respectively.

Figure 1. Reliability of Likert Scale Items Regarding Level of Student Satisfaction

Case Processing Summary

		N	%
Cases	Valid	50	100.0
	Excluded[a]	0	.0
	Total	50	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.902	.903	10

Figure 2. Reliability of Likert Scale Items Regarding Comparative Level of Student Satisfaction

Case Processing Summary

		N	%
Cases	Valid	50	100.0
	Excluded[a]	0	.0
	Total	50	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.939	.940	10

Data Analysis

Data analysis was performed with SPSS version 26.0.0.0, which is a statistical software program, and the obtained data were analyzed with various statistical calculation methods. The Mann-Whitney 2 Independent Sample Test, which is one of the only non-parametric statistical methods in the analysis of the data, was used in the analysis of the data, since the sample size was small (50) and the population distribution of all students who received online and face-to-face education in ULUTÖMER Turkish preparatory classes in the 2019-2020 and 2020-2021 academic years, Methods such as Kruskal Wallis K Independent Sample Test and Spearman Correlation Analysis were used.

Findings

The findings obtained as a result of the analyses based on the data of 50 international student participants are listed below:

1. **Sociodemographic Findings**

These findings were used to compare the difference in students' satisfaction perceptions in terms of qualitative and quantitative variables during the solution of the third and fourth questions in the later stages of the research.

Table 1: Distributions of Qualitative Variables

Variables		N	%
Gender	Male	33	66
	Female	17	34
	Total	50	100
Region	Sub-Saharan Africa	8	16
	North Africa and Middle East	18	36
	Europe and Central Asia	17	34
	East Asia and the Pacific	3	6
	South Asia	2	4
	North America	1	2
	Latin America and the Caribbea	1	2
	Total	50	100
Level of Education	High school or equivalent	25	50
	License or equivalent	10	20
	Masters or equivalent	15	30
	Total	50	100
Parents Education Level	Did not go to school or complete high school	8	16
	High school or equivalent	12	24
	License or equivalent	17	34
	Masters or equivalent	10	20
	PhD or equivalent	3	6
	Total	50	100
Family Income Status	Bad	2	4
	Average	31	62
	Good	15	30
	Alright	2	4
	Total	50	100
Program after Turkish Language Study	Engineering and Agriculture Programs	12	24
	Economics and Administrative Sciences Programs	10	20
	Medicine, Veterinary Medicine and Health Sciences Programs	4	8
	Education Science Programs	5	10
	Science and Agriculture Programs	10	20
	Arts and Law Programs	5	10
	Theology Program	4	8
	Total	50	100
Ability to Use Electronic Devices	Bad	2	4
	Average	6	12
	Good	24	48
	Alright	18	36
	Total	50	100
Experience with Online Teaching before Covid-19	I had no experience with online teaching	28	56
	I had completed one or more no-certified online courses	10	20
	I had completed a certified online course	8	16
	I had completed two certified online courses	2	4
	I had completed three or more	2	4

	certified online courses		
	Total	50	100

When we examine the data in Table 1, it is seen that the majority of the respondents are male in terms of gender, students of European and Central Asian origin, as well as North African and Middle Eastern countries as the geographical region they live in. In terms of education levels, it was determined that they were educated at least at the level of high school and equivalent schools and higher. The analyses of the demographic data showed that the education level of the families of these students is at least at the level of high school and equivalent schools, university and master's level, and the income level of their families is at a medium and good level.

Table 2: Distributions of Quantitative Variables

Variable		N	%
Age	<23	26	52
	23-27	13	26
	>27	11	22
	Total	50	100
Number of foreign languages spoken	1	1	2
	2-3	36	72
	4-5	10	20
	>5	3	6
	Total	50	100
Number of hours per day connected to the Internet	<4	7	14
	4-6	35	70
	>6	8	16
	Total	50	100

According to the Table 2, it is seen that the majority of the participants are younger than 23 years old and the other half are older than 23 and 27 years old. In addition, a large percentage of the participants know at least two and at most 5 languages and are multilingual students. A significant part of the participants stated that they spend 4 to 6 hours a day on the Internet.

2. Findings Obtained from the Satisfaction Survey

The findings obtained in line with the sub-problems of the research are presented below:

1. The average satisfaction level of students regarding distance online education is approximately three and a half points out of five (3,374/5).

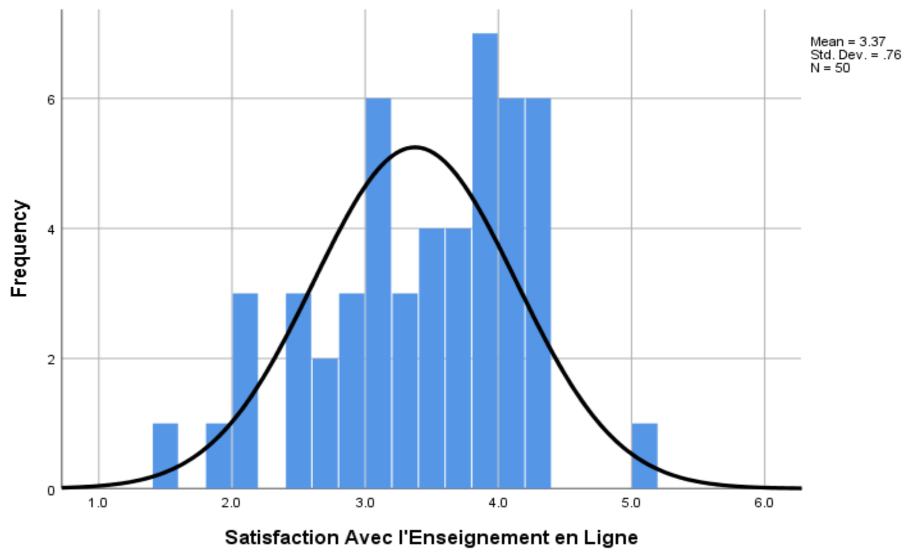

Figure 3. Satisfaction with online teaching

2. The average comparative satisfaction level of students with online and face-to-face education is about three points out of five (2,868/5).

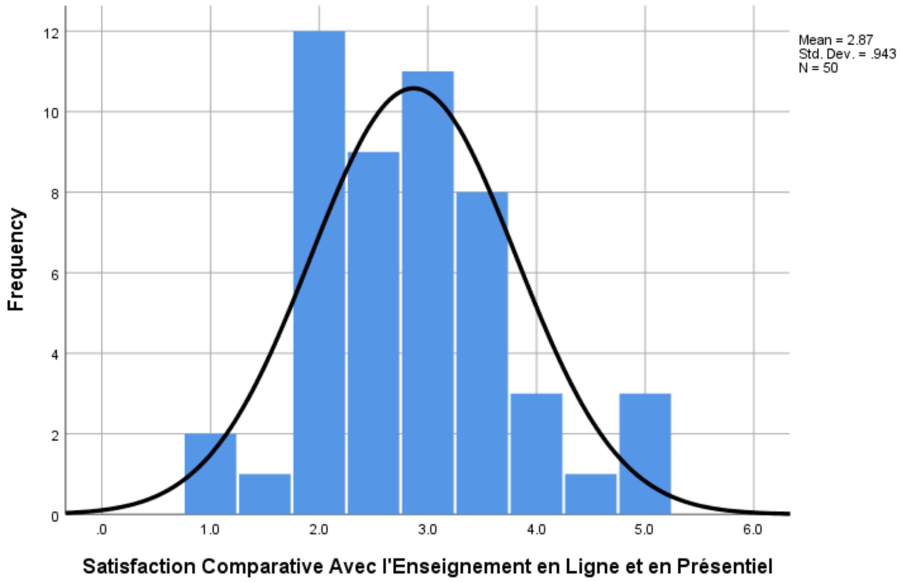

Figure 4. Comparison of satisfaction level of face-to-face education and distance education

3. There is no significant relationship between students' satisfaction levels and socio-demographic variables. In other words, students' satisfaction levels and gender, age, region of origin, education level, education level of their parents, family income status, the programs they started to study after completing their Turkish language education, the number of foreign languages they know, the number of hours they are connected to the internet per day, the ability to use electronic devices. There is no significant relationship between the participants' digital skills and their online education experiences before the COVID-19 outbreak.
4. There is no significant relationship between students' comparative satisfaction levels and socio-demographic variables. In other words, the comparative satisfaction levels of the students and their gender, age, region of origin, education level, education level of their parents, family income status, the programs they started to study after completing their Turkish language education, the number of foreign languages they know, the number of hours they are connected to the internet per day, their electronic devices. There is no significant relationship between the participants' digital skills and their online education experiences before the COVID-19 outbreak.

Discussions and Conclusions

Today, e-teaching/learning is emerging as a great modern alternative to traditional teaching/learning and has become increasingly popular in every industry. Of course, language teaching also benefits from this. The use of technology in language teaching makes it easier for both teachers and students in many areas because in distance learning the time and space barrier of traditional teaching has been removed and everyone has the possibility of receiving an education at any time and in any place. Distance education has been in use for teaching foreign language teaching. For example, Civelek & Karatepe (2021) taught speech acts successfully by using self-access course materials. The study results also indicated that students had positive feelings towards online learning.

In this study we have tried to compare the satisfaction of international students with the level of their online learning Turkish in comparison to that of face-to-face teaching, that is to say, the practices of traditional teaching. The study also looked into their online language learning motivation and the teaching/learning processes by comparing it with that of to their motivation and the teaching/learning processes in face-to-face settings. The data was also analyzed by correlating these results, based students' socio-demographic factors

In order to analyze the level of satisfaction of Turkish language students with online teaching as well as their comparative level of satisfaction with online and face-to-face teaching, a questionnaire was administered to 50 volunteer international students who are among the learners who studied online and face-to-face in Bursa Uludağ University Turkish Language Preparatory Classes (ULUTÖMER) during the 2019-2020 and 2020-2021 school years.

The results indicate that the sample of 50 students of the Turkish language indicated their satisfaction with online education given that the average level of satisfaction of these students with respect to online education is about three and a half points out of five (3.374/5). Additionally, the results showed that they were slightly more satisfied with online teaching compared to face-to-face teaching given that students' average comparative level of satisfaction with online teaching and face-to-face is about three out of five points (2.868/5) in favor of online teaching. In addition, it was found that there is no significant relationship between the level of satisfaction of Turkish language students and socio-demographic variables, due to probably the small size (50) of the sample. Finally, there is also no significant relationship between the comparative level of satisfaction of Turkish language students and socio-demographic variables, because of the same reason.

This result we reached in our study coincides with the positive results of some studies in favor of online learning (Eygü &Karaman 2013; Sapanca, 2015; Mercan 2018; Deveci, 2019; Aktürk, 2020; Aldemir, 2020; Talan, 2022). The most important reason for this may be that individuals continue their education life freely by eliminating the perception of time and space in distance education. It can also be that it puts the student at the center, supports lifelong learning, and provides students with the opportunity to learn at their own place (Talan, 2022:550). The above results are not surprising because that the survey participants of our study group are a sample of international students who are studying language in Turkey, for this reason they easily find the possibility to practice the Turkish language outside of their class. It is an exchange carried out face to face in a real situation of communication with native speakers in everyday life. In the case of this face-to-face exchange, they can not only speak but at the same time listen, understand and react in a foreign language. In other words, they have the possibility to learn and practice Turkish as a foreign language in the natural environment, in an autonomy. In addition, all survey participants are adept at using the internet and they use it frequently in all areas. Since these students have a high level of income, they have no problem accessing the Internet. Eygü and Karaman (2013) found a significant relationship between students' daily computer usage time and technology and evaluation factors. Likewise, Sapanca (2015) found in his study that the satisfaction levels of those who use the internet for 4-5 hours for teaching activities are higher than those who use the internet for 0-1 hours and 2-3 hours. This is why online learning would be rather comfortable and favorable to them for several reasons already mentioned in the theoretical framework. For example: students who do not have the opportunity to learn the language or improve their foreign language due to their work, can benefit from the advantages of cost, time and space thanks to distance education. Also, the biggest advantage is being able to take classes from the comfort of their home or workplace without putting in any extra effort.

Besides all these positive aspects, in some of the studies conducted in the field, it has been determined that students' attitudes towards distance education are negative. (Erfidan, 2019; Öztaş&Kılıç, 2017, Karatepe et al., 2020; Eroğlu&Kalaycı, 2020). Basaran et al. (2020) in their studies have come to the conclusion, according to the opinions of students, parents and instructors that there are beneficial aspects of distance education during the pandemic period, but there are problems such as limited interaction, passive participation in classes, not considering individual differences, and problems in attending classes due to hardware and internet access problems. Similarly, Karatepe et al. (2020), found in their study that teacher candidates' attitudes towards synchronous lessons were negative. In the study conducted by Eroğlu and Kalaycı (2020), students think that distance education courses are inefficient, boring and inadequate, contain simple topics and unnecessary details, and exams are easy and inadequate. In the same study, a significant part of the students stated that they could not communicate with the instructors (Eroğlu&Kalaycı, 2020).

Although all these and similar studies carried out on distance online education say otherwise, in accordance with the conclusions and the theoretical part of our study, it was found that online education is a satisfactory practice and it would be possible to achieve the intended success once the quality of distance education applications is improved.

Recommendations

To achieve this, it can be recommended to develop online teaching programs, strengthen the communication network and train and equip instructors on special teaching methods. In his study, Can (2020) emphasizes that in order to successfully maintain the distance education applied during the epidemic period, it should be done with technical equipment, access, security, content, planning, implementation, quality, regulation and pedagogical work. On the other hand, in their study examining various aspects of distance education in Turkey, Geçgel et al. (2020) states that for the success of distance education, which has come to the forefront with the pandemic process, the digital skills of teachers and students should be developed and textbooks and programs should be designed accordingly.

For future studies, it could be proposed to use a random sampling method (and not voluntary sampling) and also to use very large sample sizes (greater than or equal to 100). In this way, it would be possible to use parametric methods in the data analysis process and obtain results with higher statistical power.

References

Acar, S., & Peker, B. (2022). Matematik Öğretmenlerinin Eş Zamanlı Uzaktan Eğitime İlişkin Görüşleri. *Yaşadıkça Eğitim*, 36(2), (pp.453-471). https://doi.org/10.33308/26674874.2022362401

Akkuş, İ., & Acar, S. (2017). Eş zamanlı öğrenme ortamlarında karşılaşılan teknik sorunların öğretici ve öğrenen üzerindeki etkisini belirlemeye yönelik bir araştırma. *İnönü Üniversitesi Eğitim Fakültesi Dergisi,* 18(3),

(pp.363-376).
Aktürk, C. (2020). Uzaktan eğitim iş sürecinin eğitim 4.0 perspektifiyle yeniden yapılandırılması: Kilis 7 Aralık Üniversitesi örneği. *Akademik Araştırmalar ve Çalışmalar Dergisi (AKAD),* 12(23), (pp.322-339). doi:10.20990/kilisiibfakakademik. 732510.
Aldemir, B. (2020). *Uzaktan eğitimde keman eğitiminin uygulanabilirliliğine yönelik öğretim elemanı ve öğrenci görüşleri (Gazi Üniversitesi Örneği),* (Tez No. 638108), Yüksek Lisans Tezi, Gazi Üniversitesi, Ankara
Aydın, D. (2021). *Nitel araştırma yöntemleri nelerdir?* https://www.sosyologer.com/nicel-arastirma-yontemleri-nelerdir/
Aydın, D. (2021).Erişen, Y., Çeliköz, N. (2009). *Eğitimde Bilgisayar Kullanımı.Öğretim Teknolojileri ve Materyal Geliştirme* (Editör: Ali Ö.Demirel, E. Altun), Ankara: Pegem Akademi.
Bakioğlu, B., & Çevik, M. (2020). COVID-19 pandemisi sürecinde fen bilimleri öğretmenlerinin uzaktan eğitime ilişkin görüşleri. *Electronic Turkish Studies*, 15(4), (pp.109-129).
Başaran, M., Doğan,E., Karçoğlu, E.,&Şahin, E. (2020). Koronavirüs (Covid-19) pandemi sürecinin getirisi olan uzaktan eğitimin etkililiği üzerine bir çalışma. *Academia Eğitim Araştırmaları Dergisi*, 5(2), (pp.368-397).
Bayburtlu, Y. S. (2020). Covid-19 pandemi dönemi uzaktan eğitim sürecinde öğretmen görüşlerine göre türkçe eğitimi. *Electronic Turkish Studies, 15*(4), (pp.131-152).
Büyüköztürk, Ş., Kılıç-Çakmak, K.E., Akgün, Ö.E., Karadeniz,Ş., & Demirel.,F. (2023). *Bilimsel araştırma yöntemleri*, 34. Basım, Ankara: Pegem Akademi
Can, E. (2020). Coconavirüs (Covid-19) pandemisi ve pedagojik yansımaları: Türkiye'de açık ve uzaktan eğitim uygulamaları. *Açıköğretim Uygulamaları ve Araştırmaları Dergisi,* 6(2), (pp.11-53).
Civelek, M., & Karatepe, Ç. (2021). The Impact of Student-Paced Pragmatics Instruction through Nearpod on EFL Learners' Request Performance. *Advances in Language and Literary Studies,* 12(6), (pp. 67-78).
Conradi, K., Gee Jang, B., Bryant, C., Craft, A., & Mckenna, M. C. (2013). Measuring adolescents' attitudes toward reading. *Journal of Adolescent & Adult Literacy,* 56(7), (pp.565–576).
Davidson-Shivers, G. V., & Rand, A. (2022). Asynchronous tools for interaction and collaboration. In O. Zawacki-Richter & I. Jung (Eds.). *Handbook of open, distance and digital education*, Springer.
Deveci, M. (2019). *Türkiye'de yeni iletişim teknolojilerinin yükseköğrenim kurumlarında uzaktan eğitim alanında kullanımı*. Yayımlanmamış doktora tezi, Marmara Üniversitesi,, İstanbul
Erarslan, A.& Topkaya, E. Z. (2017). EFL students' attitudes towards e-learning and effect of an online course on students' success in English. *The Literacy Trek,* 3(2), (pp.80–101).
Erfidan, A. (2019). *Derslerin uzaktan eğitim yoluyla verilmesiyle ilgili öğretim elemanı ve öğrenci görüşleri: Balıkesir Üniversitesi örneği*. Yüksek lisans tezi, Balıkesir Üniversitesi, Balıkesir, Türkiye
Eroğlu, F.&Kalaycı,N. (2020). Üniversitelerdeki zorunlu ortak derslerden Türk dili dersinin uzaktan ve yüzyüze eğitim uygulamalarının karşılaştırılarak değerlendirilmesi, *Ana Dil Eğitimi Dergisi*, 8(3), (pp.1001-1027). doi:10.16916/aded.710396
Evans, T., & Jakupec, V. (2022). Classic theories of distance education: Context and interpretations. In O. Zawacki-Richter & I. Jung (Eds.), *Handbook of open, distance and digital education*. Springer. https://doi.org/10.1007/978-981-19-0351-9_7-1
Eygü, H.,&Karaman,S. (2013). Uzaktan eğitim öğrencilerinin memnuniyet algıları üzerine bir araştırma. *Kırıkkale Üniversitesi Sosyal Bilimler Dergisi*, 3(1), (pp.36-59).
Eymen, E. (2007). *SPSS 15.0 veri analiz yöntemleri*. İstatistik Merkezi. www.istatistikmerkezi.com
Geçgel,H., Kana,F. & Eren, D.(2020). Türkçe eğitiminde dijital yetkinlik kavramının farklı değişkenler açısından incelenmesi . *Ana Dili Eğitimi Dergisi*, 8(3), (pp.886-904).
Gérin-Lajoie, D., & Wilson, D. (1999). *Technologies et facilitation de l'apprentissage*. Réseau d'enseignement francophone à distance du Canada (REFAD).
Glaser, B.&Strauss, A.L.(1967). *Discovery of grounded theory: Strategies for qualitative research*, Chicago: Aldine
Govindasamy, T. (2002). Successful implementation of e-learning: Pedagogical considerations in *The Internet and Higher Education,* 4, (pp.287–299).
Henri, F., & Lundgren-Cayrol, K. (2001). *Apprentissage collaboratif à distance*. Presses de l'Université du Québec.
Holmberg, B. (2005). *Theory and practice of distance education* (2nd ed.). Routledge.
Houston, A. & Baş, T. (Çeviren). (2017). *Anket hazırlama kılavuzu*. http://www.istatistikmerkezi.com/
İşman, A. (2011). *Uzaktan eğitim.* Ankara: Pegem Akademi, 4. Baskı.
Kaplan, A. M., & Haenlein, M. (2016). Higher education and the digital revolution: About MOOCs, SPOCs, social media, and the Cookie Monster. *Business Horizons,* 59(4), (pp.441–450). https://doi.org/10.1016/j.bushor.2016.03.008
Karasar, N. (2008). *Bilimsel Araştırma Yöntemleri.* İstanbul: Nobel Yayın Dağıtım.

Karatepe,F., Küçükgençay, N.&Peker, B. (2020). Öğretmen adayları senkron uzaktan eğitime nasıl bakıyor? Bir anket çalışması. *Journal of Social and Humanities Sciences Research*, 7(53), (pp.1262-1274).
Kear, D. J., Coffman, G. A., McKenna, M. C., & Ambrosio, A. L. (2000). Measuring attitude toward writing: A new tool for teachers. *The Reading Teacher*, 54(1), (pp.10–23).
Kearney, S., Gallagher, S., & Tangney, B. (2020). ETAS: An instrument for measuring attitudes towards learning English with technology. *Technology, Pedagogy and Education.* https://doi.org/10.1080/1475939X.2020.1764381
Keegan, D. (2005). *Theoretical principles of distance education*. Routledge. https://doi.org/10.4324/9780203983065
Khan, B. H. (2010). The global e-learning framework. (pp.42–51) https://www.academia.edu/2478561/The_Global_e_Learning_Framework_by_Badrul_H_Khan.
Kilic, A. & Beldag, A. (2021). Sosyal Bilgiler Öğretmenlerinin Uzaktan Eğitim Süreçlerine İlişkin Görüşleri: Nitel Bir Çalışma. *Sosyal Bilimler ve Değerler Eğitimi Dergisi*, 2(1), (pp.1-23). doi:10.29329/jsve.2021.410.1
Lafleur, F., Khoi,M. H.&Samson,G. (2022). *L'enseignement des mathématiques: une transition des cours en présentiel vers la formation à distance*, Presses de l'Université du Québec
Liaw, S. S., Huang, H. M., & Chen, G. D. (2007). Surveying instructor and learner attitudes toward e-learning. *Computers and Education*, 49(4), 8, (pp.1066–1080). https://doi.org/10.1016/j.compedu.2006.01.001
Lowenthal, P. R. (2022). *Synchronous tools for interaction and collaboration*. In O. Zawacki-Richter & I. Jung (Eds.), Handbook of open, distance and digital education. Springer. McKenna, M. C., Conradi, K.,
Lawrence, C., Jang, B. G., & Meyer, J. P. (2012). Reading attitudes of middle school students: Results of a U.S. survey. *Reading Research Quarterly*, 47(3), (pp.283–306). https://doi.org/10.1002/RRQ.021
McKenna, M. C., & Kear, D. J. (1990). Measuring attitude toward reading: A new tool for teachers. *The Reading Teacher*, 43(9), (pp.626–639).
McKenna, M. C., Conradi, K., Lawrence, C., Jang, B. G., & Meyer, J. P. (2012). Reading attitudes of middle school students: Results of a U.S. survey. *Reading Research Quarterly*, 47(3), (pp.283–306). https://doi.org/10.1002/RRQ.021
Mercan, A.(2018*). Üniversite öğrencilerinin uzaktan eğitim ile ilgili görüşleri ve hazır bulunuşlukları: Afyon Kocatepe Üniversitesi*, Yüksek lisans tezi, Afyon Kocatepe Üniversitesi, Afyon, Türkiye
Moore, Michael Graham, & Diehl, W. C. (Eds.). (2019). *Handbook of distance education* (4th ed.). Routledge.
Moore, Michael Grahame, & Marty, O. (2015). *La théorie de la distance transactionnelle*. HAL Open Science. https://shs.hal.science/halshs-00777034/document
Olmes, G. L., Zimmermann, J. S. M., Stotz, L., Takacs, F. Z., Hamza, A., Radosa, M. P., Findeklee, S., Solomayer, E. F., & Radosa, J. C. (2021). Students' attitudes toward digital learning during the COVID-19 pandemic: a survey conducted following an online course in gynecology and obstetrics. *Archives of Gynecology and Obstetrics*, 304(4), (pp.957–963). https://doi.org/10.1007/s00404-021-06131-6
Öztaş, S. &Kılıç, B. (2017). *Atatürk ilkeleri ve inkılap tarihi dersinin uzaktan eğitim şeklinde verilmesinin üniversite görüşleri açısından değerlendirilmesi (Kırklareli Üniversitesi Örneği)*. Turkish History Education Journal, 6(2), (pp.268-293).
Power, M. (2002). Générations d'enseignement à distance, technologies éducatives et médiatisation de l'enseignement supérieur. *Revue de l'Éducation à Distance*, 17(2), (pp.57–69).
Sapanca, H.F. (2015). *Satisfaction level of teacher candidates in online learning: case study of Eastern Mediterranean University* , Master thesis, Eastern Mediterranean University, Gazimağusa
Simonson, M., Smaldino, S., & Zvacek, S. (2015). *Teaching and learning at a* distance (6th ed.). Information Age Publishing.
Talan,T. (2022). Üniversite öğrencilerinin uzaktan eğitime ilişkin memnuniyet algıları üzerine bir araştırma. *Bayburt Eğitim Fakültesi Dergisi*, 17(34), (pp.537-558).
Tekinarslan, E. (2008). Attitudes of Turkish distance learners toward internet-based learning: An investigation depending on demographical characteristics. *Turkish Online Journal of Distance Education*, 9(1), (pp.67–84).
Tüzün, F.,& Yörük-Toraman,N. (2021). Pandemi dönemindeuzaktan eğitim memnuniyetini etkileyen faktörler, *Ömer Halisdemir Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 14 (3), (pp.822-845)

The Development of a Training Curriculum to Enhance Knowledge and Understanding of COVID-19 and the New Normal Learning Management for Student Teachers

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Abstract
The objectives of this research were to: 1) develop a training course to enhance knowledge and understanding of COVID-19 and the management of education in the new normal era for student teachers, 2) study the effectiveness of the training course; 3) compare the knowledge and understanding of student teachers before and after the training; and 4) study the satisfaction of student teachers towards the training course. The research sample group consisted of 17 third-year student teachers who were studying in the Bachelor of Education program at Rajamangala University of Technology Thanyaburi. The sample group was selected using a multi-stage random sampling method. The research tools used were: 1) a training course curriculum, 2) a knowledge and understanding assessment questionnaire, and 3) a satisfaction survey questionnaire. The statistical analysis used to analyze the data included mean, standard deviation, E1/E2 efficiency ratio calculation, and t-test for dependent samples. The research findings were as follows: 1) the training course effectively enhanced knowledge and understanding of COVID-19 and the management of education in the new normal era for student teachers, 2) the training course had an efficiency ratio (E1/E2) of 83.82/80.98, 3) the knowledge and understanding of student teachers significantly improved after the training, with statistical significance at the 0.05 level, and 4) student teachers' satisfaction with the training course was high.
Keywords: Training curriculum, Knowledge and understanding, Satisfaction.
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Introduction

The 21st-century world has undergone rapid, unpredictable, and unforeseen changes that challenge sustainability. These transformations have prompted a societal shift known as the VUCA World or the 'New Normal,' characterized by four aspects. Firstly, volatility—where the world and its environments undergo unpredictable changes, making forecasts difficult. Secondly, uncertainty—reflecting a world rife with unpredictability, making decision-making challenging. Thirdly, complexity—signifying the intricate and tangled nature, making causality and comprehension difficult. Lastly, ambiguity—pertaining to situations lacking clarity (Jaitip and Chienwattanasook, 2018). These circumstances have led Thailand to confront significant changes and contend with pressures arising from highly volatile external and internal circumstances. These arise from leaps in technology, posing challenges in the country's development across dimensions like security, economy, society, and the environment. As a result, given the interconnectedness of all development dimensions, the nation must adopt comprehensive, well-integrated, and inclusive development strategies. Thailand requires high-quality human capital with the most recent skills needed to cope with the rapidly changing environment. This will help all Thais adjust swiftly and live high-quality lives with stable job and incomes. This is particularly important when it comes to education, which is the main engine propelling the country ahead. (Office of the National Economic and Social Development Council. (2018).

Education development to cope with the challenges and changes expected to occur within the framework of learning in the 21st century aims to instill characteristics in learners that are essential for the 21st century. Students are expected to utilize knowledge in core subjects to integrate experiences with three crucial skills for thriving in the 21st century: learning and innovation skills, information, and communication technology (ICT) skills, and life and career skills (Partnership for 21st Century Skills, 2010). People in the 21st century need to be individuals who are ready to learn and work as knowledge workers (Panich, 2012).

In driving the development of quality education, teachers play a crucial role as the quality of learners depends on the quality of educators. Developing and producing teachers, especially new generations of teaching students, requires the cultivation of competencies to adapt rapidly to changes (McKinsey, 2007). Therefore, adaptability and flexibility become particularly vital competencies for teaching students (Nukew et al., 2020), Considering the ongoing global health crisis caused by the COVID-19 pandemic, the World Health Organization (WHO) has designated it as a widespread disease that has affected numerous countries worldwide. The rapid transmission and extensive reach of the virus have created a state of emergency, leading to profound implications for educational management not only in Thailand but also across the globe. The repercussions of this crisis have had both direct and indirect effects on the educational sector, necessitating immediate action and adaptation.

Office of the Basic Education Commission, The Ministry of Education. (2020) has outlined guidelines for managing teaching and learning during the COVID-19 crisis at all levels and types of education institutions as follows: 1) On Site refers to the learning and teaching activities that focus on organizing learning experiences in schools or classrooms as the main approach. Teachers can integrate other teaching and learning formats into on-site learning, such as learning through television (On Air) or learning through the Internet (Online). 2) On Air refers to remote learning through digital and satellite television systems to provide students access to learning from their homes. 3) Online refers to the method of studying through the Internet, where students can choose to study according to their interests. Teachers may also assign learning content, allowing students to access the material independently from anywhere at any time.

Due to changes in teaching management caused by the spread of the coronavirus disease 2019 (COVID-19), teaching students must be prepared for the transformation in teaching methods in the 'New Normal,' a new way of life that differs from the past. This new normalcy involves adopting unfamiliar standards and practices that people in society were not accustomed to and couldn't predict in advance, necessitating a shift to new standards unfamiliar in this new way of life (Mathuros, 2021). Therefore, stakeholders, especially teaching students who will be the new generation of educators, need knowledge, skills, and an attitude regarding COVID-19 to integrate and apply it in the management of teaching in this new normalcy.

The development of training curricula to enhance knowledge and understanding of COVID-19 and the organization of learning in the new normal for teaching students is a preparation to equip them with knowledge, skills, and an attitude to adapt constantly to ever-changing situations. This readiness allows them to apply their knowledge to enhance teaching practices for the benefit of future learners. As mentioned by Getmaro (2012), the development of training curricula leads to knowledge, understanding, and expertise in specific areas, resulting in behavioral changes aligned with the training objectives. Especially in today's rapidly advancing technological landscape, continuous learning and staying updated are crucial. As Bangmo (2013) stated, a lack of forward-thinking leads organizations to fall behind. Hence, in this era of rapid changes in knowledge and various aspects, the development of training curricula becomes immensely significant and beneficial. Consequently, researchers are interested in developing training curricula to enhance knowledge and understanding of COVID-19 and the management of learning in the new normal for student teachers.

Research Objectives

1) To develop a training course to enhance knowledge and understanding of COVID-19 and the organization of learning in the new normal era for student teachers.
2) To study the effectiveness of the training course designed to enhance knowledge and understanding of COVID-19 and the organization of learning in the new normal era for student teachers.
3) To compare the knowledge and understanding of COVID-19 and the organization of learning in the new normal era for student teachers before and after training with the designed training course.
4) To investigate the satisfaction of student teachers with the training course aimed at enhancing knowledge and understanding of COVID-19 and the organization of learning in the new normalcy.

Research Framework

Conceptual framework for the research can be summarized as illustrated in Figure 1.

(Research–R1: Analysis)	(Development–D1: Design and Development)	(Research–R2: Implementation)	(Development–D2 : Evaluation)
1. Study theories, documents, and relevant research in curriculum development for training programs. 2. Study the training needs for developing a training curriculum	1. Design and develop a training curriculum comprising 1) principles and rationale, 2) main objectives of the training program, 3) content of the training curriculum, 4) curriculum framework, 5) training implementation guidelines	Implement the curriculum by conducting training for 17 teacher students at Rajamangala University of Technology Thanyaburi. This	1. Assessing actual knowledge and understanding of assessment practices. 2. Evaluating feedback on the curriculum after

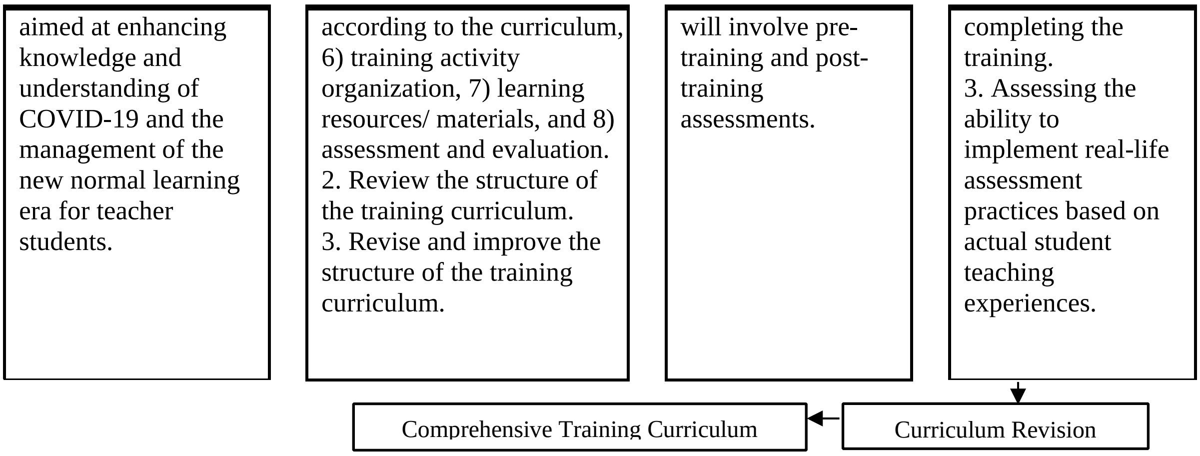

Figure 1 Research Framework

Methodologys

This research was research and development (R&D) consists of four research steps, as follows: 1) Study and analysis of basic data (Research–R1: Analysis), 2) Design and development of training curriculum (Development–D1: Design and Development), 3) Implementation of the training curriculum (Research–R2: Implementation), and 4) Evaluation and effectiveness assessment of the training curriculum (Development–D2: Evaluation). The details are as follows:

1. Research–R1: Analysis

This stage involves studying fundamental data to gather information and understand the problems related to COVID-19. It aims to analyze essential data necessary for the training curriculum development and assess the situation and training needs regarding COVID-19 and the new normal learning management for teacher students. The process includes two steps:

Step 1: Reviewing related documents and research works concerning teacher development standards, curriculum development, research, and pandemic teaching management. This aims to analyze and synthesize information to create a framework for the training curriculum development through content analysis.

Step 2 involved studying the conditions and training needs regarding COVID-19 and the new normal learning management for teacher students. This focused on the scope, content, methods, formats, and duration of training. An inquiry survey was conducted to explore the opinions of 322 students majoring in Bachelor of Education at the Rajamangala University of Technology Thanyaburi regarding the COVID-19 situation and the new normal teaching practices. The survey aimed to identify training needs, knowledge, and understanding about COVID-19 and the new normal learning management for teacher students. The survey, conducted as a checklist, had an index of conformity with a value greater than or equal to .50. The analysis revealed that the conformity index was between 0.8 to 1, with a reliability value of 0.97. Subsequently, this data was collected and compiled with a sample group of 250 third-year students from the Bachelor of Education program at Rajamangala University of Technology Thanyaburi, first semester of the academic year 2565, using a multi-stage random sampling. Data analysis involved mean (X), standard deviation (S.D.), and percentage.

2. Design and Development of Training Curriculum (Development–D1: Design and Development)

This phase aims to design and develop the training curriculum to enhance knowledge and understanding regarding COVID-19 and the new normal learning management for teacher students. It involves reviewing the training curriculum and making necessary improvements and adjustments. The process consists of two steps as follows:

Step 1: Developing a Draft Training Curriculum. The components of the curriculum include the following: Principles and rationale, objectives of the training curriculum, curriculum content, curriculum structure, training implementation guidelines according to the curriculum, training activity arrangements, target groups, schedule (day, time, location), learning materials/equipment, and assessment and evaluation.

Step 2: Reviewing the Suitability of the Training Curriculum and Consistency of its Components. In this step, the aim is to assess the appropriateness of the training curriculum and the coherence of its components. It involves a detailed examination to ensure that the curriculum aligns with its intended objectives and meets the criteria for effectiveness.

Step 3: Refining the Training Curriculum. Following the review, any identified issues, or areas for improvement in the training curriculum are addressed in this step. The draft curriculum is revised and enhanced according to the recommendations provided by experts. This iterative process is crucial for developing a comprehensive and refined training curriculum ready for implementation in subsequent stages.

3. Implementation of the training curriculum (Research–R2: Implementation)
Once the comprehensive training curriculum is developed, it is time to test its effectiveness. The curriculum is implemented with a sample group using a pre-experimental design to evaluate its efficiency. The objectives of this phase are to experiment with the developed training curriculum and assess its effectiveness.

The research methodology employs a pre-experimental design known as the "One Group Pretest-Posttest Design" (Kerlinger, 1986, p.295). The population consists of third-year student teachers across seven specializations in the Bachelor of Education program at Rajamangala University of Technology Thanyaburi, totaling 322 students. For this research, a sample group of 17 student teachers from the Digital Technology for Education program, randomly selected using a multi-stage random sampling method, will undergo the experimental phase in the first semester of the academic year 2022.
The research tools include: 1) a training curriculum aimed at enhancing knowledge and understanding of COVID-19 and the management of the new normal learning for student teachers, and 2) a knowledge and understanding test regarding COVID-19 and the management of new normal learning. The test has difficulty levels ranging from 0.40 to 0.80, with a discriminatory power of 0.70 to 0.79, satisfaction assessment questionnaire for the training curriculum on COVID-19 and the management of new normal learning. The satisfaction assessment questionnaire utilizes a Likert Scale, with a conformity index of 0.80 - 1. This stage will provide valuable insights into the practical application and effectiveness of the developed curriculum.

4. Evaluation and effectiveness assessment of the training curriculum (Development–D2: Evaluation)
The evaluation of the experimental use of the training curriculum is conducted with two main objectives: 1) assessment of Effectiveness: to evaluate the effectiveness of the training curriculum in enhancing knowledge and understanding of COVID-19 and the management of the new normal learning for student teachers, 2) the evaluation focuses on two aspects: knowledge and understanding, and the assessment of satisfaction, 3) Curriculum Improvement: to identify areas for improvement and modification of the training curriculum. Procedure:

Step 1: Assessing Effectiveness and Student Satisfaction. This involves assessing the effectiveness of the training curriculum and evaluating student satisfaction. Student teachers from Rajamangala University of Technology Thanyaburi are involved in this assessment.

Step 2: Curriculum Improvement. The second step involves refining the curriculum based on the analysis of gathered data. This refinement encompasses both structural and component aspects of the curriculum to achieve a comprehensive and improved training curriculum.

Data Analysis: Effectiveness Assessment (Step 1): Scores obtained from pre-training and post-training activities are used to calculate the effectiveness ratio (E1/E2) (Phommawong, 2002). A criterion for effectiveness, such as 80/80, is applied. Comparative Analysis (Step 2): The average scores of knowledges and understanding of student teachers before and after the training are compared using a t-test for dependent samples. Satisfaction Analysis (Step 3): Student satisfaction with the training curriculum is analyzed using mean and standard deviation. This systematic evaluation provides valuable insights into the success of the training curriculum and highlights areas for enhancement and further development.

Findings
Results of Data Analysis Presented According to the Research and Development (R&D) Process:

1. Study and analysis of basic data (Research–R1: Analysis)
Results of the Study on the Situation and Training Needs Regarding COVID-19 and New Normal Learning Management for Teacher Students: In total, 322 respondents participated in the questionnaire survey. The majority were male, comprising 116 individuals, accounting for 36%. The Faculty of Fine Arts had the highest representation with 171 individuals, constituting 53.1%, followed by the Thai Fine Arts with 99 individuals,

representing 30.7%. Most students, a total of 255 individuals (79.2%), had never attended training courses to enhance their knowledge and understanding of COVID-19 and the management of new normal learning. However, 194 students (60.2%) expressed the highest interest in participating in such training. Among the training topics, 166 students (51.6%) were most interested in training on the design of teaching management in the new normal era. A majority of 222 students (68.9%) preferred training courses lasting for 12 hours. Additionally, 161 students (50%) found it convenient to attend training on COVID-19 and new normal learning management on Saturdays and Sundays.

2. Design and development of training curriculum (Development–D1: Design and Development)
Development of Training Curriculum to Enhance Knowledge and Understanding of COVID-19 and New Normal Learning Management for Teacher Students. The crucial components of the training curriculum development are as follows: 1) Principles and rationale 2) Objectives of the training curriculum 3) Content of the training curriculum 4) Structure of the training curriculum 5) Implementation guidelines for the curriculum 6) Training activity organization 7) Learning materials/equipment 8) Measurement and evaluation. The training curriculum is highly appropriate, with an average rating of 4.35 (on a scale of 1 to 5, where 5 is the highest) and a standard deviation of 3.07. The Index of Item-Objective Congruence (IOC) is between 0.80-1.00, indicating a high level of alignment.

3. Implementation of the training curriculum (Research–R2: Implementation)
In this step, the researcher conducted a training experiment to enhance knowledge and understanding of COVID-19 and the management of new normal learning for third-year teacher students at Rajamangala University of Technology Thanyaburi. The training involved 17 students and took place from March 23 to 24, 2023, totaling 12 hours. There were four learning management plans used in the experiment.

4. Evaluation and effectiveness assessment of the training curriculum (Development–D2: Evaluation).
4.1 Analysis to determine the effectiveness of the training program by comparing the scores obtained during training activities with the scores after training. The analysis involves calculating the E1/E2 ratio according to the effectiveness criteria of 80/80.

Table 1 The average, standard deviation, and efficiency of the training process (E1) of the training program.

Unit of study	N	Full Score	The Score Obtained			
			$\sum X_2$	$\bar{x}$	S.D.	Percentage
1	17	5	71	4.17	3.85	83.40
2	17	5	65	3.82	3.97	76.40
3	17	5	74	4.35	2.98	87.00
4	17	5	75	4.41	3.91	88.22
Total		20	285	16.76	3.45	83.82
The effectiveness of the process (E1) is 83.82.						

From Table 1, it is found that the average score for knowledge and understanding during learning is 16.76 out of a total of 20 points, which translates to 83.82%. This indicates that the developed training curriculum has an effectiveness of the process (E1) equal to 83.82, exceeding the set criterion of 80.

Table 2 The mean, standard deviation, and effectiveness of the outcomes (E2) of the training program.

N	Full Score	The Score Obtained			
		$\sum X_i$	$\bar{x}$	S.D.	Percentage
17	30	413	24.29	4.01	80.98
The effectiveness of the process (E1) is 80.98					

From Table 2, it is found that the average score for knowledge and understanding in the post-training test is 24.29 out of a full score of 30, which is 80.98%. This indicates that the developed training program is effective in terms of outcomes (E2) with a score of 80.98%, which is higher than the set criterion of 80.

Table 3 The result of determining the effectiveness of the training program according to the 80/80 criterion.

N	The process measurement			Posttest			E_1/ E_2
	$\sum X_2$	A	E_1	$\sum X_2$	B	E_2	
17	285	16.76	83.82	413	24.29	24.29	83.82/80.98

From Table 3, it is observed that the average score for knowledge and understanding in the post-training tests for all four lessons is 16.76 out of a full score of 20, which is 83.82%. Additionally, the score from the assessments measuring knowledge and understanding after the training is 24.29 out of a full score of 30, equivalent to 80.98%. Therefore, the developed training program demonstrates effectiveness (E1/E2) with scores of 83.82/80.98, surpassing the set criteria of 80/80.

Table 4 Effectiveness Index (E.I.)

The analysis result	Effectiveness Index (E.I.) 0.6560	Percentage of Effectiveness Index 65.60
Interpreting the results	After training using the training curriculum, there was an increase in scores by percentage	65.60

From Table 4, it is found that the Effectiveness Index (E.I.) is 0.6560, which is 65.60%. In summary, after learning with the training program, the score increased by 65.60%.

4. 2 Comparison of the average scores of knowledges and understanding of teacher students at Rajamangala University of Technology Thanyaburi before and after training with the training program, using the dependent samples t-test.

Table 5 The average scores before and after training on knowledge and understanding of COVID-19 and the new normal teaching management.

Testing	N	$\bar{x}$	S.D.	df	t-test	Sig. (2-tailed)
Pre-test	17	13.41	2.71	16	-10.88**	0.00
Posttest	17	24.29	4.01			

**p< .05

Table 5 shows the average scores before and after training on knowledge and understanding of COVID-19 and new normal learning management for teacher students. Before training, the average score was 13.41 with a standard deviation (S.D.) of 2.71. After training, the average score increased to 24.29 with a standard deviation (S.D.) of 4.01. When subjected to statistical testing, the post-training average score was significantly higher than the pre-training score at a statistical significance level of .05.

4.3 Results of the study on satisfaction of trainees with the training program to enhance knowledge and understanding of COVID-19 and the new normal teaching management for teacher students were found to be at the highest level ($\bar{x}$=4.69, S.D. = 0.39). When considering specific aspects, overall satisfaction in every aspect was rated at the highest level. The ratings from highest to lowest were as follows: Location/Duration ($\bar{x}$ = 4.73, S.D. = 0.41), Training ($\bar{x}$ = 4.71, S.D. = 0.31), Knowledge and Understanding ($\bar{x}$ = 4.70, S.D. = 0.58), Instructors ($\bar{x}$ = 4.68, S.D. = 0.37), and Application of Knowledge ($\bar{x}$ = 4.63, S.D. = 0.54).

Discussions

1. Based on the results of developing and ensuring the quality of the training curriculum aimed at enhancing knowledge and understanding of COVID-19 and new normal learning management for teacher students, consultations with thesis advisors, and guidance from expert reviewers to examine the content validity, it was found that the training curriculum is highly suitable. This may stem from the systematic development of the curriculum, which involved studying documents and research related to teacher production and development standards, new normal teaching and learning management, curriculum development, researching and developing the curriculum, as well as studying the conditions and training needs related to COVID-19 and new normal learning management for teacher students. This process led to fundamental theoretical concepts in development, with the training curriculum comprising: 1) Principles and rationale, 2) Objectives of the training curriculum, 3) Content of the training curriculum, 4) Structure of the training curriculum, 5) Implementation guidelines for the curriculum, 6) Training activity organization, 7) Learning materials/equipment, 8) Measurement and evaluation. The curriculum underwent expert review to assess its appropriateness and was revised based on their recommendations, resulting in a high-quality curriculum.

2. Based on the assessment and determination of the effectiveness of the training curriculum aimed at enhancing knowledge and understanding of COVID-19 and new normal learning management, it was found that the

developed training curriculum had an effectiveness ratio (E1/E2) of 83.82/80.98, surpassing the set criterion of 80/80. This could be attributed to the systematic and appropriate development process of the research-generated training curriculum, aligning with the research and development process for the training curriculum. Hence, this curriculum proved to be efficient in enhancing knowledge and understanding of COVID-19 and new normal learning management. This aligns with the research findings of Kaewtong (2020), who studied the development of training curricula to enhance professional experience competencies for Bachelor of Education students majoring in Physical Education at Rajabhat University. The average effectiveness outcome (E1/E2) was found to be 81.52/80.78, surpassing the set criteria.

3. Upon comparing the average scores of knowledges and understanding among teacher students before and after training using the training curriculum, it was evident that the average score after training was significantly higher than before, at a statistical significance level of .05. This improvement might be attributed to the experiential learning within the training curriculum, where the content and assignments aimed to facilitate practical learning. It involved applying various theories and concepts into practical exercises through individual tasks and group activities, supplemented by guidance from instructors.

The analysis of satisfaction among trainees towards the training curriculum aimed at enhancing knowledge and understanding of COVID-19 and new normal learning management for teacher students revealed an overall highest level of satisfaction ($\overline{X}$ = 4.69, S.D. = 0.39). Upon examining individual aspects, it was found that all facets of trainee satisfaction were at the highest level. This can be attributed to the curriculum's development process, which involved surveying student requirements before curriculum development and aligning the curriculum design according to these needs, consistent with the study of Wongdaeng et al., (2018) on development of a training curriculum to enhance the 21st century learning skills for teacher student in Rattanakosin Rajabhat University, the research findings showed that the teacher students were better after the training than they were before at the.05 level of significance. Ultimately, the results of the satisfaction survey showed that students were quite satisfied with the training program overall.

Conclusions

In this new era, developing competencies through training curricula is one way to enable educators and teacher students to adapt swiftly to the rapid changes occurring. It prepares them to embrace the transformation in teaching and learning processes in this new normal, which differs significantly from the past. This new normal represents a novel way of life, impacted by various factors that necessitate a shift in societal norms and practices. Learning management in this new era involves designing learning experiences that leverage technology, empowering learners to set their learning goals, methods, and self-assessment. This aims to enable them to effectively apply acquired knowledge for personal development, a departure from traditional learning design approaches.

References

Bangmo, S. (2013). Techniques in Training and Conference (4th Edition). Bangkok: Pimdeekarnpim.

Getmaro, C. (2012). Curriculum Development for Leadership Development Training. Doctoral dissertation, Ramkhamhaeng University.

Jaitip, C., and Chienwattanasook, K. (2018). The Capacity of Business Leaders in a Global Situation Characterized by Volatility, Uncertainty, Complexity and Ambiguity. Burapha University Business Administration Journal, 7(1), 1-14.

Kaewtong, S. (2020). Development of a Training Curriculum Program to Supplement and Enhance Teacher Professional Competency Bachelor of Education Program Students in the Physical Education Major at Rajabhat University. Doctoral dissertation, Srinakharinwirot University.

Mathuros, S. (2021) Management Education Online in the NEW NORMAL COVID-19. Rajapark Journal. 15(40) May - June 2021, 33-42.

McKinsey. (2007). Report on Education. (2014). Retrieved from http//www.mckinsey.com.

Nukew, S., Jermtaisong, R., and Poonsuwan, S. (2021). Post COVID-19 Competencies of Teachers. Public Health in the 21st Century. New York: Nava Science Publishers.

Office of the Basic Education Commission, The Ministry of Education. (2020). Guidelines for School Teaching Management for Schools under the Basic Education Commission in the Situation of the Spread of the Coronavirus Disease 2019 (COVID-19) during the Academic Year 2020. Retrieved from https://drive.google.com/file/d/1Ri9cTu9WZFZ6pPq4GivWC8wN_GiDrLXp/view

Office of the National Economic and Social Development Council. (2018). National Strategy 2018 – 2037 (Thai Government Gazette). Retrieved from: http://nscr.nesdc.go.th/ns/.

Panich, V. (2012). The way to create learning for pupils in the 21st century (3rd ed.). Bangkok: Sodsri Foundation.

Partnership for 21st Century Skills. (2010). Framework definition. Retrieved from http://www.p21.org/ documents/ P21-Framework-Definitions.pdf

Wongdaeng, S., Sethachan, P., and Singkrut, W. (2018). The Development of a Training Curriculum to Enhance the 21st Century Learning Skills for Teacher Student in Rattanakosin Rajabhat University. Social Sciences Research and Academic Journal. 13 (37), 75-90.

The Effect of Artificial Intelligence Supported Advertising Films on Students: Cola-Cola Masterpiece Commercial Movie Example

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Abstract
The field of advertising has a structure that shapes consumer preferences and behaviors. The field of advertising undertakes the tasks of reflecting cultural values and norms, reinforcing or changing gender roles, and supporting social responsibility and campaigns. In addition, advertising, whose main purpose is sales, has a structure that shapes and informs society when considered in social dimensions. Artificial intelligence, which is today's developing and rising technology, is a technological tool that brings the physical and digital world together and affects many other fields such as economy, industry, social field, education. It is thought that the widespread integration of these technologies, which we use in almost every aspect of our daily lives, in the education sector has a significant potential for progress.
In this context, in this study, the attitudes of students studying at universities in the TRNC towards artificial intelligence applications were analyzed in order to make sense of the impact of artificial intelligence technology used in the field of advertising, which reaches social dimensions, affects social situations and changes with the effects of developing and changing technologies, on students studying. In addition, the impact of advertisements developed with artificial intelligence on education was also analyzed.
Keywords: Artificial Intelligence, Advertising, Education and Advertising, Artificial Intelligence and Advertising.

Introduction

Advertising, whose main purpose is to persuade the target audience and deliver the targeted campaigns to the audience through many channels, is spread over a wide spectrum as a sector. In other words, while advertising activities inform consumers about goods and services, they also influence consumers' purchasing behavior by using marketing activities. Advertisements have a structure that can shape consumers' preferences and behaviors, reflect cultural values and norms, reinforce or transform gender roles, and sometimes even cause controversial issues in society.
In addition, when advertising, whose main purpose is sales, is considered in social dimensions, it has a structure that directs and informs the society. Advertising is also a reflector of society. It would be a correct approach to say that this situation is related to the fact that advertising carries cultural values and that product brands are shaped according to the values of society and reflect these situations. In other words, it gives the society what it expects in the way the society expects. Therefore, it would be correct to say that advertisements have a significant impact on society.
With the impact of developing and changing technological approaches, people are changing, developing and taking part in new studies to meet their needs. Thanks to their ability to think, learn and adapt, people make various discoveries and inventions to make the world a better place. The role of technology and its elements in making these discoveries is a visible detail. Undoubtedly, the most current and influential design of technology is artificial intelligence and its applications.
Artificial intelligence, in the most general definition, refers to intelligence adapted by machines. Artificial Intelligence is a technological development that enables computers to gain human-like thinking, learning and decision-making abilities by imitating the functions of the human brain. This technology facilitates people's lives by helping them perform tasks that are not possible for humans, and helps them find answers to problems that are difficult to solve. Today, artificial intelligence has become a condition that brings together the physical, biological and digital worlds, affecting every economy, industry, sector and many fields. Artificial intelligence is present in human life in many ways. Examples include chatbots, smart assistants and recommendation engines.
It is necessary to say that the field of education is also included in these fields. One of the still debated issues is how to effectively integrate artificial intelligence applications into education. In this context, many predictions and ideas are put forward. For example, some opinions focus on the tasks that artificial intelligence applications can take over for teachers in the classroom, while others focus on how the transfer of knowledge to students can become more efficient. The education system around the world is constantly renewing and improving itself with the integration of

artificial intelligence applications. Despite the increased use of artificial intelligence in every field, it is still unclear how artificial intelligence applications can be used in education and how they can offer advantages to educators, administrators, students and indirectly to families.

In this direction, advertisements have a structure that can shape the interest, attitude and intention of the target audience according to the message conveyed. How artificial intelligence and its applications will progress in the future is the subject of research today. In this direction, in this study, the field of advertising, which has reached social dimensions and has become a situation that can affect social situations with the effect of developing and changing technologies, artificial intelligence, which is today's new technological development, and the dimensions of artificial intelligence applications used in advertisements have been discussed and tried to be made sense of. In addition, by making sense of the effects and attitudes of advertisements developed with artificial intelligence on university students, is it possible for commercials developed with artificial intelligence technology to have educational qualities? An answer to the question was sought.

Attitude towards advertising is the positive or negative response of the target audience to a certain advertising stimulus in the event that it is influenced. Artificial intelligence applications will start a new beginning by affecting our lives in the future. Based on this situation, the hypotheses guiding the research were prepared as follows.

H1: Artificial intelligence advertisements have a positive effect on students.

H2: General attitude towards artificial intelligence is progressing in a positive direction.

H3: Artificial intelligence advertisements have an educational quality on students.

Literature Review

The Concept of Advertising and Attitudes towards Advertising

It is possible to explain the concept of advertising with many definitions. With a general definition, advertising means promoting and delivering many products, ideas and services to many audiences by using traditional and new media opportunities. The main purpose of advertising is to persuade the target audience. According to another definition, advertising is to create a lasting effect on the target audience that it has determined in line with its purpose and to encourage them to buy in order to influence the thoughts and habits of that audience (Göktaş & Tarakçı, 2018).

Advertising cultural indicators touch the emotions of consumers by controlling the concepts of perception through the images it has determined and by giving a new direction. Advertising creates a bond between the consumer and the product or service by creating its own simulation with the reality it has created. It aims to arouse consumer interest in the product or service. In this context, the role of advertising in shaping society is invaluable.

In another definition, advertising is considered as an element of communication and is defined as the activities developed to communicate with target audiences. In another definition, advertising, which is touted as one of the means of communication of our age, is defined as a tool that encourages businesses to reach and direct the target audience to the extent they want and encourage them to buy the product. Attitude towards advertising is defined as the state of responding positively or negatively to the advertisement that the target audience perceives in case of exposure.

Attitude towards advertising is defined as the target audience's positive or negative response to the advertisement they perceive in case of exposure. Advertising elements can also direct the behaviors and attitudes that the target audience develops towards the advertisement that shows the information and emotions obtained through advertising. It is also effective in cases where the target audience feels excessive or low sympathy for any product, service or corporate brand.

The fact that advertisements also have informative and informative features may affect the target audience and cause the target audience to exhibit positive attitudes towards the advertisement. In addition, various appealing elements in advertisements may also contribute to the display of positive behaviors and attitudes towards advertisements. On the other hand, it is thought that there are situations such as encouraging excessive consumption, helping to produce unwanted desires in the target audience through false needs, and the use of counterfeit products.

In addition, in the studies conducted to understand students' attitudes towards advertising, it has been stated that students do not have a negative opinion towards advertising. (Onay, 2012).

Artificial Intelligence and Advertising Relationship

Artificial intelligence, which encompasses many fields such as computer engineering, neurology, philosophy, psychology, robotics and linguistics, is defined as the scientific field that studies computer software, robot design, etc. that exhibit behaviors specific to human intelligence such as perception, reasoning, thinking, learning, comprehension, intuition and design. (Acar, 2022).

ESCP Europe Business School (2018) In his publication, he defines artificial intelligence as the responsibility of a system to correctly interpret external data, to learn from this data and to flexibly adapt the learning to achieve specific goals and tasks. In other words, computer systems exhibit human-like behaviors such as intelligent thinking,

troubleshooting problems, establishing meaning-effect relationships or making generalizations, in other words, computer systems have skills like humans.
Artificial intelligence includes various capabilities. However, each artificial intelligence system is designed for a specific purpose. For example, if an AI system is developed to play chess, it may be successful at beating humans, but it cannot perform other tasks such as medical diagnosis, mood analysis or weather forecasting. Therefore, because AI systems are designed for a specific purpose, they can only fulfill that purpose.
It is difficult to understand the ever-changing emotional and intellectual world of consumers. Today, consumers want to learn, live or experience many things at the same time. With the convenience provided by technology, consumers express their needs, expectations, desires and tastes in various ways. These expressions include different forms of communication such as comments, online searches, videos and different platforms such as face-to-face communication, websites and social media.
Today, the process of creating advertising is still managed by humans. Artificial intelligence is being used in various areas of advertising and marketing, but creative and strategic decisions are often the responsibility of humans. Humans manage key stages of the creative process, such as brand identity, audience analysis, message creation and creative ideas. AI can play a supporting role in this process, but human creativity and understanding is still important.
It is thought that artificial intelligence will have a significant impact on the advertising industry and will carry the advertising industry to another dimension in the future. When the advantages that artificial intelligence provides to digital advertising are considered, the advantages that artificial intelligence provides to the advertising sector today are that artificial intelligence can automatically ensure brand security in the field of digital advertising, artificial intelligence can offer continuously developable and programmable possibilities, it can offer measurable suggestions and solutions about brand security, it can audit and improve digital advertising models against changing risky content, it can develop predictable solutions and take measures against significant false advertising threats, and it can develop new digital advertising approaches by observing changing consumer structures in accordance with digital advertising models. (Kietzmann, Jeannette, & Treen, 2018).

Relationship between Education and Artificial Intelligence

Artificial intelligence is the ability of a computer or computer-controlled machine to perform mental tasks such as thinking, deducing meaning, generalizing and learning from past experiences, which are called humanoid behaviors. When today's artificial intelligence studies are considered, we can say that not only knowledge-oriented issues related to education, but also artificial intelligence applications related to knowledge and logic are also included in this field. Artificial intelligence in the field of education is defined as computing systems that can be involved in subjects studied by humans, such as learning, adaptation, design, self-correction and difficult-to-solve operations, data utilization

Alanoğlu and Karabatak (2020) According to their studies, the factors that differentiate artificial intelligence applications from other educational technologies and make this technology special are as follows:

- Being able to criticize education and the personal needs of the student,
- Being able to communicate with the student and respond to the student's problems,
- The student can model the learning process,
- To be able to decide what information the student needs based on the student's past impression,
- To be able to make decisions according to the learner's level of understanding,
- To be able to make decisions in relation to the education process.

Artificial intelligence-supported applications such as personalized education, oral education systems, investigative education systems, information mining in education, writing analysis of students, education systems for individuals with special needs, artificial intelligence-supported evaluation and measurement systems are in the field of education. As an example, it is necessary to say that artificial intelligence directly helps the school administration and indirectly helps education in cases such as preparing course programs with artificial intelligence applications, preparing teacher-staff programs, preparing programs related to exam management, cyber security, security of school and facility areas (Arslan, 2020).
Artificial intelligence is thought to contribute to the education system in many ways, from online speech applications that offer online student support all day, to learning and teaching algorithms tailored to the needs of students or personalized learning and teaching algorithms. In the research on artificial intelligence, applications such as obtaining data with voice and face recognition systems, establishing educational standards for the evaluation of courses and course subjects, developing learning places with three-dimensional and hologram environments, using augmented reality (VR) technology in the field of education, creating and developing artificial intelligence-supported lecturers will be encountered in the future.
Akdeniz and Özdinç (2021) In their studies, they addressed artificial intelligence tools based on education under three

different headings: student-oriented, instructor-oriented, system-based educational artificial intelligence technologies. Student-oriented artificial intelligence applications are personalized methods that allow students to work on any subject and make their learning easier. In systems developed for educators, these are studies developed to reduce the workload by automating tasks such as supporting the educator and contributing to school management. In education-based artificial intelligence applications, it is an application that provides the necessary help for educators to provide support and guidance to students when necessary.
Considering the fact that advertisements shape the society and that advertising and artificial intelligence applications affect many areas of the future. Considering these situations and in line with the hypotheses based on the information in the literature, the model of the research is as shown in Figure 1.

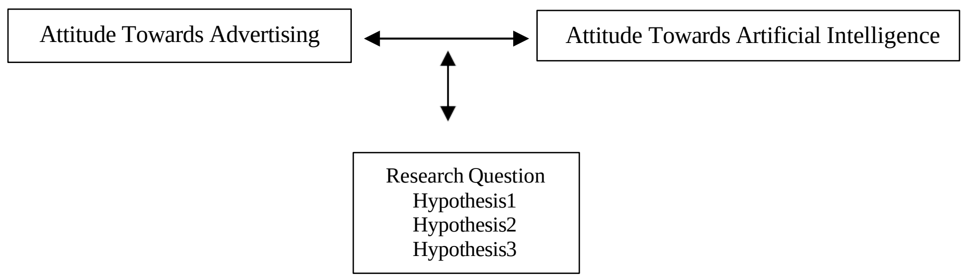

Figure 1: Research Model

Method

Convenience sampling method was used in this research because it allows obtaining open-ended data, analyzing texts or visuals, expressing the data obtained with figures and tables and interpreting the information according to the researcher. In addition, quantitative research method was also used in the study in order to reach generalizable results for the main mass by using numerical data. The structured questionnaire method was utilized as a data collection tool, and the data were collected by reaching the student group studying in the TRNC, which is the main mass of the study, with the online questionnaire. The most accepted approach within the framework of general sampling rules is the rule of collecting ten observations for one question in survey research. In other words, in line with this rule, a sample should be obtained at most 10 times the number of questions. (Statistics, 2023). Since the number of observed variables used in the study was 25, 250 was determined as the minimum sample size. Survey data were collected between November 13-28, 2023. As a result of data collection, the analysis was carried out on 285 participants. SPSS program was used to analyze the data obtained.

Advertisement Stimulus

In the study, the example of the commercial movie titled Masterpiece prepared by artificial intelligence of the Coca-Cola company was used for artificial intelligence advertisements. The commercial, which is 1 minute 52 seconds in duration, was pinned at the beginning of the survey link and the participants were asked to answer the questions after watching the commercial.
The commercial takes place in an educational museum. In the movie, students draw a project design and are checked by the teacher. A student sits in a row asleep. Realizing this situation, the museum artifacts become active and try to deliver the Coca-Cola drink to the sleeping student without being noticed by the people in the museum. Taking a sip of the drink, the student is inspired and quickly designs his project and comes to his senses. At the end of the commercial, the Coca-Cola logo and the slogan "Real Magic" appear and the commercial ends. The message of the commercial is that Coca-Cola drink is a source of inspiration for students.

Measurement Tools

Zaichkowsky's methodology for interpreting the participants' attitudes and interests towards the advertisement (2013) Kaya et al. to measure the variables of attitudes and behaviors towards artificial intelligence. (2022) The general attitude scale towards artificial intelligence, which they developed and used in their research, was utilized. In addition, while trying to make sense of the impact of advertisements developed with artificial intelligence on education, the survey was utilized from the scale of attitudes towards advertising.

Population and Sample

Table 1. Distribution of Socio-Demographic Characteristics of Participants

	Number (N)	Percentage (%)
Gender		
Woman	173	60,70
Male	112	39,30
Age		
18-24 years old	68	23,86
25-30 years old	77	27,02
Over 30 years old	140	49,12
Having knowledge about artificial intelligence		
Yes	221	77,54
No.	64	22,46
Level of knowledge about artificial intelligence applications		
Bad	120	42,11
Middle	141	49,47
Good.	24	8,42
Never used an AI-supported application before		
Yes	123	43,16
No.	162	56,84
Total	285	100,00

Table 1 shows the distribution of the socio-demographic characteristics of the participants, and it was determined that 60.70% of the participants were female and 39.30% were male, 23.86% were 18-24 years old, 27.02% were 25-30 years old and 49.12% were over 30 years old. It was determined that 77.54% of the participants had knowledge about artificial intelligence, 42.11% had poor knowledge, 49.47% had fair knowledge and 8.42% had good knowledge, and 43.16% of the participants had used artificial intelligence-supported applications before.

Statistical Analysis of Data

SPSS 27.0 and SPSS AMOS 21.0 software were used for statistical analysis of the research data, frequency analyses were made for the socio-demographic characteristics of the participants and descriptive statistics were given for scale scores.

The normal distribution of the data was examined with the Kolmogorov-Smirnov test and skewness and kurtosis coefficients and it was determined that the data fit the normal distribution. Accordingly, parametric tests were used in the study.

Confirmatory factor analysis, Cronbach's alpha and halving test were used for the validity and reliability of the scales used in the study. Pearson product-moment correlation coefficient was examined for the correlations between the scales and multivariate linear regression analysis was used for predictive validity.

Findings

Validity-Reliability Studies of the Scales

In this part of the study, the validity and reliability findings of the scales used in the research are presented.

Attitude Towards Advertising Scale

Confirmatory factor analysis was applied to ensure the construct validity of the 4-item Attitude Towards Advertising Scale used to determine the attitude towards advertising and the findings obtained are given.

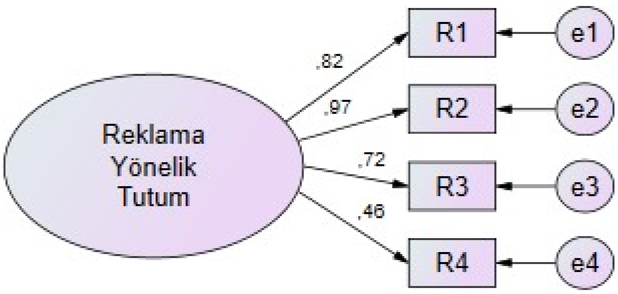

Figure 1. Confirmatory Factor Analysis path diagram of Attitude Towards Advertising Scale

When Figure 1. is examined, it is determined that the Attitude Towards Advertising Scale has a single-factor structure and the factor loadings of the items in the scale vary between 0.46 and 0.97. Goodness of fit indices for the model are given in Table 2.

Table 2. Goodness of fit indices of the CFA model of the Attitude Towards Advertising Scale

Indis	Calculated Value	Compliance Border	Harmony Status
χ^2/sd	3,873	<5	Suitable
Goodness of Fit Index (GFI)	0,986	>0,90	Suitable
Normed Fit Index (NFI)	0,986	>0,90	Suitable
Comparative Fit Index (CFI)	0,989	>0,90	Suitable
Root Mean Square Error of Approximation (RMSEA)	0,071	<0,8	Suitable

When the goodness of fit indices given in Table 2 are examined, χ^2/sd=3.873, Goodness of Fit Index (GFI=0.986), Normed Fit Index (NFI=0.986), Comparative Fit Index (CFI=0.989) and Root Mean Square Error of Approximation (RMSEA=0.071) were found. Accordingly, it was determined that all goodness-of-fit indices of the model were appropriate and the construct validity of the Attitude Towards Advertising Scale was ensured.

Within the scope of the reliability study of the Attitude Towards Advertising Scale, cronbach alpha test and halving test were applied to examine its internal consistency. Cronbach's alpha coefficient of the Attitude Towards Advertising Scale was determined to be 0.811, and as a result of the halving test, it was determined that the correlation between halves was 0.686. In this context, it was determined that the Attitude Towards Advertising Scale is a reliable scale.

In line with these findings, the Attitude Towards Advertising Scale was found to be a valid and reliable measurement tool with a single-factor structure in accordance with its original form.

General Attitude Towards Artificial Intelligence Scale

Confirmatory factor analysis was conducted to determine the validity of the General Attitude Towards Artificial Intelligence Scale, which was used to determine the general attitudes of the participants included in the study towards artificial intelligence, and the findings obtained are shown below.

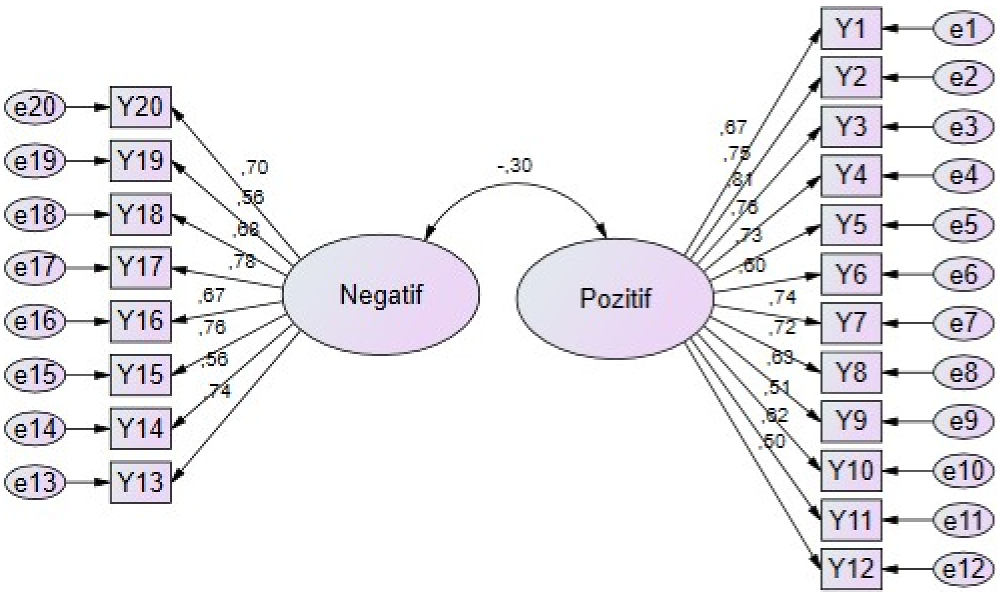

Figure 2. Confirmatory Factor Analysis Path Diagram of the General Attitude Towards Artificial Intelligence Scale

When Figure 2. is examined, it is determined that items 1-12 of the General Attitude Towards Artificial Intelligence Scale, which has a two-factor structure as positive and negative attitude, show positive attitude and the factor loadings of these items vary between 0.50 and 0.81, while items 13-20 show negative attitude and the factor loadings of these items vary between 0.56 and 0.78. The goodness of fit indices of the model are shown in Table 3.

Table 3. Goodness of Fit Indices of the CFA Model of the General Attitude Toward Artificial Intelligence Scale

Indis	**Calculated Value**	**Compliance Border**	**Harmony Status**
χ^2/sd	2,806	<5	Suitable
Goodness of Fit Index (GFI)	0,936	>0,90	Suitable
Normed Fit Index (NFI)	0,925	>0,90	Suitable
Comparative Fit Index (CFI)	0,954	>0,90	Suitable

Root Mean Square Error of Approximation (RMSEA)	0,065	<0,8	Suitable

According to Table 3, the goodness of fit indices of the confirmatory factor analysis model of the General Attitude Towards Artificial Intelligence Scale were calculated as χ^2/sd=3.873, Goodness of Fit Index (GFI=0.986), Normed Fit Index (NFI=0.986), Comparative Fit Index (CFI=0.989) and Root Mean Square Error of Approximation (RMSEA=0.071). In this context, it was determined that all goodness of fit indices of the General Attitude Towards Artificial Intelligence Scale were within the appropriate limits and the construct validity of the scale was ensured.
Cronbach's alpha coefficient for the reliability of the scale was found to be 0.889 for the General Attitude Towards Artificial Intelligence Scale, 0.902 for positive attitude and 0.873 for negative attitude. According to the results of the halving test, the correlation coefficient between the halves was calculated as 0.405.
When the above findings are evaluated, it is determined that the General Attitude Towards Artificial Intelligence Scale is a valid and reliable two-dimensional measurement tool in accordance with its original form.

The Effect of Attitude Towards Artificial Intelligence on Attitude Towards Advertising
In this section, the findings obtained in order to determine the effect of the participants' attitudes towards artificial intelligence on their attitudes towards advertising are presented. First of all, the scores of the participants from the General Attitude Towards Artificial Intelligence Scale and Attitude Towards Advertising Scale were given and the correlations between the scales were examined. Then, regression analysis was conducted to determine the effect of attitudes towards artificial intelligence on attitudes towards advertising.

Table 4. Correlations between the General Attitude Towards Artificial Intelligence Scale and the Attitude Towards Advertising Scale

	$\bar{x}$±s	Positive attitude	Negative attitude	**General Attitude Towards Artificial Intelligence**	**Attitude Towards Advertising**
Positive attitude	3,60±0,69	1			
Negative attitude	2,84±0,78	-0,268**	1		
General Attitude Towards Artificial Intelligence	3,30±0,58	0,855**	-0,730**	1	
Attitude Towards Advertising	3,61±0,83	0,440**	-0,096	0,364**	1

***p<0,01*
When Table 4 is analyzed, it is seen that the participants scored 3.30±0.58 points in the General Attitude Towards Artificial Intelligence Scale, 3.60±069 points in the positive attitude sub-dimension of the scale and 2.84±0.78 points in the negative attitude sub-dimension. Participants scored 3.61±0.83 points from the Attitude Towards Advertising Scale. When the correlations between the General Attitude Towards Artificial Intelligence Scale and the Attitude Towards Advertising Scale were examined, it was found that there was a statistically significant positive correlation between positive attitude towards artificial intelligence and Attitude Towards Advertising Scale scores ($r=0.440; p<0.05$), while there was no statistically significant correlation between negative attitude towards artificial intelligence and Attitude Towards Advertising Scale scores ($r=-0.096; p>0.05$). In addition, there was a statistically significant positive correlation between the General Attitude Towards Artificial Intelligence Scale and Attitude Towards Advertising Scale scores ($r=0.364; p<0.05$).

Table 4. Predictive status of General Attitude Towards Artificial Intelligence Scale scores on Attitude Towards Advertising Scale scores

	β	t	p	Correlations Zero-order	Partial	Part	Collinearity Tolerance	VIF
(Constant)		4,658	0,000**					
Positive attitude	0,446	8,036	0,000**	0,44	0,43	0,43	0,93	1,08
Negative attitude	0,024	0,434	0,665	-0,10	0,03	0,02	0,93	1,08

$**p<0,01$

When the regression analysis results regarding the prediction of the scores of the General Attitude Towards Artificial Intelligence Scale scores on the Attitude Towards Advertising Scale scores shown in Table 4 are examined, it was found that the positive attitude scores of the participants towards artificial intelligence predicted the Attitude Towards Advertising Scale scores in a statistically significant and positive direction ($\beta=0.446$; $p<0.05$). The participants' negative attitude scores towards artificial intelligence did not predict the Attitude Towards Advertising Scale scores ($\beta=0,024$; $p>0,05$).

Conclusion and recommendations

The importance and dimensions of artificial intelligence and artificial intelligence studies are increasing day by day and new meanings and dimensions will be added to the literature in relation to the situation. In today's consumer society, one of the most important tools to influence people is undoubtedly advertising and advertising practices. These practices can influence and even direct people in many areas such as cultural, social, economic, etc. This situation can explain the importance of advertising studies.

In the research conducted, the fact that the commercials developed with artificial intelligence technology have educational qualities and that artificial intelligence applications have a positive effect on students is an acceptable opinion. In this case, it would be a correct approach to say that advertising studies can add positive meanings to the educational situation. In addition, the fact that advertisements appeal to educational and social dimensions other than persuasion can be shown as an example of this situation.

In the research, it will be possible to say that artificial intelligence advertisements have a significant effect on students and that their general perspective on artificial intelligence has progressed in a positive direction. It would be a correct approach to say that the fact that artificial intelligence advertisements have an educational quality on students will reach different places with the development of artificial intelligence and artificial intelligence applications to be developed on education and learning and will have a positive impact on this field. From this point of view, it is meaningful in the evaluation of the hypotheses developed and will shed light on future research.

References

Acar, H. M. (2022). Reklamda Yapay Zekâ Kullanımı: Ziraat Bankası #Senhepgülümse Reklam Filminde Deepfake Uygulamasının Görsel Anlatıya Etkisi. *Kastamonu İletişim Araştırmaları Dergisi*.

Akdeniz, M., & Özdinç, F. (2021). Eğitimde Yapay Zeka Konusunda Türkiye Adresli Çalışmaların İncelenmesi. *YYU Journal of Education Faculty*.

Alanoğlu, M., & Karabatak, S. (2020). Eğitimde Yapay Zekâ. *Eğitim Araştırmaları-2020*. içinde

Alkaddour, M. (2022). Pazarlamada Yapay Zeka Kullanımı. *İşletme Ve Girişimcilik Araştırmaları Dergisi*.

Arslan, K. (2020). Artificial Intelligence and Applicatıons in Education . *Western Anatolia Journal of Educational Sciences*.

Başaran, Ü., & Yıldız, M. (2022). Reklam İlgilenimi, Reklama Yönelik Tutum ve Satın Alma Niyeti Arasındaki Etkilerin Analizi: Marka Tutumunun Aracılık Rolü. *Turkish Review of Communication Studies*, 173-195.

Çeber, B. (2023). Yeni Nesil Reklam Aracı Olarak Yapay Zekâ Uygulamaları: Reklam Filmlerinde Deepfake Teknolojilerinin Kullanımı Üzerine Nitel Bir Çalışma.

İstatik, İ. (2023, Kasım). *İstmer İstatik Merkezi*. İstmer İstatik Merkezi: https://www.istmer.com/orneklem-buyuklugu-hesaplama-yaklasimlari/ adresinden alındı

Kaya, F., Aydin, F., Schepman, A., Rodway, P., Yetişensoy, O., & Kaya, M. D. (2022). The Roles of Personality Traits, AI Anxiety, and Demographic Factors in Attitudes toward Artificial Intelligence. *International Journal of Human–Computer Interaction*.

Kietzmann, J., Jeannette, P., & Treen, E. (2018, Eylül). Artificial Intelligence in Advertising. *How Marketers Can Leverage Artificial Intelligence Along the Consumer Journey*, s. 2018.

Onay, A. (2012). REKLAMLARA YÖNELİK TUTUMLAR: NİTEL BİR ARAŞTIRMA. *Gümüşhane Üniversitesi İletişim Fakültesi Elektronik Dergisi* .

Tse., T. (2018). *Artificial Intelligence: The Future of Businesses, Society and Everyday Life.* escp Europe Business School. adresinden alındı

Uluslu, Y., & Köksal, D. (2012). YEŞİL REKLAMA YÖNELİK TUTUM: ÜNİVERSİTE ÖĞRENCİLERİ ÜZERİNE BİR UYGULAMA. *Journal of Yasar University*.

Zaichkowsky, J. L. (2013). The Personal Involvement Inventory: Reduction, Revision, and Application to Advertising. *Journal of Advertising*, 59-70.

The Effect of Teacher Candidates' Self-Determination Perceptıons on Their Career Decision-Making Self-Efficacy in Distance Education

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Abstract
The purpose of this research is to examine the effect of students' self-determination perceptions on their career decision-making self-efficacy in the distance education process. Qualitative research design was used in the study. As a data source, undergraduate and graduate students studying in the Biology department of Bolu Abant İzzet Baysal University Faculty of Science and Letters in the 2022-2023 academic year, who have the opportunity to make many career decisions in addition to the teaching profession, were contacted one by one and asked survey questions and asked to note their answers. When determining teacher candidates, students who had taken a career planning course during their education or were informed about the course content were selected. According to the answers of 16 participants (13 senior undergraduates and 3 graduate students) who returned during the distance education process, when their views on self-determination skills are examined, 87.5% of the participants think that they can choose what they want when choosing "medium level" and above. According to the opinions of the participants regarding the profession/sector in which they want to work, taking into account self-determination, the categories with the highest and equal frequency values in addition to teaching are University/Academician, Researcher, and Biology. It has been determined that limiting emotions are anxiety and indecision. Students' career plans over time in their working life are to become researchers /academics/scientists. Apart from these, it has been revealed that personal development and professional development are the most desired ones. Initiatives that increase the self-determination skills of teacher candidates may further help their self-efficacy. Self-determination and career decision-making self-efficacy as desired qualities in the teacher education process.
Keywords: Self-determination, Career decision-making self-efficacy, Teacher Education

Introduction

Individuals go through career determination and decision-making processes, which are one of the major selection stages throughout their lives. The self-efficacy of the individual is important in this decision-making process, which will affect their future social life and professional satisfaction, together with the support of their family. The individual who will make a career decision is expected to evaluate himself/herself, recognize his/her interests, research professional information appropriate to his/her interests, and therefore be competent to determine his/her goals. Based on this concept, the effect of self-determination on the career decision-making, especially during the period of distance education, is investigated.

For teacher candidates to become more qualified, it is important that students have the desire to choose the teaching profession during the career decision stages. Thus, the identification and development of strategies that will improve self-efficacy of these student teachers so that they can follow the necessary career steps come to the fore. This will ensure that instead of students who randomly choose a profession, students who are passionate about the teaching profession, who like to work, and who have made a career plan in this field will be trained as teachers. Just like self-determination, career choices begin at an early age. Individuals may imitate the personality traits of their family members or people in their close circle and may desire to do the same profession. Choice-making skills, which can emerge during childhood, are an essential component for making decision process as children determine their preferences and make choices based on these preferences, and must be present for decision-making skills to develop (Wehmeyer & Little, 2013). At the same time, it is necessary to offer strategies and new approaches to develop these skills for university students, who are at an important point in choosing a profession. Such developments and contributions will allow students to make career decisions suitable for themselves and enable them to become more qualified teachers.

The development of self-efficacy for students, families are considered important in promoting self-determination (Eisenman & Chamberlin, 2001; Chamberset al., 2007). Self-determination has gained importance, especially in the context of central mental formation in early adolescence, determining the general perspective on life in the future, being accepted as a certain segment of society, being aware of being an adult, and determining their goals in life (Vasylenko & Sheremet, 2017). These qualities, which begin to be seen at an early age with the participation of the family, are expected to emerge especially in university students who are approaching an important point in their career decision-making stages and who will soon start their teaching profession.

Definitions such as “kendi kaderini tayin etme”, “öz belirleyicilik”, “özerk benlik yönetimi” have been used for the Turkish equivalent of the expression self-determination. In this wise a psychological definition, self-determination refers to volitional behaviors based on people's desires, and these are intentional, conscious, and determined behaviors (Hui & Tsang, 2012). In this article, the concept of self-determination will be discussed as “özerk benlik yönetimi”. It is based on self-determination theory (STD) (Deci & Ryan, 1985, 2008a; Ryan & Deci, 2017). SDT (Deci & Ryan, 1985) proposes intrinsic and extrinsic motivations. According to SDT, the key to autonomy is the satisfaction of basic psychological needs such as efficacy (Ryan & Deci, 2000, 2008a, 2008b; Ryan, 2009). Well-being appears to be higher which are shaped by their core values (Sheldon, Ryan & Reis, 1996). When people's life goals or aspirations are examined along with increasing or decreasing social conditions, it turns out that internal and external life goals have different relationships with performance and psychological health (Deci & Ryan, 2008b). Moreover, need satisfaction plays an essential mediating role for autonomy (Gagne' & Deci, 2005; Gagne´ & Forest, 2008; Meyer & Gagne, 2008). According to self-determination theory, it is thought that both personal and environmental variables are necessary in defining behavior, and the thoughts, emotions, motivations, and behaviors experienced by people, and the relationship between these and previous experiences play a causal role in behavior (Deci & Ryan, 1980; Wehmeyer, 1998). The elements needed to design instructional activities for students according to autonomous self-behavior have been identified. Also these elements include self-defense skills and self-efficacy perceptions (Wehmeyer, Agran, & Hughes, 2000). The surveys measure four key features of self-determination: learner autonomy and effectiveness of perceived empowerment. Accordingly, it has been theorized that promoting mindfulness or mindfulness is a central element, allowing for internal exploration, in-depth examination of needs and emotions (Deci & Ryan, 2008a). Most participants stated that self-determination mostly involves making choices (Thoma, Nathanson, Baker, & Tamura, 2002).

Self-determination theory proposes two general types of behaviors according to internal or external needs (Deci & Ryan, 1980): autonomous self-behaviors, and those that are not consciously chosen. The distinguishing factor between self-determined behaviors and automated behaviors is that autonomous behaviors are selected based on conscious processing of information, whereas automatic behaviors are not. Automatic behaviors are those that are “mindless”, that is, behaviors that do not involve the mind, such as moving mechanically, while self-made behaviors are those that are chosen according to the person's expectations. The sequence of behaviors related to self-determination begins with information inputs from the environment and the person. The inputs come from the person's physiology and memory, psychologically, these are characterized in terms of personality and motivation (Deci & Ryan, 1980, 2008a; Ryan & Connell, 1989). In addition, since self-efficacy is linked to improved psychological functioning, self-esteem is expected to be positively related to closeness with families and frends (Guay, 2005).

Among the theories underlying the development of career decision-making self-efficacy, Bandura's self-efficacy (1977, 1986) theory and Crites' (1978) career maturity theory stand out (Betz & Luzzo, 1996). Individuals are divided into groups about autonomy. Gati and Asher (2001) proposed a systematic and three-stage model: It consists of preliminary screening, in-depth exploration, and selection stages. Students in the preliminary stage do not yet have a general orientation. People in the exploration stage deliberate between a small number of specific careers or consider a particular career. Individuals in the third stage (selection stage) become hopeful and compare several truly suitable alternatives, or they know which profession they want (Gati, Ryzhik & Vertsberger, 2013).

Career decision-making is based on two factors: career indecision and career certainty (Osipow & Winer 1996; Jemini-Gashi, Duraku, & Kelmendi, 2021). In a study conducted with young people, it was found that participants classified the elements they were undecided about as follows (Nota, Ferrari, Solberg & Soresi, 2007; Solberg, Good, & Nord, 1994): (a) not being able to decide which education course to continue, (b) not having enough information (c) not having help to decide and need support and (d) feel that their career efforts will be negatively affected by external factors. The distance education process has been experienced throughout the world, causing individuals' perceptions and lifestyles to change. In this process, it is obvious how important it is to make a career decision. It is important to increase the career decision-making competencies of students in the distance education process. It offers students and educators living in different places the opportunity to communicate effectively among themselves (İşman, 2008).

Since individuals are likely to have difficulties in managing complex situations, it is emphasized that when they have the negative experiences they experience form the basis of their beliefs about their later skills (Xu & Tracey, 2014). This study focuses on understanding the effect of the self-determination variable on career decision making self-efficacy. This study aims to examine how self-determination may be related to career decision-making self-efficacy, and in this context, the opinions of university students who are teachers about career decision-making and self-determination. It investigates how career decision-making, which has an essential place for every individual's life, may change according to self-determination. In this respect, it is thought that the study in question will contribute to making the right career choices in the teacher training process and thus to the education of university students as qualified teachers. In this context, the research aims to determine the effect of providing students' self-determination perception and self-efficacy. This study specifically examines (1) The level of ability to choose what you want when making a choice; (2) the level of freedom he feels when making choices and what emotions he feels constrained by; (3) the level of feeling alienated from one's emotions; (4) The sector in which he wants to work, that is, whether he has set a goal; (5) Professional knowledge about the sectors in which he wants to work; (6) information gathering sources and level of support from experts; (7) Students' plans that they want to achieve over time are examined according to their goals.

Method

Qualitative research design was used in the study. Semi-structured interview technique was used. Having taken a career planning course during their education or have been informed about the course content, it was decided to apply it to Biology department students, who have the opportunity to make many career decisions in addition to the teaching profession. As a data source, in 2022-2023, BAİBÜ Faculty of Science and Letters Biology Department senior undergraduate and graduate students, who were able to choose a teaching profession, were contacted one by one and asked survey questions and asked note their answers. A total of 16 students (13 senior undergraduate and 3 graduate students) returned due to the distance education process after the February 6 earthquake. Participants were coded K1, K2, …., K16 according to their return order. The items were evaluated as 5-very high, 4-often, 3 "medium level", 2 low, and 1 none or very low. Regarding students' views on self-determination, "Can you choose what you want when making a choice?" (5 is the most, 1 is the least)", "Do you feel free to determine what you want to do/your destiny? "What are your emotions that limit you?", "Do you experience moments when you feel alienated from yourself or your emotions?", regarding their views on career making-decision self-efficacy, questions such as "Which profession/sector do you want to work in?", "Have you researched issues such as working conditions, job interviews, appointments, etc.?" What is the subject that interests you the most?", "Have you received support from experts in career development? If your answer is yes, who are these people? and "What is your career plan over time in your working life?" questions were asked.
Frequencies (f) were calculated according to the categories formed. As a result of frequency calculations, students' views on self-determination were evaluated in terms of whether they could choose what they wanted when making choices, whether they felt free to determine their choices, what their limiting emotions were, and their degree of alienation from themselves and their emotions. According to students' opinions regarding their self-efficacy, they are divided into 4 categories (university/academics, research, biology, and education fields), 4 categories according to the sources of collecting information about working life (individual research, interview, working life, immediate environment), career plans over time in working life were divided into 3 categories (working in university, professional development and personal development). The research is limited to the opinions of Biology students and the survey questions.

Findings

a) Personal information of the participants

Table 1: Demographic information of students

	Özellik	f	%
Gender	Male	4	25
	Female	12	75
Education status	Undergraduate	13	81,3
	Graduate	3	18,7
Age	21-22	5	31,3
	23-24	9	56,2
	25 +	2	12,5

According to Table 1, 75% of the students participating in the research were female and 25% were male students; 81.3% were undergraduate students, 18.7% were graduate students, and 31.3% were 21-22 years old, 56.2% were 23-24 years old and 12.5% were 25 years old and over.

b) Distributions regarding students' self-determination skills

Table 2: Students' views on self-determination skills

THEME	Category	Codes	f
Can you choose what you want when making your choice? (5-very high, 1- none or very low)	5	[K2, K5, K6, K9]	4
	4	[K1, K3, K7,K11,K14, K16]	6
	3	[K4, K8, K13, K15]	4
	2	[K10]	1
	1	[K12]	1

Do you feel free to decide what you want to do/your destiny? What are your limiting emotions?	I did not feel free	I did not feel free [K2, K4]	3
	I feel partly free	I am facing financial obstacles. [K1] Anxiety and indecision sometimes limit me [K3] I feel partly free [K9, K10, K12]	4
	I feel free	I feel free [K6, K13] I feel free, but I think I cannot go abroad due to lack of financial income [K7] I feel free, but sometimes indecision limits me [K16] I feel like I'm just worried about whether I can find a job [K15] Environmental conditions/environmental factors [K7] I can make mistakes when I act according to the environment [K8] I feel free except for financial matters [K11]	9
Do you experience moments when you feel alienated from yourself or your emotions?	5	[K5, K7, K9,K14, K16]	5
	4	[K8]	1
	3	[K1, K3, K4, K6]	4
	2	[K12, K13, K15]	3
	1	[K2, K10, K11]	3

For students' views on self-determination skills were examined, students were asked "Can you choose what you want when making a choice?" 4 participants answered the question "5 - very high", 6 participants answered "4 - often", 4 participants answered "3 - medium level" and one participant each answered "2 - low" and "1 - none or very low". Only 2 participants answered “low” or “none”. 87.5% of the participants think that they can choose what they want when choosing the medium and upper levels. It can be said that they are satisfied with their university and department choices, which are one of their most important career choices.

The question asked to the participants was "Do you feel free to determine what you want to do/your destiny? What are your emotions that limit you?”. 3 participants answered the question "I don't feel", 4 participants answered "I feel partially free" and 9 participants answered "I feel free". The answers given show that most of the participants have high perceptions of self-determination. This situation seems to be particularly related to the self-appraisal stage, which is one of the five stages identified by Taylor and Betz (1983) regarding career decision-making. Individuals' personal characteristics, perceptions, and emotions also show their self-determination skills.

Students were asked “Do you experience moments when you feel alienated from yourself or your emotions?”. 5 participants answered "5-very high", 1 participant answered "4-often", 4 participants answered "3-medium level" and three participants each answered "2-low" and "1-none or very low". Higher scores indicate higher perceptions of self-determination. Emotional factors and the individual's alienation attitude towards emotions can affect the development of self-determination. About limiting emotions, participant-K3 said, "Anxiety and indecision sometimes limit me." participant-K16 said, "I feel free, but sometimes indecision limits me." and participant-K15, "I feel, I'm just worried about whether I can find a job." It is understood from the answers that the limiting emotions are anxiety and indecision. Although the emotion was not clearly stated in the answers given by the participants, participant-K7 expressed their concerns about the environment they live in with the expressions "environmental conditions/environmental factors" and participant-K8 "I can make mistakes when I act according to the environment". Participant-K1 said, "I am facing financial obstacles and I don't feel free", participant-K11 said, "I feel free except for financial issues" and participant-K7 said, "I feel free, but I think I cannot go abroad due to lack of financial income" and participant-K5 said “I would like to stay in Türkiye.” From their statements, it can be said that although the participants have various goals, they feel that their goals are limited by material factors rather than emotional boundaries and that they have financial concerns. Problem-solving according to the five stages defined by Taylor and Betz (1983) in overcoming financial obstacles shows a person's resilience when faced with professional obstacles. Günümüz ekonomik koşullarında öğrencilerin karar vermesinde finansal faktörler duyguların önüne geçebilmektedir. The limiting emotions that determine the perception of self-determination are replaced by financial obstacles and environmental factors in some individuals.

c) Distributions regarding students' career decision-making self-efficacy

Table 3: Students' views on the professions/sectors they want to work in regarding their career decision-making self-efficacy

THEME	Category	Codes	f
The profession/ sector you want to work in	University/ Akademisyenlik	Academician [K1, K5, K9, K13, K15]	5
	Research	Scientific researcher [K5]	1
		Molecular biology and genetics [K2, K14, K16]	3
	Biology	Biology [K3, K6, K10, K11, K12]	5
	Education	Teacher [K7, K16]	2
Have you researched issues such as working conditions, job interviews, appointments, etc.? What topic interests you the most?	I didn't do research	I didn't do research [K3, K4, K5, K6, K12, K14]	6
	Research topics	Interview topics and content [K2, K9, K10, K11]	4
		I am researching education in high school. [K7]	1
		Appointment rate [K9]	1
		We need to improve ourselves in every aspect [K16]	1
		Although the department has many employment opportunities, there are very few job opportunities in Turkey [K15]	1
		I think our competence is secondary. [K1]	1
		Internship applications [K8]	1

Career decision-making self-efficacy is conceptualized as a subjective belief that one initiates and regulates one's behavior, decisions, and goals (Látalová & Pilárik, 2015). Accordingly, when Table 3 is examined, the question "Which profession/sector do you want to work in?" is asked to teacher candidates who are at the career decision-making stage. According to the answers to the question, the categories with high and equal frequency values are the University /Academician, Researcher, and Biology departments. Participant-K16 stated that he wanted to be a teacher as well as wanting to work in the Department of Molecular Biology and Genetics. Participant-K7 stated that he/she wanted to be a teacher. The reason for this may be that the study was conducted with students in the department of biology and that there are many subjects in the field that students can do research on and that may interest them, such as genetics, environment, medical laboratory, food, biochemistry, and biotechnology. Academician [K1, K5, K9, K13, K15], Scientific researcher [K5], Molecular Biology and Genetics [K2, K14, K16], Biology, Evolution and Genetics [K8], Biology [K3, K6, K10, K11, K12] and Teaching [K7, K16] chosen by students who have taken career planning courses are some of the study areas of the department. While self-determination is about self-evaluation, career decision-making self-efficacy is based on a self-determined goal. This is particularly related to the professional knowledge and goal selection stages of Taylor and Betz's (1983) five stages.

Students were asked: "Have you researched working conditions, job interviews, appointments, etc.? What is the subject that interests you the most?”. According to the answers, 6 participants answered "I did not do any research", indicating that they did not think they had done enough research at the planning stage or that their career indecisiveness continued. Participants who answered "I did research" stated that they mostly researched the topics and content of job interviews. This may be due to the difference between the content and process of career choice (Crites, 1981). The "content" of career choice refers to what the individual is considering or choosing (e.g., a career in science). “Process” (e.g., the nature of research and decision-making activities) refers to how decisions are made (Betz & Hackett, 1986). A higher level of career decision-making self-efficacy is associated with greater commitment to career exploration activities (Gushue, Scanlan, Pantzer & Clarke, 2006). According to the five stages defined by Taylor and Betz (1983) regarding career decision-making, the planning stage defines the tasks that prepare a person for the job market. In this case, it can be said that the interviews that focus on evaluating the suitability of the candidate who wants to step into the business world are the most interesting topics. In this context, the availability of various opportunities at universities to improve themselves for individuals who are continuing their education may be a factor. Additionally, in addition to the interviews, other participants determined that the appointment rate, teaching, self-improvement, factors other than self-efficacy, job opportunities, and internship applications were other topics researched.

It appears that high self-esteem is associated with career decision. High self-esteem in making career decisions, has been found to be associated with higher perceptions of career obstacles and external expectations (Brown, Reedy, Fountain, Johnson & Dichiser, 2000). For comparing perfectionism, it was found that adaptive perfectionists had a higher level of career decision-making self-efficacy than non-perfectionists (Ganske & Ashby, 2007). In studies examined by gender, it was found that there was no general gender difference in career decision making self-efficacy (Betz & Hackett, 1986). Career indecision and career decision-making self-efficacy levels for adolescents differ depending on gender (Crişan & Turda, 2015). Following the career course, students reported more adaptive self-efficacy beliefs, as a result of the time-by-gender interaction, it has been shown that taking a career course is effective in increasing women's perceptions of self-efficacy in career planning and problem-solving (Scott & Ciani, 2008). Disadvantaged group women perceive job adaptation and socialization problems, deterrence from choosing fields outside traditional career fields, or disapproval of job/career choices by important people as obstacles to their career choice processes (Brown et al., 2000).

As seen in Table 3, the psychological components that make the student competent in making a career decision are important for a better understanding of the decision-making process in students who decide on a major (Scott & Ciani, 2008). The necessity of instilling a career decision-making competency curriculum in teacher training programs is emphasized. This can provide a solid foundation for career professionals and young people. Additionally, in secondary education, school counselors can provide parents, teachers, peers, and young individuals with information about career self-efficacy and factors in career decision-making (Jemini-Gashi, Duraku, & Kelmendi, 2021).

Table 4: Students' opinions regarding career decision-making self-efficacy

THEME	Category	Codes	f
What sources did you use to collect information about working life?	Individual research	Internet [K1, K2, K3, K4, K5, K8, K9, K10, K13, K15, K16] Kariyer fuarları [K16]	11
	Interview	Meeting with people who are in the position I want to be in [K1]	8
	Work life	Work life [K5]	2
	Close circle	People close to me [K14, K16]	3
Have you received support from experts in career development? If your answer is yes, who are these people?	I did not	I did not receive support [K1, K2, K3, K4, K5, K6, K8, K11, K13, K14, K15]	11
	People receiving support	From my department advisor [K7]	1
		People working in the field of human resources [K9] People in business [K10, K12]	3
		From faculty members [K16]	1
What is your career plan over time in your working life?	University	Becoming a successful scientist [K2, 12]	2
		Becoming academic [K2, K8, K15]	2
		Becoming a researcher [K6, K10, K11]	3
	Professional development	Making a special production [K7] Starting my own business [K14]	2
	Personal development	To improve myself more [K3, K5] Reaching the top [K5] Reaching the best place I can be with confident steps [K16] Being successful [K9]	4

Students answered the question "What sources did you use to collect information about working life?". They stated that they mostly conducted individual research using the Internet. After the individual research category, it was found that 8 participants chose the interview method. Individual research on the internet and interviewing techniques are the most preferred techniques by the participants. In the interview category, it is seen that the participants used interview methods such as "interviewing people who are in the position I want to be in [K1], examining the CVs of successful people [K11], learning about the experiences of faculty members around me [K7], getting information from faculty members [K8, K9, K13] and obtaining information from people working in the field / collecting information from people who have had previous experience [K3, K13]". In the close circle category, people around me [K14, K16] and graduate students [K15]; In the working life category, the expressions business life [K5] and my own short-term working experiences [K7] are included. Based on this, it is understood that students are open to being influenced by the people around them and the people they interview. It seems that sharing positive and successful experiences with students may have an effect on career decision-making. In this case, it is necessary to avoid the impressions that negative or unsuccessful examples will create in students. For students using internet resources, it should be noted that not all resources may be accurate and up-to-date.

Students were asked: “Have you received support from experts in career development? If your answer is yes, who are these people?” It is seen that 11 students answered "I did not receive support". The remaining 5 students who answered "I received support" stated that they received support from my department advisor [K7], people working in the field of human resources [K9], people in business life [K10, K12], and faculty members [K16]. The individual's relationships with his environment, and feeling that he will receive social and academic support may be one of the factors in this situation. In addition, it is possible for the individual to access professional information that will increase his/her self-efficacy.

In response to the question “What is your career plan over time in your working life?”, 9 participants stated that they wanted to continue at the university as a researcher/academician/scientist. In the professional development category, participant-K7 answered "Making a special production" and participant-K14 answered "Establishing my own business"; In the personal development category, 4 participants expressed their opinions with the answers "Improve myself more/ reach the top/ reach the best place I can be with confident steps/ be successful [K3, K5, K9, K16]". 3 participants stated that they did not want to answer. In terms of career decision-making self-efficacy, continuing working life as an academic is the most preferred option. When Table 4 is examined, it is seen that 9 participants made plans in the departments of academics and professional development to achieve their goals over time, especially in their working lives. It is understood that after the professional development category, students mostly make plans in the personal development category.

Discussion, Conclusion, and Recommendations

The current study examined the effect of undergraduate and graduate students' in distance education self-determination perceptions on their career decision-making self-efficacy. It was conducted with the participation of students who took the career planning program for one semester in the first year of their undergraduate education. Bandura's (1977, 1986) theory of self-efficacy expectations was taken as the basis for examining self-efficacy expectations regarding career decision-making, which is the focus of evaluation, change, and research in the general field of career beliefs and attitudes (Betz & Luzzo, 1996). In addition, students' career making-decision self-efficacy has been found to be strongly and negatively related to their overall level of career indecision (Taylor & Betz, 1983). The resulting structure is of great importance in determining individuals' career decisions and choices. It focused on university students as an important period in career decision-making.

When students' opinions on self-determination skills were examined, it was revealed that 87.5% of the participants were able to choose what they wanted when choosing an intermediate level or above. The question asked to the participants was "Do you feel free to determine what you want to do/your destiny?" “What are your emotions that limit you?” The answers to the question show that the participants' perceptions of self-determination are high. It has been determined that limiting emotions are anxiety and indecision. In some individuals, emotions that affect their ability to make career decisions and meanwhile limit their perception of self-determination develop against financial obstacles and environmental factors. Students were asked: “Do you experience moments when you feel alienated from yourself or your emotions?”. 5 participants answered this question as "5-very high", 1 participant as "4-often", 4 participants as "3-medium level", three participants as "2-low" and three participants as "1-none or very low".

Students were asked: "What is the profession/sector you want to work in?". According to the answers to the question, the categories with the highest and equal frequency values are the University / Academician, Researcher, and Biology departments. Bandura's self-efficacy theory regarding career making-decision self-efficacy shows that college students are largely confident in their ability (Taylor & Betz, 1983). In the study conducted by Xu and Tracey (2014), individuals with greater tolerance for uncertainty tended to have better self-efficacy in career decision-making and, as a result, had less lack of information, general indecision, and less information conflict. It has been found that they tend to have students' opinions regarding their self-efficacy before graduation and at the postgraduate level were evaluated. The most obvious career decision-making difficulties that emerged as a result of the difficulties experienced by the participants can be listed as self-determination, career indecision, reluctance to research various professions, and lack of knowledge.

While aiming for qualified teacher education, there should be content that will enable individuals at the career selection stage to make the right career decision. To promote students' career decision-making self-efficacy, curricular considerations should be designed to ensure that students develop attitudes and abilities in the following categories: (a) making choices; (b) decision-making; (c) problem-solving; (d) setting and achieving goals; (e) self-monitoring skills; (f) self-assessment skills; (g) self-empowerment skills; (h) internal locus of control; (i) positive references to effectiveness and outcome expectancy; (j) self-awareness; and (k) self-awareness. Each categorical area has its unique development process, and the content of teaching should be determined according to these developments (Wehmeyer & Little, 2013). Evaluation tools, curriculum materials, and instructional models can be used in these contexts, including theory development and validation, intervention, monitoring, and policy studies (Chambers, Wehmeyer, Saito, Lida, Lee & Singh, 2007). Another common component for teacher candidates is work and work environment experiences. Through work experience, knowledge on the school campus is integrated with educational activities (Wehmeyer & Little, 2013).

There are many characteristics that individuals acquire from the family they live in. Just as information from internal sources is elicited by environmental stimuli, information is sought and selected from the environment in part based on a person's salient needs (Deci & Ryan, 1980). Self-determination also includes healthy family involvement. When an experience that can be gained from the family or the environment causes the person to feel and perceive himself/herself as more competent, the person will be more intrinsically motivated (Deci & Ryan, 1985). Young people have a variety of sources of decision-making that can have a significant impact on their future: This impact can be seen not only in local, national, and sometimes global contexts but also as a result of complex interactions involving formal rules on education and employment. It would be useful to see that individuals make rational decisions using their different perspectives and their own different goals (Hodkinson & Sparkes, 1997).

The aim of teacher education to raise individuals who have the qualifications to meet the criteria of today's society is emphasized, and talent and quality are important to provide high-quality education and training in teacher education (Yavuz, Özkaral & Yıldız, 2015). Promoting student self-determination has become the best practice in the selection of qualified teacher candidates. Self-regulation and self-awareness/self-awareness were predictors of transition planning knowledge and skills (Wehmeyer, Palmer, Soukup, Garner, & Lawrence, 2007). Self-determination also requires a high degree of intrinsic motivation and a centrally functioning intrinsic motivation subsystem. People's experiences with their environment influence the extent to which intrinsic, extrinsic, and non-motivational subsystems will be functional. When a person perceives the locus of causality of his/her behavior as external and feels less self-determined, he will be less intrinsically motivated (Deci & Ryan, 1980). Based on the literature discussed greater perceptions of self-determination predict a more integrated professional identity regarding career decision-making self-efficacy and greater involvement in career-related tasks (Gushue, Scanlan, Pantzer, & Clarke, 2006; Vallerand, Pelletier & Koestner, 2008).

In recent years, research and decision-making about careers have played a central role for students during the university period (Wulff & Steitz, 1999). "Have you researched issues such as working conditions, job interviews, and appointments?" “What is the subject that interests you the most?” asked to students. When the answers given were examined, participants who answered "I did research" stated that they mostly researched the topics and content of job interviews. As a result of the answer of 6 participants "I did not do research", it can be said that they did not think they did enough research during the planning stage or that they continued to be indecisive about their career. Some of the factors in making career decisions can be listed as having too many areas of information to be researched, not feeling ready for the decision-making process, perceiving the difficulties of accessing the right sources for healthy information, and lack of motivation. In the literature, the difficulties encountered in making career decisions are explained in three main groups: lack of preparation, lack of knowledge, and inconsistent information (Gati, Krausz & Osipow, 1996; Gati, Ryzhik, & Vertsberger, 2013). Lack of preparation includes three categories of challenges that arise before making a career decision: (a) lack of motivation to make a career decision, (b) general ambivalence regarding any type of decision, and (c) irrational expectations and thoughts regarding career decision making (Gati, Krausz & Osipow, 1996; Gati, Ryzhik & Vertsberger, 2013).

Not every individual may have the ability to become a teacher. Because teaching is a profession that includes many features such as patience and dedication. Those who are truly willing to become teachers and have a high level of success in secondary education should be selected for teacher training institutions (Işık, Çiltaş & Baş, 2010). Gathering information about working life, meeting with experts, and making career plans as time progresses in working life are some of the important supports of students' self-efficacy. It has been revealed that they conduct individual research, mostly using the internet, to collect information about their working life. Doing individual research on the internet and meeting with experts are the most preferred techniques by the participants, apart from these, being in working life and learning from close circle are other techniques. It was revealed that 31% of the students thought they received support from experts in making career decisions, while the rest thought they did not receive support. The study conducted by Jemini-Gashi, Duraku, and Kelmendi (2021) emphasizes the importance of social support and self-confidence for career decision-making. As in self-determination, parental support, as well as the social environment, is important in self-efficacy. On the other hand parents increase the ability of individuals to choose careers for the ideal lifestyle (Mao, Hsu, & Fang, 2017).

All components of the teacher training system need to be developed in order to train teachers with the quality and quantity needed today and in the future (Baskan, Aydın & Madden, 2006). Career decision-making is the main issue that career counseling experts are interested in evaluating (Crişan & Turda, 2015). Self-determination has gained importance, especially among young people, in the context of creating a general perspective on their future lives, being accepted in society, being aware that they are adults, and outlining their goals in life. Social and economic changes pose significant obstacles for young people in career decision-making and self-determination (Vasylenko and Sheremet, 2017). Individuals often face challenges before or during career decisions. Therefore, identifying the focus of these challenges is one of the first steps. Starting from secondary education, counseling, and guidance services should especially be aimed at helping students think about their professional future (Gati, Ryzhik & Vertsberger, 2013). Career initiatives in this direction are also effective for university students. When looking at career programs, job interviews, explaining values, and computer-aided programs are recommended for semester courses containing different texts (Ozlem, 2019). Distance education provides individuals with the opportunity to learn on their own and is more flexible and adaptable to individual conditions than face-to-face education. With distance education, it is aimed to partially or completely eliminate the limitations in providing educational services and to ensure that everyone can benefit from educational opportunities and to educate individuals in different conditions (Akyürek, 2020). As a result, it is important to determine policies that will develop throughout education life to develop career decision-making self-efficacy. It is also expected to help increase individuals' awareness of career decision-making and career planning and to help design and adopt policies, school practices, and initiatives to reduce career indecision due to self-determination competence.

Self-determination, as a set of behaviors, is defined by certain characteristics such as the freedom to choose one's own destiny, problem-solving, self-confidence, or decision-making (Wehmeyer, 1996; Wehmeyer & Kelchner, 1995; Wehmeyer & Lawrence, 1995; Wehmeyer & Schwartz, 1997). According to the self-determination theory, behavior can be classified into two categories depending on whether it results from variables in the environment or variables in the person. Just as information from internal sources is elicited by environmental stimuli, information is sought and selected from the environment in part based on the person's salient needs. Information input that is actively perceived, organized, and stimulates sequences of behavior can be considered conscious awareness (Deci & Ryan, 1980). What students know about self-determination, what their limitations are, and their views on facilitating understanding of their emotions are important.

In the study conducted by Creed et al., it was stated that changes in self-determination in career decision-making did not cause changes in career indecision (Creed et al., 2006). It has been stated that guidance service in career decision-making and development also helps self-determination (Korna-Opincane & Katane, 2018). It is especially important that psychology science is included here because a study found that individuals aged 20-30 with mental problems achieved better career and life goals in career planning that included self-determination initiatives (Sowers and Swank, 2017). Another study states that the career exploration of the student who perceives the support of the faculty member/teacher is positively affected and that the learning activity through attracting attention at work is also positively reflected in this perception-career exploration (Lu et al., 2022). Another study found that there was a negative correlation between social support and career indecision (Jemini-Gashi et al., 2021). It was stated in the study of Penn and Lent (2019) that extroverted individuals easily motivate their career self-efficacy and make faster career decisions. It was stated in the study conducted by Nauta and Kahn (2007) that compatibility with hobbies does not play a role in career decision-making. According to Chantara et al., career indecision is eliminated with the help of motivation, and support for self-determination is provided by highlighting determination (Chantara et al., 2011). Self-determination can be used in applied areas including work, education, sustainability, and healthcare (Deci & Ryan, 2008a). It is recommended to open programs related to self-determination. Students should develop knowledge and skills about setting goals and making decisions.

In conclusion, this study has important implications for future studies targeting students' views on career making-decision self-efficacy. It is important in the design and evaluation of training and consultancy activities to increase self-efficacy in relation to the career decision-making process (Betz & Luzzo, 1996). It has been determined that a significant portion of the students want to become teachers, researchers/academicians/scientists according to their career plans in their future working lives, while others want to provide personal development and professional development. Students who have a more positive perception about taking part in academic studies can also foresee that they will receive social support in the work environment. It will be important in teacher education, in evaluating future career planning programs, in developing new programs and activities, and in determining effective strategies to improve career decision making self-efficacy.

References

Akyürek, M. İ. (2020). Uzaktan eğitim: Bir alanyazin taramasi. *Medeniyet Eğitim Araştırmaları Dergisi*, 4(1), 1-9.

Bambara, L. M., Cole, C. L., & Koger, F. (1998). Translating self-determination concepts into support for adults with severe disabilities. *Journal of the Association for Persons with Severe Handicaps,* 23(1), 27-37.

Bandura, A. (1977). *Social Learning The*ory. Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1986). *Social Foundations of Thought and Action: A Social Cognitive Theory*. Englewood Cliffs, NJ: Prentice Hall.

Baskan, G. A., Aydın, A., & Madden, T. (2006). Türkiye'deki öğretmen yetiştirme sistemine karşılaştırmalı bir bakış. *Çukurova Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 15(1), 35-42.

Betz, N. E., & Hackett, G. (1986). Applications of self-efficacy theory to understanding career choice behavior. *Journal of Social and Clinical Psychology*, *4*(3), 279-289.

Betz, N. E., Klein, K. L., & Taylor, K. M. (1996). Evaluation of a short form of the career decision-making self-efficacy scale. *Journal of Career Assessment*, *4*(1), 47-57.

Betz, N. E., & Luzzo, D. A. (1996). Career assessment and the career decision-making self-efficacy scale. *Journal of Career Assessment*, *4*(4), 413-428.

Brown, C., Reedy, D., Fountain, J., Johnson, A., & Dichiser, T. (2000). Battered women's career decision-making self-efficacy: Further insights and contributing factors. *Journal of Career Assessment*, *8*(3), 251-265.

Chambers, C. R., Wehmeyer, M. L., Saito, Y., Lida, K. M., Lee, Y., & Singh, V. (2007). Self-determination: What do we know? Where do we go*?*. *Exceptionality*, 15(1), 3-15.

Chantara, S., Kaewkuekool, S., & Koul, R. (2011). Self-determination theory and career aspirations: A review of literature. *institutions*, *7*, 9.

Chuang, Y. T., Huang, T. H., Lin, S. Y., & Chen, B. C. (2022). The influence of motivation, self-efficacy, and fear of failure on the career adaptability of vocational school students: Moderated by meaning in life. *Frontiers in Psychology*, *13*, 958334.

Creed, P., Patton, W., & Prideaux, L. A. (2006). Causal relationship between career indecision and career decision-making self-efficacy: A longitudinal cross-lagged analysis. *Journal of Career Development*, *33*(1), 47-65.

Crişan, C., & Turda, S. (2015). The connection between the level of career indecision and the perceived self-efficacy on the career decision-making among teenagers. *Procedia-Social and Behavioral Sciences*, *209*, 154-160.

Crites, J. O. (1978). *Career Maturity Inventory.* Monterey, CA: McGraw-Hill

Deci, E. L., & Ryan, R. M. (1980). The empirical exploration of intrinsic motivational processes. *In Advances in Experimental Social Psychology* (Vol. 13, pp. 39-80). Academic Press.

Deci, E. L., & Ryan, R. M. (1985). Intrinsic motivation and selfdetermination in human behavior. *New York: Plenum.*

Deci, E. L., & Ryan, R. M. (2008a). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian Psychology/Psychologie Canadienne*, *49*(3), 182.

Deci, E. L., & Ryan, R. M. (2008b). Facilitating optimal motivation and psychological well-being across life's domains. *Canadian Psychology, 49,* 14 –23.

Eisenman, L. T., & Chamberlin, M. (2001). Implementing self-determination activities: Lessons from schools. *Remedial and Special Education*, 22(3), 138-147.

Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior*, *26*(4), 331-362.

Gagne´, M., & Forest, J. (2008). The study of compensation systems through the lens of self-determination theory: Reconciling 35 years of debate. *Canadian Psychology*, 49, 225–232.

Ganske, K. H., & Ashby, J. S. (2007). Perfectionism and career decision-making self-efficacy. *Journal of Employment Counseling*, *44*(1), 17-28.

Gati, I., & Asher, I. (2001). *The PIC model for career decision making: pre-screening, in-depth exploration, and choice.* In F. T. L. Leong, & A. Barak (Eds.), Contemporary Models in Vocational Psychology (pp. 7–54). Mahwah, NJ: Erlbaum.

Gati, I., Krausz, M., & Osipow, S. H. (1996). A taxonomy of difficulties in career decision making. *Journal of Counseling Psychology,* 43, 510–526. http://dx.doi.org/ 10.1037/0022-0167.43.4.510.

Gati, I., Ryzhik, T., & Vertsberger, D. (2013). Preparing young veterans for civilian life: The effects of a workshop on career decision-making difficulties and self-efficacy. *Journal of Vocational Behavior*, *83*(3), 373-385.

Guay, F. (2005). Motivations underlying career decision-making activities: The career decision-making autonomy scale (CDMAS). *Journal of Career Assessment, 13(1),* 77-97.

Gushue, G. V., Scanlan, K. R., Pantzer, K. M., & Clarke, C. P. (2006). The relationship of career decision-making self-efficacy, vocational identity, and career exploration behavior in African American high school students. *Journal of Career Development*, *33*(1), 19-28.

Hodkinson, P., & Sparkes, A. C. (1997). Careership: a sociological theory of career decision making. *British Journal of Sociology of Education*, *18(1),* 29-44.

Hui, E. K., & Tsang, S. K. (2012). Self-determination as a psychological and positive youth development construct. *The Scientific World Journal*, *2012*, *1-7.* doi:10.1100/2012/759358.

Işık, A., Çiltaş, A., & Baş, F. (2010). Öğretmen yetiştirme ve öğretmenlik mesleği. *Atatürk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 14(1), 53-62.

İşman, A. (2008). *Uzaktan eğitim*. Pegem Akademi.

Jemini-Gashi, L., Duraku, Z. H., & Kelmendi, K. (2021). Associations between social support, career self-efficacy, and career indecision among youth. *Current Psychology*, *40*, 4691-4697.

Korna-Opincane, E., & Katane, I. (2018). Topicality of career guidance at schools for promoting of students' professional self-determination. *Research for rural development*, *2*, 252-258.

Látalová, V., & Pilárik, L. (2015). Predicting career decision-making strategies in women: The role of self-determination and perceived emotional intelligence. *Studia Psychologica*, *57*(2), 95.

Lu, L., Gao, X., & Xiao, Y. (2022). Impact of college students' perceived teacher support on career exploration: A Self-Determination Theory approach. *Innovations in Education and Teaching International*, 1-13.

Mao, C. H., Hsu, Y. C., & Fang, T. W. (2017). Mediating effect of career decision self-efficacy on the relationship between parental support and indecision in Taiwan. *Journal of Career Development*, *44*(6), 471-484.

Meyer, J. P., & Gagne, M. (2008). Employee engagement from a self-determination theory perspective. *Industrial and Organizational Psychology*, *1*(1), 60-62.

Nauta, M. M., & Kahn, J. H. (2007). Identity status, consistency and differentiation of interests, and career decision self-efficacy. *Journal of Career Assessment*, *15*(1), 55-65.

Nota, L., Ferrari, L., Solberg, V. S. H., & Soresi, S. (2007). Career search self-efficacy, family support, and career indecision with Italian youth. *Journal of Career Assessment*, *15*(2), 181-193.

Ozlem, U. K. (2019). The effects of career interventions on university students' levels of career decision-making self-efficacy: A meta-analytic review. *Australian Journal of Career Development*, *28*(3), 223-233.

Osipow, S. H., & Winer, J. L. (1996). The use of the Career Decision Scale in career assessment. *Journal of Career Assessment*, *4*(2), 117-130.

Özer, B. (2008). *Öğretmenlerin Mesleki Gelişimi.* A. Hakan (Ed.), Öğretmenlik meslek bilgisi alanındaki gelişmeler, 195–216, Eskişehir: Anadolu Üniversitesi Açıköğretim Fakültesi.

Penn, L. T., & Lent, R. W. (2019). The joint roles of career decision self-efficacy and personality traits in the prediction of career decidedness and decisional difficulty. *Journal of Career Assessment*, *27*(3), 457-470.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist,* 55, 68–78.

Ryan, R. (2009). Self determination theory and well being. *Social Psychology*, *84*(822), 848.

Ryan, R. M., & Connell, J. P. (1989). Perceived locus of causality and internalization: Examining reasons for acting in two domains. *Journal of Personality and Social Psychology, 57,* 749–761.

Ryan, R. M., & Deci, E. L. (2008a). A self-determination theory approach to psychotherapy: The motivational basis for effective change. *Canadian Psychology*, 49, 186 –193.

Ryan, R. M., & Deci, E. L. (2008b). From ego-depletion to vitality: Theory and findings concerning the facilitation of energy available to the self. S*ocial and Personality Psychology Compass,* 2, 702–717.

Ryan, R. M., & Deci, E. L. (2017). Self-determination theory. *Basic psychological needs in motivation, development, and wellness. Guilford Press*, *10(978.14625),* 28806.

Scott, A. B., & Ciani, K. D. (2008). Effects of an undergraduate career class on men's and women's career decision-making self-efficacy and vocational identity. *Journal of Career Development*, *34*(3), 263-285.

Sheldon, K. M., Ryan, R., & Reis, H. T. (1996). What makes for a good day? Competence and autonomy in the day and in the person. *Personality And Social Psychology Bulletin, 22(12),* 1270 1279. https://doi.org/10.1177/01461672962212007.

Solberg, V. S., Good, G. E., & Nord, D. (1994). Career search self-efficacy: Ripe for applications and intervention programming. *Journal of Career Development*, *21*, 63-72.

Sowers, J. A., & Swank, P. (2017). Enhancing the career planning self-determination of young adults with mental health challenges. *Journal of Social Work in Disability & Rehabilitation*, *16*(2), 161-179.

Taylor, K. M., & Betz, N. E. (1983). Applications of self-efficacy theory to the understanding and treatment of career indecision. *Journal of Vocational Behavior*, *22*(1), 63-81.

Thoma, C. A., Nathanson, R., Baker, S. R., & Tamura, R. (2002). Self-determination: What do special educators know and where do they learn it?. *Remedial and Special Education*, *23*(4), 242-247.

Vallerand, R. J., Pelletier, L. G., & Koestner, R. (2008). Reflections on self-determination theory. *Canadian Psychology/Psychologie Canadienne*, *49*(3), 257.

Vasylenko, O., & Sheremet, A. (2017). Peculiarities of career self-determination of modern high school students. Наука і освіта, (4), 159-165.

Wehmeyer, M. L. (1996). *Self-determination as an educational outcome: Why is it important to children, youth, and adults with disabilities?* In D. J. Sands & M. L. Wehmeyer (Eds.), Self-determination across the lifespan: Independence and choice for people with disabilities (pp. 17– 36). Baltimore: Brookes.

Wehmeyer, M. L. (1998). Self-determination and individuals with significant disabilities: Examining meanings and misinterpretations. *Journal for the Association for Persons with Severe Handicaps,* 23(3), 5–16.

Wehmeyer, M. L., Agran, M., & Hughes, C. (2000). A national survey of teachers' promotion of self-determination and student-directed learning. *The Journal of Special Education, 34(2),* 58–68.

Wehmeyer, M. L., & Kelchner, K. (1995). *The Arc's self-determination scale.* Arlington, TX: The Arc National Headquarters.

Wehmeyer, M. L., & Lawrence, M. (1995). Whose future is it anyway? Promoting student involvement in transition planning. *Career Development for Exceptional Individuals, 18,* 69–83.

Wehmeyer, M. L., & Little, T. D. (2013). *10 Self-Determination*. The Oxford handbook of positive psychology and disability, 116.

Wehmeyer, M. L., Palmer, S. B., Soukup, J. H., Garner, N. W., & Lawrence, M. (2007). Self-determination and student transition planning knowledge and skills: Predicting involvement. *Exceptionality*, *15*(1), 31-44.

Wehmeyer, M. L., & Schwartz, M. (1997). Self-determination and positive adult outcomes: A follow-up study of youth with mental retardation or learning disabilities. *Exceptional Children,* 63(3), 248–255.

Wulff, M. B., & Steitz, J. A. (1999). A path model of the relationship between career indecision, androgyny, self-efficacy, and self-esteem. *Perceptual and Motor Skills*, *88*(3), 935-940.

Xu, H., & Tracey, T. J. (2014). Ambiguity tolerance with career indecision: An examination of the mediation effect of career decision-making self-efficacy. *Journal of Career Assessment*, *23*(4), 519-532.

Yavuz, M., Özkaral, T., & Yıldız, D. (2015). Uluslararası raporlarda öğretmen yeterlikleri ve öğretmen eğitimi. SDU International *Journal of Educational Studies, 2(*2), 60-71.

The Place of Media Literacy Course in TRNC Secondary Education Institutions and the Use of Technological Devices Related to the Media Literacy Curriculum

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Abstract
Today's world is equipped with media and media messages. It has become impossible to prevent all kinds of information in social life from reaching audiences of all ages. Media content attracts children and adults, especially children, who are the most open to interaction and sensitive group under the information bombardment they are exposed to, and they take the material presented to them as it is without filtering it. It is possible to control these effects of the media, reduce its harmful effects, and enable individuals to take a more active and questioning position in the face of the information they receive, rather than being a simple consumer, with media literacy education. In this context, this study aims to determine student opinions regarding the media literacy course in order to investigate the practical situation of the media literacy course in the secondary education curriculum in TRNC and to develop solution suggestions on issues such as the use of technological devices connected to the curriculum to make media literacy courses productive. The field research method was applied, and a survey was used to obtain the data. The data were interpreted by frequency and percentage analysis using the SPSS 26.0 program. The study group in which the quantitative data of the research was collected consisted of 421 eighth-grade students studying at Güzelyurt Şehit Turgut Secondary School and Lefke Gazi High School in the 2023-2024 academic year. Findings obtained in the study: The level and efficiency of teaching the media literacy course in the schools in the sample are low within the framework of student opinions, and the media literacy course should be supported with new media literacy concepts and scopes within the framework of the evolving definition of media literacy. The use of technological devices connected to the curriculum should be increased, and the course contents should be integrated with technological inputs. It also revealed the need for reorganization in this direction.
Key Words: Communication, Technology, Education, Media Literacy Education, Media Literacy Education.

Introduction

Media literacy studies are gaining increasing importance around the world, including Turkey. Google's results for the keyword' media literacy' increased from 17.4 million to 139 million, while Google Academic's results for the exact keywords increased from 1.5 million to 2.4 million. This increase in numbers is valuable data showing the importance of media literacy in our daily lives and academic studies. Although media messages make a straight sense, they are shaped by many variables. Ideological elements, commercial concerns, etc., and media messages shaped by factors only sometimes present the facts as they are. In other words, the media can overshadow reality by presenting a simulated world. The media is in a position of authority that determines what is essential and what is unimportant for us. In our daily lives, we can see that headlines or subheadings that appear on the front pages of some newspapers, especially in the print media, appear on the inside pages of other newspapers. This example is a primary indicator of the power of the media in setting the agenda. In other words, the guardians of the media are the leading authority in determining our daily agenda. When considered in this context, essential factors such as the study, understanding and interpretation of media content become even more critical. Within this framework, media literacy education aims to educate individuals who criticize, research, and discuss. The ultimate goal is to create individuals who analyze the media correctly and produce media messages and content. A media literate is a person who both observes and shares while producing. That is why media literacy education is critical in today's world.

Baran, who took the word 'literacy' as a starting point when defining the concept of media literacy, defines it as the ability to understand written symbols and use them effectively and efficiently. With the development of non-printed media, this definition needs to be expanded to include the ability to understand and use all forms of communication effectively and efficiently. Regarding participation in mass communication, this ability is also called media literacy. Therefore, media literacy is understanding and using mass media effectively and efficiently (Boulianne, 2015). Potter interprets media literacy as a continuum, not as a category. It is a set of terms we actively use to expose ourselves to the media to interpret the meaning of the messages we encounter. We build our perspectives from information structures. We need tools and raw materials to create our knowledge structures. These tools are our capabilities. According to a generally accepted definition, media literacy is the ability to reach, analyze and transmit messages in various forms (Tiede et al., 2015). Elizabeth Thoman emphasizes the importance of active participation by stating that students should read what they see as a media product and be active in creating it. Thoman, the head of the Center for Media Literacy, guides students through the production process of media messages.

After the early protectionist approach, mainstream studies in media literacy focused on critical media literacy, aimed at a society that criticizes and discusses media messages, needs to be more content with a single source and is looking for different sources. Critical media literacy, based on the work of critical pedagogy with liberating literacy skills, will recognize that gender, race, class, ethnicity and cultural definitions have been reconstructed on both a historical and social level. It provides the ability to read events worldwide, to see the construction of ideological meanings in texts, andand to understand, distinguish and solve the political nature of boundaries and possibilities (Tiede et al., 2015).

While literacy in written media is practically the ability to read and write text, digital literacy has also come to the agenda with the development of new communication technologies. A new digital society has emerged with new communication technologies, and digital culture has also been formed. In this context, the concept of literacy has expanded; new media messages have emerged from written media to electronic and digital media. Digital literacy is necessary in audio, video, virtual media and multimedia. Speed and momentariness work with properties such as decreasing boundaries between materials, interaction and hypersexuality (Wiseman, 2012). In this context, media education is becoming increasingly important. New media literacy is a new understanding of literacy in which students can interpret media messages with a more selective, critical eye by perceiving and evaluating them and gaining literacy skills in the digital age we are in with the development of technology.

Today, the media is among the most influential institutions with its agenda-setting power and manipulation skills. Dec. Baudrillard emphasizes that all media are fictional worlds. Everything we see in living spaces is a simulation. Communication is everywhere and everything. In our world, which Baudrillard calls the "world of objects", there are simulacra focused on the capitalist system. Baudrillard focuses on social reading codes and gives importance to changing these codes. They emphasize eliminating the line between the illustrative and the indicated and the indicated, Decrying it as not submitting to the symbolic order. According to the theorist, the most important disease of today's society is the production of truth. He defends the claim that material production has become hyper-reality (Lee et al., 2010). The number of news stories in today's world has increased, but the meaning ratio has decreased. News does not produce meaning; instead, it disappears in the production of meaning that it puts on the stage. It is part of the simulation process (Carr, 2010). In this context, the reality under the appearance must be determined correctly and analyzed successfully. Another issue that should be emphasized in creating media messages is the "political Economy Approach." According to the liberal, pluralistic theory, the media acts on behalf of the people to control governments within the framework of public responsibility. However, as a result of the capitalist order, the media appear as institutions that serve the interests of a capitalist group that legitimizes itself only by controlling it (Wiseman, 2012).

Globalization and neoliberal policies formed together to create a new understanding of Sunday. In this system, it is seen that media organizations also move forward in a monopolistic structure with a single demand. Since media messages are naturally structured in such a system, the uniqueness, mediocrity and uniformity assumed by the system are also present in these messages. Media publications with different views are disappearing in such a way as to lead to a monolithic structure. This point reveals the need to differentiate and analyze the ideological structure through different publications in analysing media messages. Media literacy has emerged today as a defence mechanism against the adverse effects of the media. It guides the individual to correctly analyze media messages formed in the context of the issues discussed above.

Development of Media Literacy in TRNC, Use of Technological Devices Related to Media Literacy Curriculum

With the support of academics in the TRNC and the initiatives of the Supreme Board of Broadcasting, the media literacy course was included in the curriculum as an elective course in secondary education institutions in the 2012-2013 Academic Year by the Ministry of National Education and Sports, as it was called at that time. In 2012, the 'Media Literacy Teaching Program' was prepared by a commission established by the TRNC Department of Education and Discipline. As a result of the dedication of stakeholders, the media literacy course, which was included in the curriculum in secondary education institutions, was included as an elective course. The media literacy course, which started at the primary school level in many countries, aims to help young children understand the functioning of the media or mass media. In the TRNC, this practice started to be taught in secondary education institutions covering the older age group. It came to the fore again as an essential problem in that it was late correcting some habits until that age, and students had little interest in these courses due to their lack of knowledge of the content and importance of the course, and within the same academic year. It became a compulsory course in the curriculum of 6th, 7th and 8th grade students with the cooperation and initiatives of the Ministry of National Education, Youth and Sports and the High Council of Broadcasting. With these initiatives, a media literacy course entered the curriculum as a compulsory course at the high school level in TRNC; Primary education was excluded from this education (Ersoy, 2013). Today, the media literacy course is a 'compulsory elective' for 8th graders in secondary education institutions.

With the media literacy course included in the curriculum of the Ministry of National Education in the Turkish Republic of Northern Cyprus, it is aimed that students in our country, as well as all over the world, are generally equipped to perceive media messages correctly and acquire the ability to produce messages over time. "With the rapidly developing new communication technologies, the nature of media literacy education has changed and media literacy has moved to a different dimension. "The one-sided information flow of traditional media has ceased to be one-sided with the development of digital communication technologies, and the existence of a target audience that can intervene in the media and determine the content has become possible" (Solmaz et al., 2017: 967). In this context, the existence of technological devices connected to the media literacy curriculum and their effective use within the curriculum has become an extremely important issue. In this context, although various regulations have been made for innovation in primary and secondary education programs in the TRNC, the existence of technological devices connected to the curriculum and their effective use in the curriculum and no notable arrangements have been made in teacher training programs in this field, "Since 2007, Although it has been stated that this course will be taught compulsorily by graduates of the Faculty of Communication, and although the communication faculties of universities produce thousands of graduates with pedagogical formation every year, the fact that graduates of other fields still hold the control of the media literacy course remains a vital problem (Bayraktar, 2018). Educational institutions, which will play important roles in raising individuals who will have a say in the future of their countries, should aim to initiate and support comprehensive media education programs from preschool to university and adult education. However, the media literacy course, an elective course in the Ministry of National Education curriculum in TRNC, must receive the necessary attention in schools. The fact that most teachers teaching the course must be trained in the field remains a significant problem.

Including the media literacy course in elective courses. Reasons such as the fact that this course does not affect the student's final grades at the end of the year and that the majority of the teachers teaching the course are not trained in the field; These factors stand out as factors that prevent the quality of media literacy education and its internalization by students. In schools, The 130-page course booklet used in the secondary education program is used as the 'sole resource'. Many of them have special technologically equipped laboratories, studios, etc. The need for more areas and equipment is noteworthy. Instead of graduates of the Faculty of Communication who receive pedagogical training in schools, the relevant course is taught by teachers with different areas of expertise, such as guidance counsellors and computer teachers, who do not even have the opportunity to receive in-service training related to the course. Media literacy courses should be taught by educators who are experts in their fields, and schools should be provided with computers, smart boards, etc., that should be used depending on the content of the course. Providing the necessary technological tools and equipment and creating resources to create areas will effectively achieve the goals of the media literacy course.

Method

The Purpose of the Research and the Data Collection Tools

In the TRNC, in order to investigate the practical status of the media literacy course included in the secondary education curriculum and to provide solutions on issues such as the use of technological equipment related to the curriculum to make media literacy courses efficient, the field research method was applied in this study, which aims to determine student views on the media literacy course. The survey technique was used to obtain the data. The questionnaire form was created after a detailed literature review on media literacy education, an examination of previous research conducted in the field, and the research. The questionnaire form first tried in the control group, was implemented after the necessary corrections. The obtained data were analyzed using the IBM SPSS 26.0 program. Descriptive statistical methods (number, percentage, frequency, average) were used to evaluate the data. The questionnaire applied within the scope of the study was formed from closed-ended questions. the first part of the survey consisted of 14 questions: 3 questions about students' information about age, gender and distribution by class; in the second part, who/who is influential in choosing the media literacy course, topics mainly covered in the media literacy course, opinions about what the media literacy course provides to students, reasoned opinions about whether the media literacy course should be mandatory, opinions about the difference of the media literacy course from other courses, 11 questions were asked, including opinions about the processing method of the media literacy course, opinions about the methods, techniques and media used in the media literacy course, opinions about providing media literacy education to parents, opinions about the contribution of media literacy to separating fact and fiction. In the survey, the questions included in Kutlu's (2018) study, which discussed the approaches and practices adopted within the scope of the media literacy course, were used.

In order to document the suitability of the research to scientific research and publication ethics, an application was made to the Ethics Committee of the Faculty of Communication of the American University of Kyrenia. The application was evaluated at the Board's decision numbered 2023-3 dated 07.12.2023, and it was decided that the research does not contain ethical violations. Within the scope of the research, students who took a media literacy course were given information about the purpose of the research and the questions.

Universe and sampling

The study universe comprises students taking the media literacy course in the TRNC. The sample consists of students taking media literacy courses in selected schools in Lefke and Güzelyurt districts. In the TRNC, Nicosia (38 settlements), Famagusta (62 settlements), Kyrenia (45 settlements), Iskele (28 settlements), Guzelyurt (10 settlements) and Lefke (17 settlements), including the fact have characteristics of two districts with the fewest settlements among six districts, and the fact that Nicosia has the peripheral characteristics, Lefke and Guzelyurt districts were taken into account in the inclusion of the sample Dec. In the study, according to the information received from the Ministry of National Education of the TRNC, media literacy in the districts of Guzelyurt and Lefke was 8. students who have taken the media literacy course at least two semesters in the schools where it is given in the classroom have formed students.

The study group in which the quantitative data of the research were collected consists of 475 eighth graders who took the media literacy course of the two schools where the media literacy course is given in the districts of Guzelyurt and Lefke in the TRNC in the academic year 2023-2024. A total of 475 students participated in the research. However, the number of data that can be used statistically has been determined as 421. Two hundred thirty-eightThe survey included girls, 183 boys and 421 students studying at Güzelyurt Şehit Turgut Secondary School and Lefke Gazi High School. The validity and reliability of the survey have been tested; Cronbach's Alpha value, which is the reliability coefficient, was found to be 0.881. The study is essential in providing information about the implementation of media literacy education in the TRNC and providing data for the studies to be conducted on the subject, as well as the findings it will reach.

Data Analysis and Findings

Under this heading, the answers given by eighth-grade students studying at Güzelyurt Şehit Turgut Secondary School and Lefke Gazi High School and taking media literacy courses are presented in the tables below.

Table 1. Distribution of Students by Gender

	Frekans	Yüzde (%)
Girl	238	56.53
Male	183	43.46
Total	421	100

Of the students participating in the research, 238 were female, and 183 were male.

Table 2. Distribution of Who/Who Is Influential in Students' Choice of Media Literacy Course

	Frekans	Yüzde (%)
Teacher	411	97.62
None	10	2.37
Total	421	100

In Table 2, it is seen that 411 of the students participating in the survey answered the question of who/who is influential in students choosing the media literacy course as teachers and 10 as none. No student was found to have selected the option of parents and friends, among the other answers.

Table 3. Distribution of Topics Mainly Covered in Media Literacy Course

	Frekans	Yüzde (%)
Computer/Internet	421	100
Total	421	100,0

Table 3 shows the distribution of answers to the topics mainly covered in the media literacy course. Accordingly, the students participating in the survey; It can be seen that among the TV, Radio, Computer/Internet and Newspaper options, only the computer/internet option is selected. All students who participated in the survey selected the Computer/Internet option.

Table 4. Distribution of Answers Regarding the Gains of Media Literacy

	Frekans	Yüzde (%)
Observation Skill	40	9.5
Critical Thinking	92	21.8
Creative Thinking	70	16.6
None	219	52.0
Total	421	100

Table 4 shows the distribution of students' answers to the question about the benefits of the media literacy course. Accordingly, 40 students answered observation skills, 92 answered critical thinking skills, 70 answered creative thinking skills, and 219 answered none.

Table 5. Distribution of Answers Regarding Media Literacy Course Being a Compulsory Course

	Frekans	Yüzde (%)
1	20	4,7
2	11	2.6
3	33	7.8
5	210	49.8
6	147	34.9
Total	421	100

Table 5 shows the distribution of the responses of the students who participated in the survey, justifying the media literacy course as a compulsory course. Accordingly, of the students participating in the survey, 20 (1) of them I think it gives me critical thinking skills towards media messages, 11 (2) of them say: Media Literacy Lesson Increases My General Knowledge, 33 (3) of them say: I find Media Literacy Lessons More Enjoyable Compared to Other Lessons, 210 of (5) of them:) Media Literacy Course Satisfies My Curiosity and 147 of them answered (6) I Like the Media Literacy Course Because It Contains Current Information. (4) Media Literacy is a Necessary and Important Course for Everyone, (7) I Want the Media Literacy Course to Be Compulsory Because I Believe It is Useful, (8) I Like the Application Projects in the Media Literacy Course, (9) I Enjoy Sharing the Information I Learned in the Media Literacy Course with Others, (10) The answers "Using the Information I Learned in the Media Literacy Course in Daily Life Makes Me Want to Learn New Things About Media Literacy" were not marked by any student.

Table 6. Distribution of Answers Regarding Media Literacy Course Not Being a Compulsory Course

	Frekans	Yüzde (%)
1	9	2.1
3	32	7.6
4	67	15.9
5	54	12.8
6	219	52.0
7	8	1.9
8	32	7.6
Total	421	100

Table 6 shows the distribution of the responses of the students who participated in the survey, in which they justified the media literacy course as not compulsory. Accordingly, 9 of the students participating in the survey (1) I find the course boring, 32 (3) I am not interested in the Media Literacy Course, 67 (4) I do not like the Media Literacy Course because it is memorized, 54 (5) It is seen that the incompetence of my Literacy Lesson Teacher makes me alienate from the lesson, 219 (6) of them answered "I do not find the Media Literacy Course Books Sufficient" and 32 of them (8) answered "I do not feel like studying because I easily forget the Media Literacy Course Topics". The answers such as (2) I get low grades in the media literacy course even Though I study, (7) I need help understanding the subjects of the media literacy course were not marked by any students.

Table 7. Distribution of Media Literacy Course Achievements

	Frekans	Yüzde (%)
3	380	90.2
4	41	9.7
Total	421	100

Table 7 shows the distribution of the answers given by the students who participated in the survey to the question, "Which of the following was the media literacy course effective for you?" Accordingly, 380 (3) of the students who participated in the survey marked the answer "It Had No Effect", while 41 (4) answered "I Examine Media Tools with a Different Perspective Since Taking This Course". The answers include (1) I started to watch the programs I watched/listened to/read more selectively and consciously, (2) My ability to analyze the programs I watched improved, was not marked by any students.
All students who participated in the survey answered yes to the question, "Do you think the media literacy course is different from other courses?"

Table 8. Distribution of Answers Regarding the Method of Teaching the Media Literacy Course

	Frekans	Yüzde (%)
1	101	23.9
2	101	23.9
4	219	52.0
Total	421	100

Table 8 shows the distribution of the answers given by the students who participated in the survey to the question 'How do you find the method of teaching the media literacy course?' According to this, It is seen that 101 of the students who participated in the survey answered (1) I find the tools and equipment used in the course sufficient, 101 (2) I find the activities carried out in the class related to the media sufficient, and 219 (4) I do not find the in-class discussions about the media sufficient. . (3) The answer "I think the teaching methods used in the course (student-centered) are correct" was not marked by any student.

Table 9. Distribution of Methods and Techniques Used in the Media Literacy Course

	Frekans	Yüzde (%)
4	25	5.9
5	396	94.0
Total	421	100

In Table 9, in the question investigating the methods and techniques used in the media literacy course, The distribution of the answers given by the survey students is included. According to this, 25 students responded as (4) Expression and 396 responded as (5) Test Solving. None of the students marked the options of (1) discussion/debate, (2) production and (3) homework/research.

Table 10. Distribution of Media Used in Media Literacy Course

	Frekans	Yüzde (%)
1	421	100
Total	421	100,0

In Table 10, in the question investigating the media used in the media literacy course, all students who participated in the survey answered (1) Computer/projection. (2) No student-marked newspaper, (3) TV options.
While 207 of the students answered yes to the question "Should parents be given media literacy training?" one of the questions asked of the students participating in the survey, 214 students selected no. In addition to the question "Do you think media literacy contributes to distinguishing reality and fiction in terms of content in the media?", it was observed that 24 students answered yes, 223 students answered no, and 174 answered partially.

Conclusions And Recommendations

The results obtained as a result of this study, which aims to determine the student opinions regarding the media literacy course within the framework of investigating the practical situation of the media literacy course in the secondary education curriculum in TRNC and offering solution suggestions on issues such as the use of technological devices connected to the curriculum in order to make media literacy courses more efficient. Based on the findings, The level and efficiency of teaching the media literacy course in schools affiliated with the TRNC Ministry of Education is low within the framework of student opinions, and the media literacy course should be supported with new media literacy concepts and scopes within the framework of the evolving definition of media literacy. The use of technological devices connected to the curriculum should be increased and the course should be integrated with technological inputs. There is a need to rearrange the contents accordingly.

Including the media literacy course in elective courses. Reasons such as the fact that this course does not affect the students' final grades at the end of the year and that the majority of the teachers teaching the course are not trained in the field; The quality of media literacy education and the factors that prevent its internalization by students are among the results of the study. In the schools included in the sample, In addition to the inadequacy of the methods and techniques used in the media literacy course in the secondary education program and the media used in the relevant course, it is also essential that the majority of the teachers teaching the course are not teachers trained in the field, and that it is taught by teachers with different areas of expertise, who cannot even provide in-service training related to the course. Stand out as problems.

With the study conducted within this framework, In order to achieve the goals of the media literacy course in the TRNC and ensure its sustainability in today's world, the media literacy course should be included in the category of compulsory courses such as mathematics and mother tongue, the employment of teachers who are experts in their fields, the necessary training should be given to teachers within the scope of new media literacy skills. The schools should be taught the necessary methods that should be used depending on the content of the course. It also becomes clear that national state policies are needed to provide resources for the supply of technological tools and equipment and the creation of areas.

In light of all these results, Considering the necessity and vital importance of media literacy education in today's world, it is essential to raise awareness about its importance for society and emphasize the necessity of evaluating it as a compulsory course in schools. Based on the fact that media literacy is a critical educational issue that will be given not from a narrow perspective, such as creating an employment alternative for Communication faculty graduates, but for the real purpose of raising the awareness of children, young people and adults who are vulnerable to new media; Media literacy education in TRNC should be handled more comprehensively and systematically. Considering the limited scientific research conducted in this field in TRNC, The study will contribute to the field by serving as a source and reference for future studies. There is a need for more comprehensive research in the field, and it is envisaged that media literacy education, as a lifelong education issue starting from the family, will be addressed at all levels of education; more comprehensive studies will gain importance, and the number of related studies will increase.

References

Bayraktar U. (2018). Media Literacy Research and An Application at Girne American University. Journal of Communication Theory and Research, p. 47.

Boulianne, S. (2015). Social Media Use and Participation: A Meta-Analysis of Current Research. Information, Communication & Society 18 (5): 524- 538.

Carr, N. (2010). Are we Teaching Digital Natives, yet Does it Matter? AARE International Education Research Conference: 1-14.

Creswell, J. W. (2013). Qualitative Inquiry and Research Design: Choosing among Five Traditions (3rd ed). Thousand Oaks, CA: Sage.

Earp, V. (2009). Integrating Information Literacy into Teacher Education: A Successful Grant Project. Behavioral & Social Sciences Librarian 28 (4): 166-178.

Ersoy, M. (2013). There is a Problem in the Media Literacy Class. Havadis Newspaper, 6 October.

Hargittai, E. (2010). Digital Na(t)ives? Variation in Internet Skills and Uses among Members of the 'Net Generation. Sociological Inquiry, 80 (1): 92-113.

Hatch, J. A. (2002). Doing Qualitative Research in Educational Settings. Buffalo, NY: SUNY Press.

Hobbs, R. and Sait, T. (2017). Teacher Motivations for Digital and Media Literacy: An Examination of Turkish Educators. British Journal of Educational Technology: 48(1), 7 – 22.

Hobbs, R. (2007). Approaches to Instruction and Teacher Education in Media Literacy. Higher Education Research & Evaluation: 58-64.

Kinash, Shelley, Kayleen Wood, and Diana Knight. 2013. "Digital Immigrant Teachers and Digital Native Students: What Happens to Teaching?" Learning and Teaching papers. Paper 50.

Kovalik, Cindy, Mary Lee Jensen, Babarda Schloman, and Mary Tipton. 2011. "Information Literacy, Collaboration, and Teacher Education." Communications in Information Literacy 4 (2): 145-169.

Lee, Jung, Cerreto, Frank, & Lee, Jihyun. 2010. "Theory of Planned Behavior and Teachers' Decisions Regarding the Use of Educational Technology." Educational Technology & Society, 13 (1): 152-164.

Lenhart, Amanda. 2015. Teens, Social Media and Technology Overview 2015. Washington DC: Pew Research Center.

Lindstrom, Denise, Denise Schmidt-Crawford, and Ann D. Thompson. 2016. "New Literacies, Technology, and Teacher Beliefs: Still More Work to Do." Journal of Digital Learning in Teacher Education 32 (1): 3-4.

Mason, Mark. 2010. "Sample Size and Saturation in PhD Studies Using Qualitative Interviews." Forum: Qualitative Social Research 11 (3): 1-19.

National Council for the Social Studies. 2013. The College, Career, and Civic Life (C3) Framework for Social Studies State Standards: Guidance for Enhancing the Rigor of K-12 Civics, Economics, Geography, and History.

Tiede, Jennifer, Silke Grafe, and Renee Hobbs. 2015. "Pedagogical Media Competencies of Preservice Teachers in Germany and the United States: Comparative Analysis of Theory/Practice." Peabody Journal of Education 90 (4), 533-545.

Tondeur, Jo, Johan van Braak, Guoyuan Sang, Joke Voogt, Petra Fisser, and Anne Ottenbreit Leftwich. 2012. "Preparing Preservice Teachers to Integrate Technology in Education: A Synthesis of Qualitative Evidence." Computers & Education 59: 134–144.

Valtonen, Teemu, Jari Kukkonen, Sini Kontkanen, Kari Sormunen, Patrick Dillon, and Erkko Sointu. 2015. "The Impact of Authentic Learning Experiences with ICT on Preservice Teachers' Intention to use ICT for Teaching and Learning." Computers & Education, 81: 49-58.

Vannatta, Rachel A. 2000. "Integrating, Infusing, Modeling: Preparing Technology-Using Educators." Journal of Computing in Teacher Education 16 (2): 6-14.

Wiseman, Donna L. 2012. "The Intersection of Policy, Reform, and Teacher Education." Journal of Teacher Education 63 (2): 87-91.

Yilmazel-Sahin, Yesim, and Rebecca L. Oxford. 2010. "A Comparative Analysis of Teacher Education Faculty Development Models for Technology Integration." Journal of Technology and Teacher Education 18 (4): 693- 720.

Understanding Society's Learning of Religious Terminology by Using Educational Technologies on Historical Manuscripts: The Example of Dede Korkut

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Abstract
Societies cannot destroy the old system of faith while accepting a new religion. Human begins to transform the new belief system within the old belief system. One of the things they have to convert is the terminology of religion, which they accept. The change process of this new religious terminology can give concrete findings about the learning, adaptation, and transformation of a society to the new religion that it accepts. It takes a long time for the terminology of religion, which comes with the new religion, which is not entirely from its own language, to settle in the language of society, learning and the transformation takes place in certain stages. Determining the location of the language of the old texts in these stages will allow the dating of unspecified works and the identification of the author of the work. Dede Korkut Stories are important works of Turkish Language Literature. In this study, the religious terms in the Dresden and Vatican copies of Dede Korkut Stories, which are thought to have been written after the 15th century, and the Turkistan/Turkmen Sahara copy found in 2019, were determined. I examined the determined religious linguistic terms comparatively in terms of their integration into the community language and also specify the stage at which the change and transformation of religious terminology took place.
Keywords: Learning Religion Terminology, Manuscripts, Dede Korkut

Introduction

In the constantly developing and changing world, technology has also developed continuously from past to present and has become a part of education in this process, and many educators and researchers agree that the technologies used in education improve the education system (Öksüz, Ak and Uça, 2009). Technology in education supports student-centered teaching. When used, it positively affects student performance and improves students' higher-level thinking skills (Çakıroğlu, Gökoğlu, & Çebi, 2015).
Today, historical texts in many fields of literature have begun to be digitalized. It is important to digitalize literary documents to enable researchers in the field of Turkish Language and Literature Education to examine them.
Using technology in literature teaching will bring many advantages as a result of teachers actively using information technologies in line with the achievements of literature lessons and presenting the course content in a more efficient and attractive way to the student. (Çiftçi 2013) Using technology in literature education will make education better quality and increase efficiency. With the use of technological devices in literature lessons, a transition can be made to an electronic library system with rich content that students and teachers can access. (Yazar, 2001)
The basis of the difficulties experienced by literature teachers in the use of technology lies in the fact that they are deprived of this technological knowledge during their education. (Odabaşı and Kabakçı 2007)
In Turkish Language and Literature education, many works written in Arabic handwriting from the Ottoman period are waiting to be examined. In the field of Turkish Language and Literature, there are many works of ancient Turkish literature waiting to be translated from Arabic letters into the Latin alphabet using educational technologies. Counting words by hand is a method that requires a long time and has a high margin of error. The use of digital tools, especially in style studies, will allow accessing and analyzing data in a short time in Turkish language and literature teaching. In addition, making the data obtained available on the internet will facilitate access to information in other Turkish Language and Literature teaching.
Computer-based analysis methods are not applied sufficiently in the field of Turkish Language and Literature education in Turkey. The study will contribute to the spread and development of technology-based studies in the field of Turkish language and literature education. Many valuable works written in the Arabic alphabet from historical periods concerning Turkish Language and Literature are waiting to be translated into the Latin alphabet and to be researched. Innovative intelligent language processing and tools are needed to solve the problem of dissemination and access in digital form of historical texts that have not been converted to the Latin alphabet on the web, while allowing intelligent processing and the use of this information in a personalized way. Based on the

problems arising from the Turkish language structure that emerged in this study, it is aimed in future studies to develop new tools suitable for the structure of the Turkish Language and Ottoman Turkish and to develop an ontology to contribute to the development of intelligent interpreters in information systems.

Some language analysis tools were used during the data collection process of this study. These; AntConc is one of the tools that use Exclude Select Vocabulary. (Anthony, L., 2011; Anthony, L., 2004), The other tool is the Exclude Select Vocabulary tool, which was created within the scope of the Latifi Project to understand the style of the Ottoman tezkire writer Latif (Latifi Project, 2021). Thanks to these tools, the words in the versions have been classified under many conceptual areas, one of these concept areas is the Religion concept area. By comparing the words that fall within the concept of religion, an attempt was made to make inferences about which copy was written first.

Dede Korkut is one of the most important works in the field of Turkish Language and Literature from the Epic Oguz Stories. Dede Korkut is located at the top of the most studied works for nearly a century and a half. "The Book of Dede Korkut or Book of Korkut Ata (Azerbaijani: Kitabi-Dədə Qorqud, كتاب دده قورقود, Turkmen: Kitaby Dädem Gorkut, Turkish: Dede Korkut Kitabı) is the most famous among the epic stories of the Oguz Turks. The stories carry morals and values significant to the social lifestyle of the nomadic Turkic peoples and their pre-Islamic beliefs. The book's mythic narrative is part of the peoples' cultural heritage of Oguz Turkic origin, mainly from Turkey, Azerbaijan, and Turkmenistan." (Barthold, 1962)

The Turkestan/Turkmen Sahara Copy, which we first became aware of in 2019, together with the copies found in Dresden and the Vatican, continue to be examined. The Dresden and Vatican Copies were first published by Rif'at of Kilis in 1916 and Orhan Shaik Gokyay in 1938. Later, Muharrem Ergin found the previous research insufficient for scientific needs, and so in 1994, based on the Dresden Copy and also using the Vatican Copy, he published it and brought it to the scientific world.

In 2016, the Turkestan/Turkmen Sahara Copy, the third manuscript, was acquired by Engineer Veli Muhammed Hoca, who lives in the city of Günbed-i Kavus in the Turkmen Sahara region of Iran, and delivered to Turkish scientists, thus bringing it to the scientific world. With the introduction of this new Copy to the Turkish scientific world, comparative studies among the manuscripts have become a necessity. While the Dresden Copy consisting of 12 stories and the Vatican Copy consisting of 6 stories are thought to belong to the 15th Century, the precise century in which the new copy was written can only be revealed by way of extensive studies. This study is conducted for this very purpose. The study will first discuss its theoretical approach, and then interpret the findings obtained in the review section according to this theory. In the text reviews, We will compare Prof. Dr. Muharrem Ergin's Book of Dede Korkut , in which he considered the Dresden Copy as the basis together with the Vatican Copy, and the Dede Korkut Book[1] published by Prof. Dr. Metin Ekici Turkistan / Turkmen Sahara Copy Sayings and 13th story - Salur Kazan's Book of Killing the Seven-Headed Dragon[2]

Theoretical Basis of The Study

Throughout the existence of man, they have wondered about the world in which he lives, the society, his past, his future, and especially tried to make sense of his existence. Thus, he began to question and interpret what was going on around him. This questioning is actually his questioning of life. Man has sometimes equated an animal and sometimes equated nature as God, since he could not put the questions that he could not find answers to in nature, in the animal world, and about himself, on a logical basis. We can give an example of the shamanism religion as an output of the effort to protect against natural conditions. The beliefs of the shamans, such as shooting arrows into the sky during thunderstorms and sprinkling milk on the mountains at the first thunderstorm in spring arises from their efforts to control natural events that they cannot make sense of. They thought that by communicating with spirits through the shaman, they could find solutions to their wishes, such as finding cures for the diseases they cannot overcome in their struggle for survival, finding their lost things, making it rain against drought, and bringing luck in the hunt. As there are many different religions in the world, it is observed that there are differences in the belief systems of societies that believe in the same religion. In order to analyze the religious meanings of the society, it is necessary to understand the geography, climate, economy, lifestyle of the society, previous belief systems, customs, and traditions of that age. For example, the interpretations and meanings of Islam are different among billions of Muslims who believe in Islam. It would be misleading to expect the same perception of religion among the Turks today, as the Turkish society living a century later or in a different era.

In order to analyze the perception of religion in a society, it is necessary to distinguish between the concepts of "religion" and "religiosity". "Religion is a coherent system of sacred beliefs and deeds." (Durkheim, 2005). In the system set by religion, there are certain rules. Especially in religions based on a written book, either these rules are strict and do not have flexibility based on interpretation, or the religious book determines the limits of these flexibilities. If someone is religious, he adheres to the laws and commandments of the religion that he accepts or

[1] After this point of the article, Ergin's edition of the Book of Dede Korkut will be referred to as the "Ergin Version"

[2] After this point of the article, Ekici's edition of the Turkistan / Turkmen Sahara Copy Sayings and 13th story - Salur Kazan's Book of Killing the Seven-Headed Dragon will be referred to as the "Ekici Version"

adheres to and tries to implement them in his lifestyle. The religious person is the one who transforms and applies the orders and prohibitions offered by religion to his national characteristics as a result of internalizing all the realities of his daily life, traditions, customs and even beliefs of the society in which he lives. That is why, even if the accepted religion by each society is based on a single book with immutable laws, differences in interpretation should be evaluated.

Within the scope of the concept of “religiosity experienced by society”, sociologists and some scientists have come up with the terminology “book of religion” and “folk religion” for these differences in religious understanding. This difference of understanding is the journey of religiosity towards the book of the new religion, where the society that meets a new religion will synthesize, mix, internalize, transform time, space, climate, traditions, and customs within its old beliefs. In the written works, determining where the society is on this journey through religious elements will give us an important clue in the dating of the works written.

When the traditions and belief system and the characteristics of the new religion clash violently, the new religion will not integrate into that society, but will eventually be replaced by those close to it. The new system should be similar to the system of faith and national characteristic of society, on the other hand, the new system should not cause a radical change to avoid a revolutionary effect.

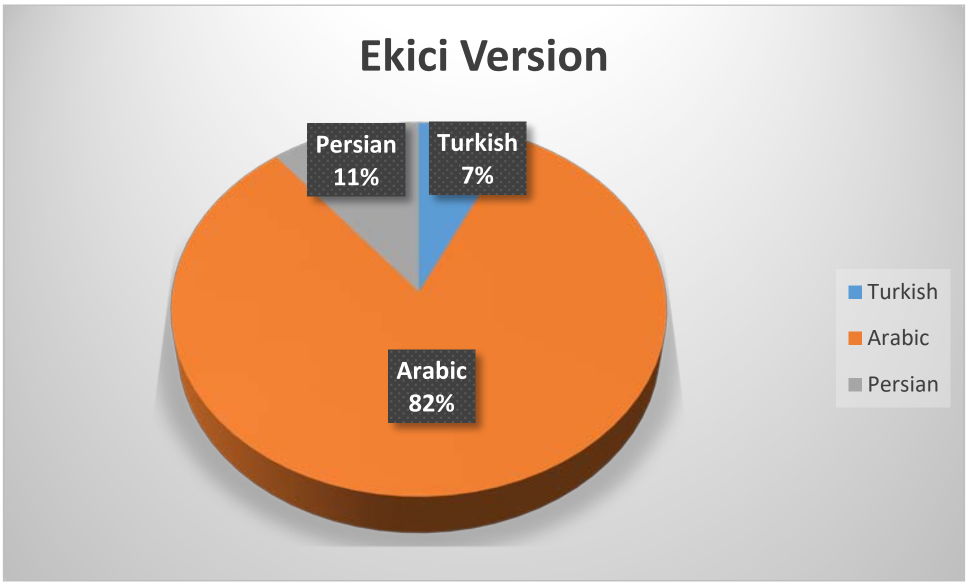
The fact that Turkish communities that converted to Islam after the 10th century turned this new religion into their own belief system and national wealth must have been due to their similarities with the Heavenly God faith. Theophylacte Simocatt mentions that Turks consider water, fire, and air sacred and respect them, but believe that it is one God who created the sky and the earth, sacrificing horses, cattle, and sheep to God. It is also known that Turks raise their heads to the sky and say "a god" when they are persecuted. (Fadlan, 2010) Turks matched the meaning and content of the concept of "Allah (God)" in Islam with the concept of "Tanrı (God)”, and for a long time even continued to welcome both concepts "Allah (God)” "Tanrı (God)" in Islamic works they wrote. Turkish scholars have used the word "Tanrı (God)” instead of "Allah (God)” since the Karahan Era. It is especially noteworthy to mention "Tengri (God)", the old pronunciation of the word. (İnan, 1991)

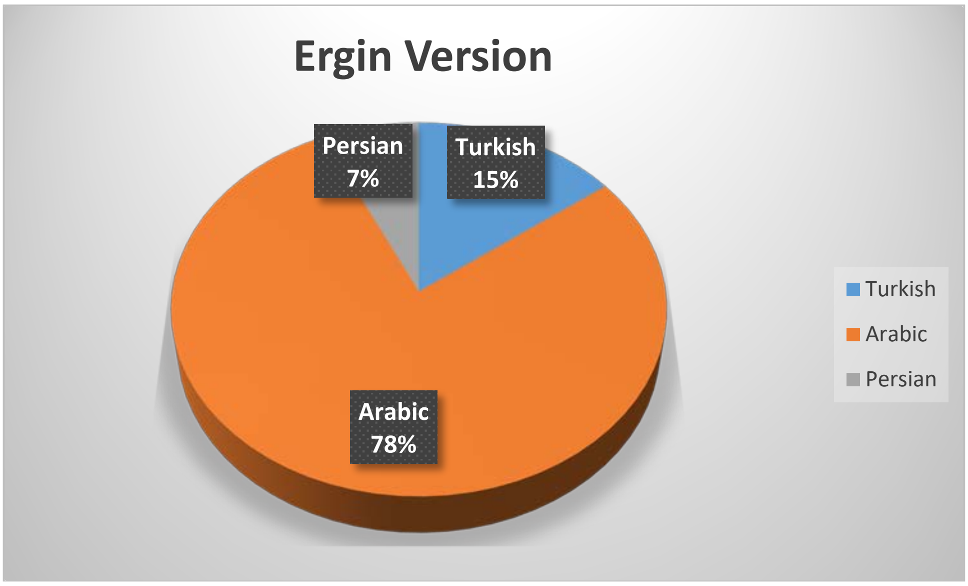
Until the Turks accepted Islam, they believed in the heavenly God faith that created the earth, the sky, and the man. At some point in history, they accepted different religions such as Manicheism, Buddhism, Judaism, and Christianity. It cannot be ignored that these religions that they adopted also left some traces in their lives. The traditions of Turks’ belief systems and national character structures have mostly paralleled with Islam. One of these were religious terminology. Before they accepted Islam, they called Tengri (God), yalavaç (the prophet) or savçı, yükünmek (prayer), yazuk (to sin), yek (devil), uluğ gün (doomsday), cennet (heaven), tamu (hell). Although they easily integrated the rules of Islam into their lives, this complete differentiation in terminology required transformation and intimidation, which could be made possible by internalizing religion in the public. It took a long time for the religious terminology, which came with the new religion, not entirely from its own language, to settle in the language of society, and the transformation took place in certain stages. Especially in nomadic societies, considering that religion may be institutionalized on the basis of the "cult of saints" with intermediaries, it can be thought that the convergence of the Oguz Turks, who have a nomadic culture, might be later than in other settled societies and even interpretations of the same religion will differ. In particular, in nomadic societies, the adaptation of the new religion to its social and cultural structures on the basis of old religious-mystical beliefs can lead communities to interpret it with different content than the religious book. Especially in nomadic societies, it can be thought that a person believed to be close to God may have taught his community about religious life, and that this terminology may be as limited as in his memory, and that the stages of religion in his transformation may develop more slowly. On the other hand, it is possible that this person who guides the society, even if his religious knowledge and religious education are high, has addressed the religious terminology of the old belief system in order to explain the new religion to the society, which is not yet familiar with the language of the new religion, in writing and verbally. For example, when writing Kutadgu Bilig, one of the first works of Karahanli Turkish and Islamic Turkish literature, Yusuf Has Hacip was found to prefer Turkish equivalents rather than thinking that a nation that had accepted Islam would have difficulty understanding religion, even though Arabic and religious knowledge were available. (Yavi, 2019)

In the process of religious transformation, society takes and applies the rules that it finds socially and culturally close to itself in the first stage. During this period, the terminology of the new religion has not yet been translated into the language of society or had limited use. Society continues to use terminology from previous beliefs in the rules it applies. In the second stage, the extent of terminology increases considerably, but despite this, the old terminology has not yet completely disappeared, it is even used simultaneously side by side. In the third stage, gradually, the old terminology begins to be replaced by a new one, the old meaning shrinks, even the meaning worsens, disappearing completely or very few words remain in use. An example of this is that the word ‘’Tanrı (God)”, which was used creatively by ancient Turks, has deteriorated in meaning among the people today. The Arabic word "Allah", which replaces the word “Tanrı” entirely through Islam, is used. In other words, the adaptation process of religion will take place in parallel with the stages of the change of terminology and time. Where the date when a work was written is not known, an understanding of this adaptation process will enable the author of a work written in the same period to be determined.

At the same time, religion directly affects culture, while existing culture will also affect the belief system of the new religion. Besides language, culture follows a transformation process similar to the stage of the change of the language, because religion has changed and shaped the family structure, legal judgment, and social and cultural values of society. (Yavi, 2019) Over time, society can sometimes be under the illusion that the remains of the old belief system, which are still living on, belong to the new religion.
With the Dede Korkut narratives, scientists have different interpretations of Islamic elements or understandings of Islam. For example, while Fuat Köprülü interprets the Dede Korkut narratives of the Islamic religion as "...In this work, as an external polish..." (Köprülü, 1986), Gökyay believes that Islamic elements are strong (Gökyay, 2006). In this study, I have made the comparison between the use of Islamic and non-Islamic elements in both copies made rather than whether the Islamic elements are a polish or a strong one. The data collection method of the study consists of the number of words belonging to the religious terminology of the text in the numerical data obtained by computer digitization methods, their frequency of repetition, their origins, and also their interpretation at the textual level.

Analysis
In the entire copy of The Ergin version of Dede Korkut, 2696 different words repeat 33434 times. A total of 155 of these words were used in the field of religious concepts. These words have been repeated 1137 times. 119 words are Arabic, 18 Persian, 14 words are Turkish, 1 Georgian, and 7 Greek. Arabic words repeat 883 times, Persian 78 times, Turkish words 166 times and Greek 7 words repeat 2 times in the text.
In the Ekici version of Dede Korkut, 1714 kinds of words are repeated 6541 times. A total of 85 of these words were used in the field of religious concepts. These words have been repeated 216 times. 67 words are of Arabic, 13 are Persian and 5 words are of Turkish origin. Arabic words repeat 177 times, Persian 23 times, and Turkish words 15 times in the text.
In both copies, 53 words were used in common, and these words were repeated 971 times. The number of non-common words were 132 and these repeated 382 times. While the words of Turkish origin are 15% in the Ergin version, it is observed that this percentage is halved to 7% numerical data in the Ekici version.





The process of incorporating the new religious terminology into the language of the society includes processes similar to the acquisition of a second language. Just as the first stage of second language acquisition is to learn the simple word staff that we call "beginner level", the terminology of the new religion has a similar initial level word group that will settle in the language first. It should be the important norms of religion that determine this group and the names of the rules that society has adopted closely within its own culture.

In the terminology specific to the new religion, the name of the creator, the name of the new religion, the name given to those who belong to that religion, and the name of the first conditions imposed by that religion should be the first to be transferred in the language.

When we consider that this new religion accepted by Turks is Islam, the words "Allah", the creative name; "Müslüman (Muslim)", the name given to those who belong to the Islamic religion, "Kafir (infidel)", which is the name given to non-Muslims, and "namaz(prayer)", "oruç (fasting)", "zekat (zakat)", "hac (hajj)", which are the first conditions of Islam, should be the first words to be placed in the language of society.

The most important among these words is the creative name. When society meets a new religion, it first adopts its creative name, but it is not easy to remove the creative name it has known and adopted before. It is seen that the word "Tanrı (God)", which is the creative name of Turkish origin, is also used in the Ergin version and in the Ekici version. It is also seen that the Arabic word Allah is used. However, in the Ergin version, the Turkish word "Tanrı" (God) is predominant, and in the Ekici version, the Arabic words "Allah, Hakk (God)" are predominant.

The word "Allah (God)" is mentioned 56 times in the Ergin version and 24 times in the Ekici version. It is noteworthy that in the Ergin version, the word "Tanrı (God)" is used more than the word "Allah (God)" with 73 repetitions. This is due to the fact that the word "Allah (God)" has not yet replaced the word "Tanrı". In addition, the mention of the word "Çalap (God)", which is also of old Turkish origin, in this copy supports this situation. In the Ekici version, the word "Allah (God)" is mentioned 24 times, while the word "Tanrı (God)" is mentioned 4 times as "Tarı (God)". The other three are involved in Kazan's prayer to "Allah (God)", which is similar to the Ergin version. Particularly noteworthy in this prayer is the use of the word "Allah (God)" side by side with the word "Tarı (God)". "Allah Tarı saña bir dėyenüñ aġzın öpim (Let me kiss the mouth of the one who says God is one to you.)" (Ekici, 2019) On the other hand, in the Ergin version, the words "Çalap (God)" and "Tanrı (God)" are used side by side in the same sentence. "Birligüñe şığındum çalabum ḳādir Tañrı (I took refuge in your unity, my God, my God)" (Ergin 1994) In the Ergin version, the words "Allah(God)" and "Tanrı(God)" are often used with a qualifier. These are the qualifiers like ‘‘aziz, cebbār, cömertler cömerdi gani, görklü, yaradan, settar, kahhar (exalted, generous, beautiful, covering the faults, powerful, etc.)" A similar structure is also observed in the Ekici version. In particular, the qualifiers "kadir (strong), ulu (supreme), görklü (beautiful)" were used in combination with the word "Tarı (God)".

"görklü Tañrı (beautiful God)" (Ergin, 1994)
"ġani Tañrı (fertile god)" (Ergin, 1994)
"ḳādir Tañrı (powerful god)" (Ergin, 1994)
"settar Tañrı (covering the faults god)" (Ergin, 1994)
"Ḥaḳ Ta'āla (Supreme god)" (Ergin, 1994)
"Ḥaḳḳ Teālā" (Ekici, 2019)
"Ḳādir Allah" (Ekici, 2019)
"Ḳadir Tarı" (Ekici, 2019)
"görkli Tarı" (Ekici, 2019)

These qualifiers are usually used in both copies along with the words “Muhammed, Allah, Tanrı, baba (father), anne (mother), etc. Mostly, religious words were used. Among these qualifiers, it is noteworthy that the Turkish word "görklü (beautiful, magnificent)" is frequently used, especially in the Ergin version. The word "görklü" was repeated 94 times in the Ergin version and twice in the Ekici version. Orhan Şaik Gökyay states that this word coincides with the word “Cemil (beautiful, magnificent)”, which is one of the attributes of “Allah”. (Gökyay, 1973)
On the other hand, the Arabic origin word "hakk (God)", which is also used synonymously with "Allah (God)", is used 18 times in the Ergin version and 14 times in the Ekici version. The word Hakk was used in both copies together with "Ḥaḳḳ te'ala (supreme God)" which means great. The structure was used together with "hakk te'ala (supreme God)". We see that the Arabic word "hakk (God)" is used a lot, according to the volume of the Ekici version.

The distribution of creative names is as follows:

Version Name	**Word**	**Number of Repetitions**	**Language**
Ergin Version	Allah(God)	56	Arabic
Ergin Version	Çalap(God)	1	Turkish
Ergin Version	Hakk(God)	18	Arabic
Ergin Version	Tanrı(God)	73	Turkish

Version Name	**Word**	**Number of Repetitions**	**Language**
Ekici Version	Allah(God)	24	Arabic
Ekici Version	Çalap(God)	-	Turkish
Ekici Version	Hakk(God)	14	Arabic
Ekici Version	Tarı(God)	4	Turkish

The name ‘’ Islam’’ is not mentioned directly in the Ergin version. However, in Ekici’s version, it is mentioned twice as “Islām dīni ḳuvveti Ḳoñur atlı Salur… (Salur on the red horse was the religious force of Islam…)” (Ekici, 2019).

People who belong to Islam are called "Müslüman (Muslims)". In the Ergin version, this word is mentioned 2 times and in the Ekici version, it is mentioned once. The notable element here is "Parmaḳ götürüp, şahadet getürüp müsülman oldı. (Raised his finger, say the declaration of faith and became a Muslim.)" (Ergin 1994) Raising one finger high in Islam is an expression that shows that Allah is one. However, scientists mention that this action was used by the Turks to express the ‘’Gök Tanrı’’ even before they accepted Islam. (Fadlan, 2010) This determination is an example of the fact that the old beliefs of the Turks are still kept alive in the Ergin version.
The word "kāfir (infidel)" is another notable concept. In both copies, we see that the word "kāfir (infidel)" is used only for non-Muslims without expanding the meaning. However, the notable element is that the word "kāfir", which repeats 260 times in the Ergin version, is often used in conceit with a qualifier. “şası dinlü kāfir, ḳara donlu kāfir, aḳılsuz kāfir, azġun dinli kāfir, ḳara dinlü, kāfir, (Heretics with bad religion, bad heretics in black pants, mindless heretics, etc.)” We do not find this type of structure in the Ekici version. With paganism in the Ergin version put (idol): 1, puthana (idol worship place): 1, yonma ağaç tanrılu (tree god): 1, and haç (the Christian faith): 1, kilisa (church): 6, keşiş (priest): 6, pilon (priest's robes): 1. Due to their structure, we can conclude that what is meant by "kafir" in the narratives is Christianity and pagan beliefs. However, in Ekici's version, only tersā dinlik kafirler (Christian religious infidels).” (Ekici, 2019), and because the word "keşiş (priest)" is mentioned once, we can understand that what is meant as "infidel" is Christianity.
Although the word “kafir (infidel)” is mentioned ten times in the text and “küffar (infidels)” is mentioned once, we observe that none of them has a serious marginalization with a qualifier similar to the Ergin version. Perhaps this may be due to a quiet period in which there are fewer wars, or it may be that Muslims are spreading to surrounding larger areas and the proportion of Muslims in their environment is increasing. It is noteworthy that the word "din (religion)" on a word-by-word basis is referred to as "arı dīnlü dost Muḥammed (clean-religion friend Mohammed)" with good qualifiers, as opposed to bad qualifiers in the Ekici version, with the aim of glorifying Islam and Mohammed. Those who argue that the religion of Islam is superficially transmitted in the version of Dede Korkut Ergin, attribute this thought to the Oguz Turk system of performing prayers, which is obligatory in Islam. In Islam, Muslims perform prayers five times a day, whereas the Oguz Turks performed short prayers called "hacet namazı (wish prayer)" before a war.
However, researchers who argue the opposite, suggesting that they pray five times “Ṣaḳalı uzun Tat Eri bañladuḳda (Tat man with a long beard reads the Azan)” (Ergin, 1994), referring to the sentences, that the morning prayer is recited, that the sermon is recited on Friday, where their masjid is located. “Ayna güni oḳuyanda ḳuṭbe görklü. (They prayed on Friday)” (Ergin, 1994). “Kāfirüñ kilisesin yıḳdılar, yirine mescid yaptılar. Keşişlerin öldürdiler. Bañ bañlatdılar, ‘aziz Tañrı adına ḳutbe oḳıtdılar.” (They destroyed the church of the infidels and built a mosque in its place. They killed their priest. They recited azan, recited prayers for the saint God.)” (Ergin 1994: 152) They have

referred to the expression that they have read the Azan. Researchers related to the "Tat eri (the person of Tat)" who recited the azan mentioned here stated that an Iranian or Arab imam living among the Oguzes could be reciting the call to prayer. However, in the Ekici version, we learn that the Tat-er who recites the call to prayer in the Ergin version is a member of a non-Turkish people neighboring the Oguzes: "Tāt ėvü-y-ileñ Türk ėvü bir araya ḳonşı ola, aḳaç çanaḳ daş çanaḳ birbirine ḳarışuḳ ola; Tāt ḳızını Türk ala Türk ḳızını hem Tāt ala; (Tat house and Turkish house will be neighbours together. The wooden bowl and the stone bowl will be mixed together. Tat girl will marry a Turk, Turkish girl will marry Tat.)" (Ekici, 2019) Here, for the Tat people, he must be talking about the People of Iran, known as the Caucasus Persians, who live between the northeast of Azerbaijan and the south of Dagestan. (wikipedia.org) The sounds of Azan mentioned in the Ergin version also come from these neighbouring people. We can conclude that these two neighbouring peoples are friendly neighbours with whom they have a close cultural and perhaps commercial interaction, as well as taking and giving girls, with the words "aḳaç çanaḳ daş çanaḳ birbirine ḳarışuḳ ola (wooden plate and stone plate will mingle)"

The terms of Islam, prayer (namaz), oruç (fasting), zekat (zakat), and hac (hajj), are important for the institutionalization of the Islamic religion. Prayer, which is one of the conditions of Islam, is performed five times a day according to the rules of Islam. In the Ergin version of the prayer, as the prayer passes in 7 places, we learn that these prayers, which were all performed before war, were the wish prayer, which was performed in the form of two rak'ahs. However, we determine that the prayer is performed five times a day with the phrase "namaz", which is mentioned three times in the Ekici version, " günde geleñ bėş vaḳt namāz hem pişdürür (the prayer that comes five times a day matures)" (Ekici, 2019). When we look at the word "Hac (Hajj)": "Allah evi gėñ Kā'beye kimler varmaz, Varsa gelse, azmasa azdurmasa, ṣıdḳı bütün, niyyeti düz, dīn yolında ḥācı gerek (Whoever does not go to the Ka'be, the house of Allah, if he goes, if he does not commit a sin; A pilgrim is needed in the way of religion with full faith, good intentions)'' (Ekici, 2019), "Vara gele ıpranmadı Ḳā'be yolı (Not worn out by commuting Ka'be Road)" (Ekici, 2019) mentioned in two places. Despite this, we find traces that the word is not used in the Ergin version, but that they know the duty of pilgrimage based on the word "hacı (haji)", which is included in the concept of pilgrimage, and the meaning at the textual level. "Alçak yirde yapulupdur Tañrı ivi Mekke görklü. Ol Mekkeye ṣağ varsa esen gelse ṣıdḳı bütün ḥacı görklü'' the house of god, built in the pit, Mecca is beautiful. If he goes to Mecca alive and comes back healthy, full of faith haji is beautiful. The word "hacı (haji)", which is called a Muslim visiting the Ka'ba, is used once in the Ergin version and four times in the Ekici version. When both copies are compared in terms of "pilgrimage" duty, it is seen that this duty is handled with a more in-depth approach in Ekici's version. (Demircan, 663). When we look at the terminology of religion in Islam, we can determine that the rules of Islam are more appropriately fulfilled in the Ekici version, in which reference is made to the prayer being performed five times, as ordered by the Qur'an, and the pilgrimage is also performed.

In addition to all these findings, it is a natural process for society to use its own language-specific names instead of the new name of the rules it started to adopt in the first place while learning the new terminology of religion. This process takes place in the first adaptation stage. When society takes the rules of the new religion it encounters for the first time, it begins to apply rules that are similar to the previous belief system. If they have not yet learned the new names of these rules, he will make his own language-specific nomenclatures. These nomenclatures are either the name of a structure similar to the previous belief system or a word in its own language with semantically similar connotations. For example, in the Islamic religion, the muezzin's loud call to Muslims to inform them of the time of prayer is called ''Ezan okumak (reading Azan)". Instead of just naming this call "ezan (azan)" in the first place, the Oguz community used the phrase "ban banlatma (reading the azan)" in the sense of shouting because the voice in the call is loud.

It is noteworthy that the expressions indicating the terminology belonging to the old belief systems and the expression of the new religious terminology with words specific to their language are weighted in the Ergin version. Words of Turkish origin in the Ergin version include "bam bamlatmak" (reading azan), "yumuş (angel)", ''girçekler (saints)", ''uçmak (paradise)", "bilici (scholar)", ''el götürmek (praying)", ''egri yol (sin)", ''kargış (curse)", ''çalap (god)", "kargamak (curse)", ''yazuk (sin)",'' sağış günü (doomsday)" etc. In the Ekici version, only "uçmak (paradise)", "görklü tanrı (supreme God)" are words of Turkish origin used in religious terminology.

The words or groups of words detected in this way are as follows.

Versions	**Number of Repetitions**	**Public use**	**Its Equivalent in Islam**
Ergin Version	4	bam (bamlatmak)	ezan okumak (read azan)
Ergin Version	1	biliçi	âlim (scholar)
Ergin Version	3	egri (yol)	günah (sin)
Ergin Version	2	el götürmek	dua etmek (to pray)
Ergin Version	3	karış	beddua (curse)
Ergin Version	2	girçekler	evliyalar (Saints)
Ergin Version	1	sağış (günü)	kıyamet günü (Doomsday)
Ergin Version	5	uçmağ	cennet (Heaven)

Ekici Versiyonu	3	uçmak	cennet (paradise)
Ergin Version	1	yazuk	günah (Sin)
Ergin Version	1	yumuş	melek (Angel)

Conclusion

After the Turks accepted Islam, they gradually began to convert the rules of the new religion and the terminology of the new religion that was not from their own language. The process of transformation of the terminology of this new religion takes place over a long period of time. It is also inevitable that this transformation will be reflected in both the oral literature and the written literature of the society. In Ekici's version, we see that the words that fall under the concept of religious are numerically more than in the Ergin version. These religious words are most numerically of Arabic and Persian origin. In terms of content, the religion of Islam has begun to institutionalize in Ekici's version and it is closer to the Islamic scripture religion. As a result, it can be said that Ergin version is at the end of the first stage. It is seen that the Oguz society has just begun to adopt Islamic rules, and they use these rules together with the terms of the old belief system and the terms they named according to their own language. However, it is seen that in the Ergin version the Oguz society still continues to use the terms in the old belief system. The Ekici version seems to be located in the second stage. It is seen that Islamic rules have begun to institutionalize. It is understood that they started to use the new religious terminology and that the naming according to their own language began to disappear. At the same time, they use the terms of the old belief system together with Islamic terms. However, it is seen that the use of terms in the old belief system tends to decrease. As a result of all these determinations, we can conclude that the Ekici version was written after the Ergin version. The fact that 15% of the words in the religious concept field in the Ergin version are Turkish, and 7% of the Ekici version is Turkish, supports our thesis. In Dede Korkut Narratives, it is possible to reach many more findings regarding the similarities and differences between the two copies, based on religious terms. A limited number of words were analyzed in this article. In terms of religious terms, all common and non-common words in both copies are an important study that should be examined comparatively.

References

Anthony, L. (2011). AntConc (Windows, Macintosh OS X, and Linux). Recuperado de: http://www. antlab. sci. waseda. ac. jp/software/README_AntConc3, 2.

Barthold, V. (1962). The book of my grandfather Korkut. Moscow and Leningrad: USSR Academy of Sciences.

Barthold, V., ed. (1962). The book of my grandfather Korkut. Moscow and Leningrad: USSR Academy of Sciences.

Ceyhun Çifci. (2013). Edebiyat Öğretiminde Teknoloji Kullanimi, Karşilaşilan Sorunlar Ve Çözüm Önerileri: Bir Durum Çalişmasi. Yüksek Lisans Tezi Bilkent Üniversitesi. Ankara

Çakıroğlu, Ü., Gökoğlu, S., ve Çebi, A. (2015). Öğretmenlerin Teknoloji Entegrasyonlarına Yönelik Temel Göstergeler: Bir Ölçek Geliştirme Çalışması. Gazi Üniversitesi Eğitim Fakültesi Dergisi (Gazi University Journal of Gazi Educational Faculty), 35(3), 507–522. http://gefad.gazi.edu.tr/article/view/5000121696

Demircan, T., & Demircan, A. Kütahya Mecmuasi Ve Mecmuadaki Edebî Metinlerin Dönemiyle İlişkisi. Türk Dünyası Araştırmaları, 128(252), 197-216.

Durkheim, Emile (2005). Dini Hayatın İlkel Biçimleri. çev. Fuat Aydın. İstanbul: Ataç Yayınları.

Ekici, Metin (2019). Dede Korkut Kitabı Türkistan/Türkmen Sahra Nüshası, Soylama-lar ve 13. Boy, Salur Kazan'ın Yedi Başlı Ejderhayı Öldürmesi, İstanbul: Ötüken Neşriyat.

Ekici, Metin (2019). "Yeni Bir Dede Korkut Boyu: Salur Kazan'ın Yedi Başlı Ejderhayı Öldürmesi", Dünya Kültür Mirası Dede Korkut Uluslararası Sempozyumu, Bayburt, 25-27 Nisan 2019.

Ergin, Muharrem, (1954), "Dede Korkut Kitabı Hakkında", Türk Dili, C.III, S.29, s.267-269.

Ergin, Muharrem, (1991.b), Dede Korkut Kitabı II / İndeks-Gramer, Türk Dil Kurumu Yayınları, Ankara.

Ergin, Muharrem, (1994.a), Dede Korkut Kitabı I / Giriş-Metin-Faksimile, Türk Dil Kurumu Yayınları, Ankara.

Fecri, Y. A. V. İ. (2019). Tarama sözlüğünde Türkçe dinî terimler. Uluslararası Türkçe Edebiyat Kültür Eğitim (TEKE) Dergisi, 8(3), 1402-1436.

Gökyay, Orhan Şaik, (2005), Dede Korkut Hikâyeleri, Kabalcı Yayınevi, İstanbul.

Güngör, R. Ş. (2016). Dede Korkut Hikâyelerinde İslamî Unsurlar. Hikmet-Akademik Edebiyat Dergisi, (5), 314-335. Güzel, A. (2008). Dede Korkut Hikâyeleri Bağlamında Dua. Electronic Turkish Studies, 3(2).

İnan, Abdülkadir (1952) Müslüman Türklerde Şamanizm Kalıntıları. İlahiyat Fakültesi Dergisi 4, 19-30.

İnan, Abdülkadir. (1958) Türk Destan ve Masallarında Kırklar Motifi. Türk Dili 77, 222-224.

İnan, Abdülkadir. (1953) Türklerde Su Kültü İle İlgili Gelenekler. Fuat Köprülü Armağanı: 249-254.

İnan, Abdülkadir. (1987) Makaleler ve İncelemeler. Ankara: Türk Tarih Kurumu Basımevi.

İnan, Abdülkadir. (2015) Tarihte ve Bugün Şamanizm. Ankara: Türk Tarih Kurumu.

Köprülü, Fuat. Edebiyat Araştırmaları. Ankara: Türk Tarih Kurumu, 1986.

Latifi Project. (2021). The University of Washington, The Latifi Project Exclude Select Vocabulary Program, t.y. <http://www.thelatifiproject.org/>.

Peker, H. (2017). Dede Korkut Hikâyeleri Çerçevesinde Dinin Dönüştürücü Etkisi Üzerine. Uludağ Üniversitesi İlahiyat Fakültesi Dergisi, 26(2), 97-116.
Şeşen, R. (2010): İbn Fadlan Seyahatnamesi, Yeditepe Yayınevi.
Odabaşı, F., ve Kabakçı, I. (2007). Öğretmenlerin mesleki gelişimlerinde bilgi ve iletişim teknolojileri. Uluslararası Öğretmen Yetiştirme Politikaları ve Sorunları Sempozyumu 1, 1-8.
Öksüz, C., Ak, Ş., ve Uça, S. (2009). İlköğretim Matematik Öğretiminde Teknoloji Kullanımına İlişkin Algı Ölçeği. Yüzüncü Yıl Üniversitesi, Eğitim Fakültesi Dergisi, 6(1), 270–287
Tatlar. (2022, March 8). In Wikipedia. https://tr.wikipedia.org/wiki/Tatlar
Yazar, İ. (2007) . Making use of information technologies in the study of classical Turkish literature and e-library applications. Turkish Studies-Türkoloji Araştırmaları, 2(3), 3-13.

Using Cinema in the Cultural Integration of Foreign Students

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Abstract
It is possible for an individual to adapt to the society in the different country he lives in by learning the culture of that society and socializing. This study aims to enable Nigerian foreign students studying in Cyprus to learn the culture of a foreign country through cinema. The problem of culture conflict forms the basis of the study. The movie "Eagle's Nest", which tells the story of Christian Merie, who has just joined the Turkish family, learning and adapting to Turkish culture, was used as teaching material in the course. Different scenes from the selected movie were shown and the students were asked to write an evaluation note. Students' grades and reactions were examined using the qualitative content analysis method. After all; It was found that students were able to relate the content of the film to cultural theories and concepts very well and produce solutions to intercultural problems.
Keywords: Intercultural communication, Cinema in cultural transfer, Teaching with films, National culture, Culture shock.

Introduction

Culture is a process that is not included in people's genetics, is not hereditary, and is formed under the influence of the social environment in which they live (Güvenç 1991). In other words, people learn and continue the culture of their society through their lived and ongoing experiences. Therefore, culture is social. A person cannot be isolated from the culture of his society. Culture is historical; it matures over a long period of life. Culture, which is a way of life, is social behaviour. This is the concept of globalization in our age (Özkan, 2014).

The process that occurs when people encounter different cultures is defined as intercultural communication. Thomas Baumer (2002) also adds the concept of consciousness to Maletzke's definition. Individuals from different cultures know that individuals in different societies are different. Therefore, they communicate with the awareness of their mutual strangerhood. Baumer explains this situation as intercultural communication. Culture, the most significant source of difference between societies, shapes people's perspective on the world, events and people and causes their preferences and behaviours to emerge (Kara, 2014).

In cinema, cultural codes are heavily used to gain society's appreciation and attract people's attention. For this reason, cinema films are an essential element that supports intercultural communication in terms of different cultures knowing and understanding each other and reducing prejudices. In addition, cinema is the most excellent tool that enables marketing a cultural model to the world by influencing the masses (Özkan, 2014). Showing popular movies in classes with students from different cultures provides rich content for education. Many scholars argue that it is more effective for students from different cultures to learn about culture through popular movies. They believe learning by watching movies tends to be remembered more often than research papers, textbooks, and other academic materials. It is also observed that they are comfortable remembering the subject by associating the movie scenes, actors' dialogues, the story and music of the movie with the theoretical concepts taught in class (Pandey, 2012). Champox (1999) states, "Films are a comfortable and familiar tool for contemporary students that can keep students interested in the theories and concepts discussed." He adds that although many movies are fictional, students can also experience stories that are unlikely to happen in real life. Movies can encourage good discussion and evaluation of one's values and self if their scenes have effective emotional content. In their research with management employees, Dunphy, Meyer, and Linton (2008) discussed how to make management training more meaningful and who would want to watch a training film instead of watching famous Hollywood movies such as The Godfather (1972) and 12 Angry Men (1957). Educational videos focusing on professional development have received limited attention due to their burdensome subject matter and lack of complete delivery. They have failed to leave a long-lasting impact on students (Pandey, 2012). As a result of research conducted by Gallos in 1993, it has been concluded that films that have reached a high audience can be a powerful tool for teaching students the ability to develop their perspectives.

Using Movies To Avoid Clash Of Culture

Cinema is a global tool that carries the cultural characteristics it contains, making the use of cinema as a cultural element more critical. Although cinema is not the sole producer of ideologies in modern societies, it plays a vital

role in spreading ideology. In this regard, American cinema comes first. Hollywood cinema, a strong industry, has influenced billions of people worldwide for nearly 100 years. Hollywood's structure includes many filmmakers worldwide, and American culture influences billions of people through cinema, making this country and its cinema one of the most significant global powers (Özkan, 2014).
The use of films in intercultural education is recommended by many scientists (Summerfield, 1994; Champoux, 1999; Bhawuk and Brislin, 2000; Mallinger and Rossy, 2003; Varner and Beamer, 2005; Littrell, Salas, Hess, Paley and Riedel, 2006; Verluyten, 2007; Pandey, 2012). As Cardon (2010) states, one of the most essential benefits for bachelor students is that movies are entertaining, intriguing, and sometimes arouse curiosity about other cultures. Movies can be an invaluable intellectual exercise in deciphering other cultures, and with the guidance and help of lecturers, students can very quickly learn cultural codes through movies shown in class (Cardon 2010).

Methods Of Utilizing Cinema In Cultural Transfer
With the acceleration of information flow and communication in the globalization process, the increase in economic, social and cultural mobility between societies is caused by global communication through media institutions (Yılmaz, 2018). Champoux (1999) suggests that a film as a practical learning tool can be used in the classroom in different ways, such as case, metaphor, experiential exercise, symbolism, experience, time and meaning. He suggests some opportunities to use film in a teaching course, for example, showing the film before or after a discussion, showing two different films on the same story to create different perspectives or showing scenes repeatedly in class. Accordingly, a film can be used in some alternative ways:
1. The course instructor may show some scenes from a specified movie during one or more lessons. It can then initiate discussions on theories, models, and topics.
2. The course instructor may show the entire movie before starting the theoretical discussion. Certain scenes selected during the discussion can be repeated in class.
3. The course instructor may give an introductory lecture on the topic before showing the movie and then begin discussing the movie and related theories.
4. The course instructor may use one or several selected films as case studies throughout the course.
5. The course instructor may assign the selected film as a project assignment and ask them to analyze it from a cultural and social perspective.
Within the scope of this study, in order for foreign citizens living in Northern Cyprus to learn the culture of the country they live in, a film that conveys Turkish culture was selected by applying item 4 within the scope of the Turkish Cinema History course. The movie was watched with the students, and the results were shared in this study.

Aim Of The Study
According to the official statement, 13 thousand Nigerian students study at Northern Cyprus Universities. In the statements made in the press following the increasing number of judicial incidents in the country, it was stated that the names of Nigerian students were mentioned in judicial incidents and that this was a great sadness, and it was emphasized that both the society and the students had to comply with the laws in the country. In the same statement, it was emphasized that "getting an education in Northern Cyprus, which attaches importance to freedom, does not discriminate against language, religion or race, and where cultural exchanges take place with students from various countries, is an important wealth and this should be protected" (Mebnet, 2022). The number of Nigerians who decide to settle after education in Northern Cyprus, which Nigerian students prefer, is increasing every day, as it is the African country with the highest population migration after Sudan, South Sudan, the Democratic Republic of Congo and Somalia due to the civil war. Therefore, Northern Cyprus also attracts the attention of Nigerian investors (Kıbrıs Postası, 2022). Due to the increasing number of judicial problems due to cultural differences, this study was conducted for Nigerian students to learn about Northern Cyprus's culture and social structure.
When we look at the history of Turkish cinema, it was fed by various types of films until the first half of the 1970s. The leading role was always chosen from among the public. The commoner would always win even if unexpected things happened to the leading actor. The Turkish cinema films were entertaining and educational films that contained social messages, highlighted Turkish family structure and culture, and touched upon traditions, customs, village troubles, famine, forced migration, economic difficulties and family order (Duran, 2014). For this reason, the study aimed to help Nigerian students in Northern Cyprus learn Turkish culture by selecting the movie "Eagle's Nest", which depicts two different cultures.

Methodology
The course was conducted in two formats: theoretical and practical. The discussion and group project techniques were used in the lessons for effective learning. The selected movie, The Eagle's Nest, was designated as a "watch movie" to make classroom learning more meaningful, effective, and engaging for students. A total of 15 lesson hours, ten lessons of 75 minutes each, were allocated for practice in the course, which earned the students 10

points.
The movie Eagle's Nest was not shown in full in one sitting. Scenes selected by the research academic were shown on different course days. At the same time, theoretical issues related to the subject were discussed in class.
The scene that should be discussed in the lesson was shown again for the students to remember. Thus, students could quote dialogues, actors or backgrounds in their discussions. The students included in the study had yet to watch the determined movie before. Before watching the movie, the researchers were asked to read the articles determined by the researcher.

Teachıng Culture Wıthın The Scope Of The "Hıstory Of Turkısh Cınema" Course
The "History of Turkish Cinema" course is compulsory for second-year students of Girne American University, Faculty of Communication, Department of Radio, Television and Cinema. The study within the scope of the course was designed and taught in the 2022-2023 academic year. The course, History of Turkish Cinema, is designed to achieve the following learning objectives:
1. To convey information to students about the History of Turkish cinema,
2. To raise awareness about the Turkish family structure, customs and traditions, and social structure reflected in Turkish cinema, and,
3. To develop skills in identifying and understanding culture,
4. To work effectively with society while engaging in cinema activities in Northern Cyprus.

Lımıtatons
This study consists of the researcher's experiences in teaching culture to 28 students. Twenty-eight students (26 boys and two girls) taking the course in the 2022-2023 academic year participated in the study. All students are Nigerian citizens aged 22-30 and belong to the Christian religion. All students have a good command of written and spoken English. Students watched the selected movie in Turkish but with English subtitles. From the national cultural perspective, the students all belong to Nigerian culture.

Data Analysıs And Evaluatıon
In order to determine the benefits of the study, students were asked to write an evaluation note for the movie Eagle's Nest. The qualitative content analysis method was used to analyze the students' answers in their evaluation notes. Firstly, student responses about the film were distinguished from statements regarding general theoretical learning. These expressions were then classified to code according to the signs of the mentioned cultural concepts. The results achieved and analyzed in this study belong to the 2022-2023 academic year and the students taking the course at the communication faculty.

Movıe Revıew And Analysıs
Plot Of The Movıe Eagle's Nest (1974)
Eagle's Nest is a drama film written by Tarık Dursun Kakınç. This film, directed by Natuk Baytan and released in 1975, reflects the intercultural differences experienced by Merie, who came to Cyprus from England, and her Turkish fiancée.
After completing his doctorate in England, Murat returns to his homeland, Cyprus, with his British fiancée, Merie. Murat's family and neighbours meet them at the airport. Merie's low-cut outfit attracts everyone's attention. When they all come home together, Merie's relaxed attitude is noticeable. Murat's mother gives Merie her room. As she takes her belongings from the room and leaves, Merie asks her fiancée what they are. Murat says a rosary, the Quran and a prayer rug are very valuable to his mother.
In the morning, everyone sits at the breakfast table. While Murat's mother, Ms. Makbule, is about to pray, Merie takes her tea and starts eating without waiting for anyone. In order to appease the mother, who is uncomfortable with Merie's comfort, Murat mentions that Merie wants to become a Muslim when they get married and asks her to help him. Ms. Makbule happily accepts her son's request and asks her name to be Meryem when she becomes a Muslim. From that moment on, she starts calling Merie as Meryem.
The following day, Merie goes out to look for the house cat. She is wearing a low-cut blouse and a mini-skirt. Seeing this, Mother Makbule calls Merie and warns her about her clothing. She states that wearing low-cut clothing may be misunderstood. However, Merie is disturbed by the criticism of this clothing style, which is very natural in her culture and goes to her room crying.
One evening, Murat, his fiancee Merie and Murat's family are invited to a wedding in the village. Merie wants to drink alcoholic cocktails that night. However, Murat and his family politely decline the alcohol offered and take lemonade for themselves and Merie. The film tells the story of Merie learning to live with her fiancé Murat and her Turkish family, the difficulties she experiences in this process, and her adaptation process. As a result, love wins, and the culture clash problem diminishes.

Analysıs Of The Eagle's Nest (1974)

The screenwriter deals with this film, especially the religious and cultural differences a Christian believer will experience in the Turkish family. The film was specifically chosen because it covers a wide range of topics, such as the influence of family culture on individuals' gender relations, behaviours and personalities, and cultural dimension theories of culture conflict. At the same time, this film is the only film in the history of Turkish cinema that tells the story of a young Christian woman coming to Cyprus and adapting to Turkish society and Turkish family.

Content Analysıs Of Students' Evaluatıons About The Fılm

Selected responses regarding the learning effectiveness of the films are given in the table below. In order to facilitate citing sources, codes were used when expressing students' reactions.

Table 1: Theoretical perception of the film

No	Theoretical concepts chosen for the film	Number of students marked the specified concept
1	Cultural Differences	6
2	Culture Shock	26
3	Cultural adaptation	20
4	Intercultural Communication Culture	12
5	Acculturation process	18
6	Family culture	10
7	The impact of family culture on self and personality	6
8	Intercultural competence, cultural intelligence	10

The Reactıons Of The Students' To The Learnıng Effectıveness Through Movıes

BU: "It was very easy to learn through movies because we could see the behavior of people from different cultures in different situations."

RA: “I learned more about Turkish culture with the help of movies. "

KN: “Thanks to the movie, I understood the culture shock that people face when they go to a foreign country and how they overcome it.”

TP: "Thanks to the movie, I realized that culture shock can be prevented if you have a little knowledge about that culture before going to a country with a different cultural background."

OK: "The movie was useful for us to get to know various cultures."

Based on these reactions, it can be said that, according to some students, cinema is a valuable tool for providing effective learning in the classroom. Although not all 28 students in the class had the same reaction, none of them made any negative comments. Based on the students' reactions, the selected film is beneficial for the students in achieving the aim and objective of the study.

Students Reactıons To The Dıfferences Between Two Cultures

EE: "The film revealed the differences between cultures."

YR: “In the film, cultural differences can be easily understood. In particular, it is clearly revealed in the movie that women are in the background and men have more say.”

LO: “Thanks to the movie, I learned the differences between the two cultures. With the movie, I realized that in the Turkish family, the right to speak belongs to the eldest member of the family, and that women or youth can do a job with permission.”

The students participating in the research watched the culture conflict in the Eagle’s Nest and made comparisons with their own cultures. In order to encourage them to look at cultural issues from different perspectives, students were asked to read Pittu Laugani's book on cross-cultural psychology. In this book, Pittu Laugani tells about his experiences with people from European, American, British and other nationalities, what difficulties he encountered in intercultural communication in a foreign country and how he overcame them.

Students Reactıons To Turkısh Culture

TP: “The film shows that the best way to learn a culture is to experience it with people and families belonging to that culture.”

YS: “This film gave us the experience of learning Turkish culture. The entire plot of the movie is related to Christian Merie, who comes to a family belonging to Turkish culture. This film shows us that Turkish culture cannot be taught in the classroom, it must be learned through experience.”

These students' comments show that they found them very relevant in learning about the Turkish culture and society prevailing in Northern Cyprus. Based on the comments, they can perceive Turkish culture, but they need to experience it to learn. At this point, it is undeniable that living experience is the best way to learn for everyone in the world. No matter what, people need professional training to avoid culture clashes.

Reactıons Of Students About The Effects Of Famıly Culture On Personalıty And Famıly Culture
NK: "The film reveals good learning about the culture of a conservative Turkish family, the intense relationship between family members".
Alternatively, "I learned how family culture affects a person's personality. She is a social woman born and raised in a Christian family. I learned how cultural differences affect people's relationships when two different families meet each other."
While the researcher selected the movie Eagle! 's Nest, special attention was paid to include issues such as the effects of family culture on the individual's self, personality, habits, behaviours, ideas and emotions. In addition to these features, the film also depicts the interpersonal relationships between family members, with each other and with other families. In class discussions, students tried to relate various scenes from the film to their own culture and how people from different cultures behave and react to different situations in family relationships.

Students Reactıons To Culture Shock
KN: "I learned about culture shock and the different aspects of culture shock. I learned the differences in male-female relationships. Thanks to this film about the crowded, impressive, conservative and patriarchal Turkish culture, I learned how to cope with culture shock.
OT: "The experience of culture shock was portrayed very well in this film. The film depicted the first-hand experience in a different culture very well and highlighted the culture shock experienced by the female character very well.
TP: "The film shows how Merie, a Christian, experiences culture shock in different situations, but over time she learns to overcome the culture shock and learns to accept this new culture, improving her cultural intelligence."
IR: "For both families, cultural differences emerge in environments such as breakfast, dinner, speech patterns, sitting positions, and celebration events.
OK: "This movie shows the importance of adapting to a culture and overcoming culture shock."
26 out of 28 students described culture shock in their evaluation notes. This number is the highest in student evaluations and is also seen in the data in Table 1.

Students Reactıons To Cultural Adaptatıon
BU: " I understood cultural adaptation to the biculturalism stage. Time is needed for cultural adaptation."
IR: "Merie learns Turkish culture and lifestyle over time. For example, as a young member of the household, she gets up early in the morning and starts doing the housework."
OK: "In the movie, Merie experiences culture shock when she meets the family members of the man she will marry. During the movie, Merie adapts to Turkish culture by learning the rules at home, respect for elders, the importance of breakfast and dinner table, and that the man has the priority of decision-making in marriage. Thanks to the movie, I learned about cultural adaptation."
RS: "This film tells us about the experience of a Christian marrying a man from a conservative Turkish family and how she has to deal with the situation. After initial resistance, it shows that adaptation can be achieved. This film tells us about respecting and accepting other cultures."
TP: " I learned that despite cultural differences, it is not impossible to adapt to other cultures and that cultural adaptation is easier by respecting other cultures. The film also depicted how people experience culture shock and learn to overcome it."
Through the movie, students learn cultural adaptation, a concept related to culture shock. After the movie, the students talked about cultural adaptation and cultural adaptation models and started discussing the subject through the movie to explain their learning.

Students Reactıons To Intercultural Competence And Cultural Intellıgence
YS: "Merie, the main character of the film, does not know the cultural differences at the beginning. Over time, she began to find this environment and country very interesting. I learned intercultural competence and cultural intelligence through the film. In the age we live in, learning how to adapt to new cultures is a necessity."
OT: "What the movie taught me is that when a foreigner goes to another country, he first shows resistance to the culture of that country. However, over time, this foreign individual sees that he can live with this new culture and adapts to this new culture. This movie also made me understand the importance of cultural intelligence."
RS: "Thanks to this movie, I learned what to pay attention to when living with people from different cultures. The movie portrays culture shock, intercultural competence, cultural adaptation, cultural integration, and cultural intelligence very well."
As seen in the student comments above, cultural intelligence and intercultural competence greatly influenced the students' mindset. Looking at Table 1, the students' reactions show they learned a lot by relating the film's scenes, story and dialogues to personal experiences and cultural theories. The comments above show that students mostly talked about their personal experiences outside the classroom rather than their appreciation of a particular scene or a specific character in the movie.

Conclusion and recommendations

The students who participated in the study were very enthusiastic throughout the course. They had high participation in every activity, class discussion and project work. Class discussions led students to develop common responses and multiple perspectives on cross-cultural issues. The results regarding the learning effectiveness of the movie show the same thing. One of the most important goals of the course was that, at the end of the course, students would be able to become familiar with Turkish culture and be able to understand and adapt to the society they live in through the events and activities they will participate in in Northern Cyprus, where they will live for four years. It was a difficult task to teach Nigerian students about the structure of the society they live in and to prevent prejudice in them through a film about Turkish culture. Since Northern Cyprus's religious and cultural habits are quite different from the cultural values of Nigerians, cultural learning and the development of multiple perspectives on intercultural issues are very important. The effectiveness of the study can be seen from the responses received from the students. At this point, students who will go to other countries for education can master the culture of the country they will visit through cinema in order to avoid culture shock.

This study was conducted with male and female students from Nigeria to Northern Cyprus for university education. All of the students participating in the study are Christians. Since all the students had an advanced command of the English language, they could understand the movie's subtitles quickly.

The number of students included in the study is 28. This is because the number of Nigerian students taking the compulsory Turkish Cinema History course is 28. Since the study used cinema films as culture teaching material, the number of students in the class is ideal for intercultural communication or intercultural skills training. With a large study group, classroom control will be difficult, and students will have difficulty focusing on the film. At this point, the effectiveness of in-class discussion may decrease and affect the study's outcome.

The visual, auditory and emotional impact of films on the individual makes them very effective in using them for educational purposes. In addition, the fact that films can be used in almost all courses provides an advantage. Films, which have qualities that can directly appeal to students' sensory and emotional worlds, can easily find a place for themselves in a wide range of subjects in all courses (Kurtbaş, 2021).

One of the limitations of learning through watching movies in the classroom is that each film is told from its own director's perspective. Therefore, personal perspectives are reflected, which may or may not be acceptable to some students. Students from different backgrounds may react and comment differently about the same scene and the actors on the stage. Students may find some scenes objectionable due to language, religion, race, or prejudice. In this case, disturbing situations may occur in the classroom. Films shown in class may reinforce negative thinking among some students towards certain groups if the instructor in the classroom does not carefully address this issue. As a result, films used in cinema for educational and guiding purposes are essential visual materials prepared per the purposes of the dominant ideology and significantly impact the public sphere (Kurtbaş, 2021).

Mallinger and Rossy (2003) recommend that instructors who use cinema in the classroom choose movie scenes very carefully and that scenes containing violence, nudity or profanity should not be shown to the students. The Eagle's Nest movie determined in the study was watched by the researcher beforehand, and decided that there were no disturbing scenes. Champox (1999) recommended that an instructor choose two films that tell the same story but were shot in different periods with different directors and actors. He considered the 'time frame' as an advantage in this case. However, since the film determined in this study was analyzed by the researcher. Also, the course instructor concluded that the film continues to be valid in conveying Turkish culture. At the same time, the study's results will contribute to the field, considering that no other film of the same quality tells the adaptation of Turkish culture through a Christian character.

As a result of the study, it has been revealed that cinema can be an effective tool for students to understand the social structure of a foreign country, learn its culture and develop attitudes accordingly through the film. According to the study results, students can learn about the country's culture, where they will study in advance and prevent possible negative interactions through cinema. The development of the study depends on broader research. Therefore, in future studies, it can be examined by comparing with police reports whether social problems arising from cultural differences decrease by ensuring the participation of more students.

References

Baumer, T. (2002). *Handbuch Interkulturelle Kompetenz.*

Bhawuk, D. P. S., & Brislin, R. W. (2000). *Cross-cultural training: A review. Applied Psychology: An International Review*, 49, 162-191.

Champoux, J. (1999). *Film as a teaching resource*. Journal of Management Inquiry, 8, 206-217.

Cardon, P. W. (2010). *Using Films to Learn About the Nature of Cross-Cultural Stereotypes in Cross-Cultural Business Communication Courses*. Business Communication Quarterly, Volume 73, Number 2, June 2010 150-165.

Dunphy, S., Meyer, D. and Linton, S. (2008). *The top 10 greatest screen legends and what their definitive roles demonstrate about management and organizational behaviour*. Behaviour & Information Technology, Vol. 27, No. 2, March – April 2008, 183 – 188

Duran, Ö. Ü. (2014). 1980 *Öncesi Türk Sineması Nostaljisi ve Günümüz Film-Eğlence Endüstrisi Üzerine.* Sosyologca, (8).
Güvenç, Bozkurt (1993). *Türk Kimliği*. Kültür Bakanlığı Yayınları, Ankara.
Kara, Ç. (1997). *Halk Bilimi ve Folk Popüler Kitle Seçkin Kültürleri*. Folklor/Edebiyat, S.9, İstanbul.
Kara, E. Ş. (2013). *Kültürlerarası iletişim: Kabhi Khushi Kabhie Gham adlı Hint filmindeki kültürel kodların incelenmesi.* Selçuk İletişim, 8 (1), 263-281.
Kurtdaş, E. M. (2021). *Eğitimde Film Kullanımının Önemi*. Mehmet Akif Ersoy Üniversitesi Eğitim Fakültesi Dergisi, (60), 222-244.
Littrell, L. N., Salas, E., Hess, K. P., Paley, M., & Riedel, S. (2006). *Expatriate preparation: A critical analysis of 25 years of cross-cultural training research*. Human Resource Development Review, 5, 355-388.
Mallinger, M., & Rossy, G. (2003). *Film as a lens for teaching culture: Balancing concepts, ambiguity, and paradox*. Journal of Management Education, 27, 608-624.
Summerfield, F. (1994). *Crossing cultures through film*. Yarmouth, ME: Intercultural Press.
Özkan, Z. (2014). *Kültürlerarası Etkileşimde Sinemanın Rolü: Ferzan Özpetek Ve Fatih Akın Filmlerinde Kültürlerarasılık*. International Journal of Sport Culture and Science, Cilt 2 (Özel Sayı 1), 340-349.
Pandey, S. (2012). *Using popular movies in teaching cross-cultural management*. European Journal of Training and Development, 36(2/3), 329-350.
Varner, I., & Beamer, L. (2005). *Intercultural communication in the global workplace* (3rd ed.). Boston: McGraw-Hill.
Verluyten, S. P. (2007). *Cultures: From observation to understanding*. Leuven, Belgium: ACCO.
Yılmaz, M. (2018). *Toplumsal Değer Farklılaşmasının Bir İletişim Engeli Olarak Ele Alınması Ve Bir Örnek Olarak Acı Filminin İncelenmesi*. Journal of International Social Research, 11(55).
Internet Sources
https://www.kibrispostasi.com/c1-KIBRIS_POSTASI_GAZETESI/j147/a39060-eyvah-nijeryalilar-universite-acmaya-hazirlaniyor

What Do We Know About Metaverse? Insights for Future Studies Based on Bibliometric Analysis

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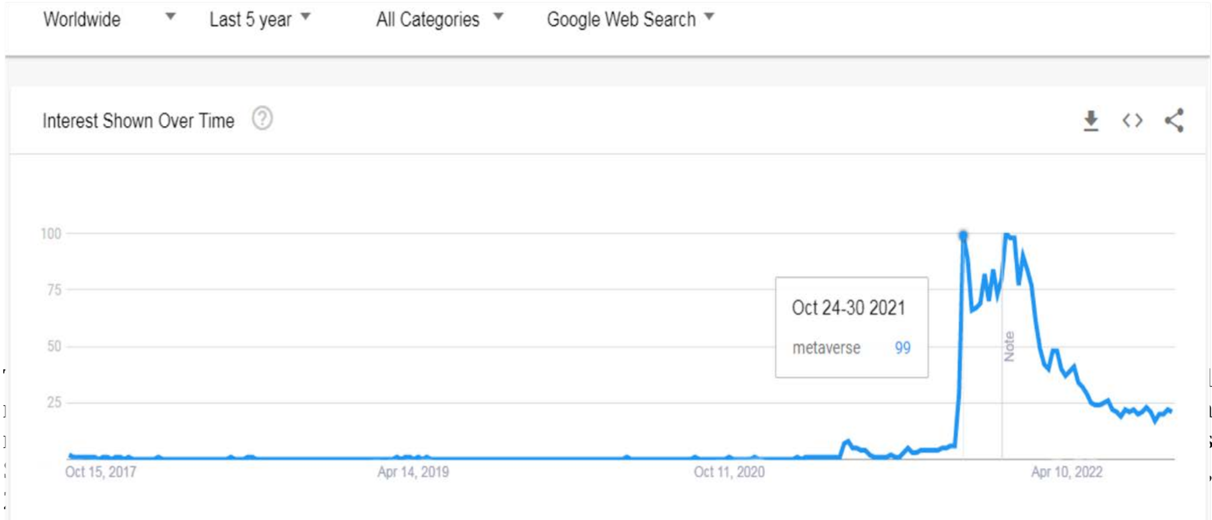
Abstract
Metaverse is a technology which allow users to "experience" a digital universe and includes several components like augmented and virtual reality. Researchers who wish to research the field may not know where to start or the key features of the field. Thus, the present study aims to discuss the general and social, conceptual, and intellectual structures of the field for future researchers on metaverse. For this purpose, the general structure, scientific maps, and socio-intellectual structure of the field were investigated. Then, recommendations are presented for future researchers by bibliometric analysis results. In the study, the abstracts and keywords in publications indexed in the Scopus database and Web of Science database were reviewed. After the data collected from 439 publications were cleaned and combined, 328 documents were analyzed using R. The performance analysis revealed that the most productive writer in the field was Ayiter E., the most influential writer was Bourlakis M., the journal with the most publications was "The Journal of the Association for Information Systems", and the most cited study was "Avatars, People, and Virtual Worlds: Foundations for Research in Metaverses" published in that journal. The examination of the intellectual, social and conceptual framework within the field unveiled predominant associations of metaverse with keywords such as virtual, second life, augmented reality, avatar, virtual world, and virtual reality. The most frequent collaborations were between Korea, Japan and the United States on second life and e-learning.
Keywords: Metaverse, bibliometrics, performance analyze, intellectual contribution

1 Introduction

Today, financial, virtual, and physical worlds became increasingly interconnected. Imagine a virtual world where you work, shop, interact with others while you are at home: This is the metaverse! The metaverse, a technology with great potential, is a huge network where three-dimensional (3D) virtual worlds developed in real-time could work together and could be simultaneously experienced by unlimited users. The progress in technologies like augmented reality, artificial intelligence, the internet of things, virtual reality, blockchain, and gamification has sparked a growing fascination with the metaverse. (Thomason, 2022). Thus, what is metaverse?

Metaverse is a mergence of the Greek word "Meta" meaning post-after or beyond and universe. Therefore, metaverse means post-reality or transcendent universe (Mystakidis, 2022). It was used in novel "Snow Crash" of Neal Stephenson firstly. In 1992, the term was introduced to depict computer-generated 3D virtual realms where individuals engage in boundary-free interactions, detached from physical constraints. Presently, the metaverse can be defined as 3D virtual environments enabling social interaction and engagement, unrestricted by real-world limitations yet grounded in real-world analogies. (Owens et al., 2011). Merriam-Webster dictionary (2022) describes metaverse as "a persistent virtual environment that allows access to and interoperability of multiple individual virtual realities." The popularity of the term invented in 1992 increased when Mark Zuckerberg renamed the company as "Meta" and declared that the future of the Internet was meta on October 29, 2021 (Taylor, 2022).

This could be observed in Google Trends results that reflect Google search data are (Figure 1).



According to another perspective, metaverse experiences are more than just interaction within a virtual reality (Nevelsteen, 2018). In fact, the metaverse is a mixed reality environment where real and virtual properties are combined within a continuum (Nevelsteen, 2018; Milgram & Kishino, 1994). Furthermore, this approach was not based on the contrast between real and virtual environments when describing the metaverse. This approach embodies a virtual-to-real (hybrid) spectrum, enabling the integration of virtual elements into real settings by incorporating real actions or implementing augmented reality within a virtual world, a concept termed augmented virtuality (de la Fuente Prieto, Lacasa & Martínez-Borda, 2022). This approach (Mixed Reality-MR) categorizes metaverse design based on various components presented in Figure 2.

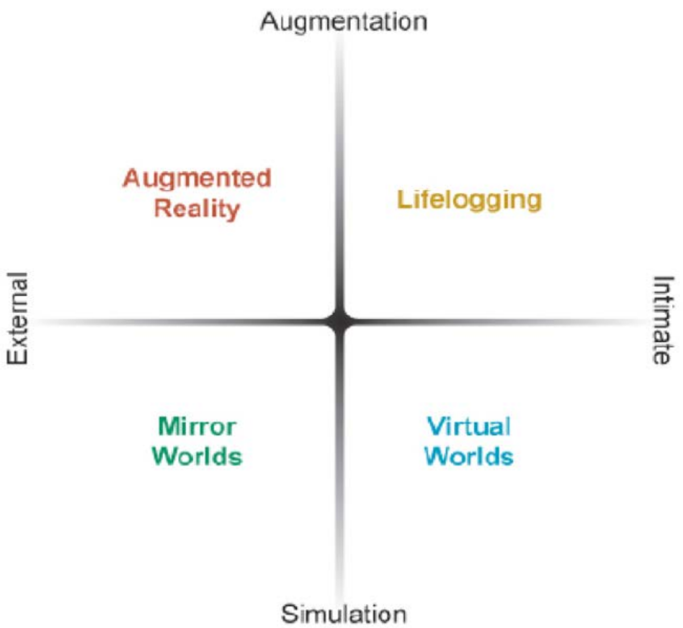


Figure 2. Metaverse Components

Smart, Cascio, and Paffendorf (2007) classified metaverse environments as follows: content (x-axis) and experiences (y-axis) (in figure 2). Experiences span from virtual simulations to augmented reality, delineated by a spectrum between personal identity (intimate) and the communal creation of worlds (external). Augmentation pertains to hardware-intensive virtual reality technologies, whereas simulation involves technologies used to simulate reality as parallel worlds. Intimate could be defined as any digital technology that allows users to take on avatars and digital profiles. External, on the other hand, is used to reflect digital technologies and tools that are not individual but rather associated with the outside world (Smart, Cascio, & Paffendorf, 2007). The terms found in the upper-right, lower-left, upper-left and lower-right sections of the graph, where these phenomena serve as the axes in Figure 2, constitute the design components of the metaverse. (de la Fuente Prieto, Lacasa, & Martínez-Borda, 2022). Augmented Reality (AR) is the most known application, and it could simply be defined as the augmentation of the real-world with virtual elements. This common technology is employed even when taking pictures in various social media applications (Instagram, TikTok, etc.). Lifelogging involves documenting one's daily life for diverse purposes. Mirror worlds serve as virtual representations or models of the real world, enabling accessible content like Google Maps or facilitating user contributions akin to Wikipedia. Notably, the Google Arts & Culture project stands out as one of the well-recognized models. Virtual worlds remain among the most recognized environments within the metaverse landscape. (de la Fuente Prieto, Lacasa, & Martínez-Borda, 2022). Hence, the metaverse, described as a post-reality universe, constitutes a persistent and interconnected multi-user environment amalgamating digital reality and physical virtuality. In contrast to historical instances, this universe now facilitates the integration of technologies like augmented reality (AR) and virtual reality (VR), enabling multi-sensory interactions between individuals and digital objects. Consequently, metaverse technologies hold promise in surpassing the principal constraints associated with traditional web-based 2D e-learning tools. (Mystakidis, 2022). Furthermore, it could be suggested that metaverse technology would contribute to the integration of e-learning and applied courses (Kanematsu, 2014). Also, it is expected that online work settings and new commercial entertainment approaches could be developed with paradigms adequate for future metaverse technologies (Mystakidis, 2022). This would be possible due to the availability of online multiplayer video games and open game worlds, immersive, social VR platforms compatible with AR workspaces. The metaverse holds promise as a platform crafted to simulate the natural world, offering a conducive environment for researchers across diverse fields—ranging from health and sports to education and art, encompassing all facets of the humanities. (Narin, 2021). On the other hand, despite the low data availability due to the limited number of metaverse studies, certain future problems could be associated with metaverse such as cost, longer development period, information and personal data security issues, and the possibility of digital addiction.

Advances in metaverse led to higher number of research on metaverse. Researchers should analyze the current situation before research. They should also take the time to identify relevant studies, critically analyze the content and quality of available evidence, and synthesize the findings. Lack of knowledge on the research field could lead to waste of time during literature review. Thus, the availability of practical knowledge and key issues in the field would lead to an effective and efficient research. Therefore, studies on the big picture about the metaverse are required through literature review. A comprehensive literature review would help identify research points and gaps in the literature, which would be beneficial for future studies. Although there are studies on the metaverse (Duan, Li, Fan, Lin, Wu, & Cai, 2021; Wang, Su, Zhang, Xing, Liu, Luan, & Shen, 2022), the number of studies that provide an overview for researchers is limited (Linnenluecke, 2020; Narin, 2021; Tas and Bolat, 2022). The present study is different from similar studies since it aimed to determine the performance of the metaverse, as well as its conceptual, social, and intellectual structure.

Aim of this study to present a general analysis of the metaverse field for future researchers who desire to study metaverse. Thus, the study focused on two main issues. First, the performance (general information, most influential author, article, journal, and publication) was investigated to provide a holistic picture of the metaverse field. Second, the conceptual, social, and intellectual structures that allow dynamic relations in the field were investigated with scientific mapping. Therefore, the subsequent research inquiries were identified:

1. How is the performance of the metaverse field?
    1.1. What is the general information regarding the metaverse?
    1.2. Who are the most productive authors in the field?
    1.3. Who are the most cited authors in the field?
    1.4. What are the most influential publications in the field with the highest citations?
    1.5. Which journals hold the most influence in this field?

2. What is the conceptual, intellectual and social structure of the metaverse?
    2.1. What are the frequently studied keywords in the field/what are the developmental trends?
    2.2. What are the issues that authors in certain countries often study?
    2.3. What is the current state of cooperation in the metaverse domain?

2 Methodology

2.1 Research Design

In the study, bibliometric analysis was employed to review and analyze scientific publications. Bibliometric analysis is a statistical analysis method that employs database data to produce in-depth insight into the development in a particular field (Leung et al., 2017. It could be used to investigate the evolution in a field of research, based on the social, including topics and authors, intellectual, and conceptual structures of the discipline (Donthu, 2021) It allows the review of the studies, authors, institutions and scientific production in a predetermined scientific topic (Martí-Parreño et al., 2016), while objectively processing thousands, allowing authors to clearly comprehend publication trends and numerous scientific studies, even reaching tens of thousands (Ghadimi et al., 2019; Wang et al., 2020). Bibliometric studies enable the exploration of measurement of the basic properties of scientific publications in a certain field such as citations, authors, co-authors, and citations, analysis of the findings, and

determination of the trends to reveal the general structure of the field (Kasemodel et al., 2016). Bibliometric analysis methods can be applied to various fields (Lim et al., 2020), including technological predictions (Gibson et al., 2018), cloud computing research (Cai et al., 2015), and journal reviews (Wang et al., 2021). Since comprehensive bibliometric studies could provide solid and unique foundations for advance in a field (Donthu, 2021), bibliometric analysis method was adopted in the current study.
There is no standard in bibliometric analysis design. However, Donthu (2021) suggested certain guidelines for bibliometric analysis. The present study was conducted based on these bibliometric analysis guidelines (Figure 3).

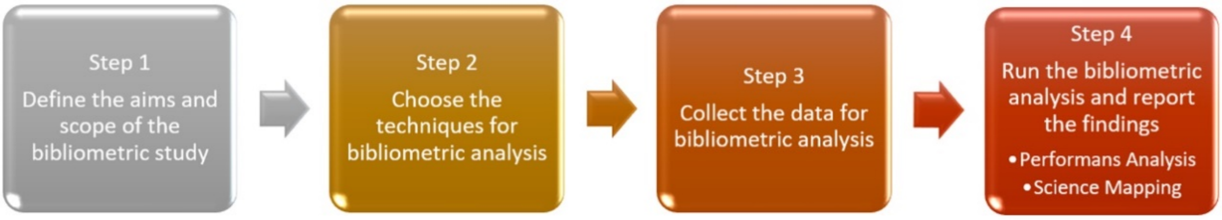


Figure. 3. Bibliometric analysis guidelines [Created benefit from Donthu et al. (2021)]

Step 1: The study's initial phase involved defining its scope and objectives. The primary aim was to offer insights into the dynamic structure of the field and to present a comprehensive analysis of the metaverse field for future researchers. The specific research questions are outlined in the introduction.
Step 2: In this step where the bibliometric research was designed, bibliometric analysis techniques were selected to meet the objectives and scope of the study that was determined in the first step (Donthu et al., 2021). Table 1 displays the bibliometric analysis techniques utilized in the study.

Table 1. Analysis techniques employed in the study [Adapted from Aria and Cuccurullo (2017); Rodríguez-Soler et al. (2020)]

Research Question	Unit of analysis	Data requirements	Bibliometric technique	Analysis technique	Structure
1 (1.1 to 1.5)	Documents	Author Publication, Journal,	Total Number of Authors, Publications, Countries, Journals,	Performance	Descriptive
2.1.	Words	Abstract Keywords	Co-word/ Co-occurrence	Science Mapping	Conceptual
2.2.	Documents	Author name Country Keywords	Bibliographic coupling	Science Mapping	Intellectual and Social
2.3.	Authors	Authors	Co-authorship analysis	Science Mapping	Social

The primary objective of the first research question was to ascertain the overall structure of the research field. Thus, performance analysis, a bibliometric analysis technique, was employed. Performance analysis entails the measurement of the scientific output in terms of dataset components (author, journal, country, institution/university) based on quality and quantity indicators. The performance analysis leads to a general picture of the field of research (Donthu et al., 2021; Aria & Cuccurullo, 2017) and explains the contribution of performance analysis components to the field. In performance analysis, citation analysis serves to identify interdisciplinary commonalities and distinctions among influential publications, authors, and journals. This method aids in understanding the connections and disparities across various fields or disciplines (Wohlin, 2008). It allows the researchers to identify popular methods, research topics and trends, as well as key variables (Gal et. al., 2004). For the analysis of the second research question data, a scientific mapping technique was utilized to unveil the conceptual and social-intellectual structure within the field. This approach specifically delves into and explores the interrelationships and correlations among different research components within the domain. (Donthu et al., 2021; Baker et al., 2021; Cobo et al., 2011). The scientific mapping technique encompasses a range of methods, including citation analysis, co-word analysis, co-citation analysis, co-authorship analysis and bibliographic coupling. These techniques prove effective in revealing both the intellectual and bibliometric structures of a research field, particularly when integrated with network analysis. The combination of these approaches enhances the comprehensive understanding of the relationships and patterns within the scholarly landscape. (Tunger & Eulerich, 2018). Co-word/co-occurrence is employed to identify thematic trends and the current situation in a particular research field, focusing on the core scientific publication content (Emich et al., 2020). The unit of

analysis is the word. In co-word analysis, words are usually determined by the keywords, abstract, title, or the full text (Baker et al., 2020; Emich et al., 2020). In bibliographic coupling, the correlations between the variables (journal, publication, author, etc.) are determined by common references. In other words, a specific citation in two articles is considered a bibliographic match. It is employed to reveal the latest developments and the current state of a field (Donthu et al., 2021). In the analysis, the developments and gaps in the field are determined based on thematic clusters across the publications. It contributes to the determination of the social and intellectual state of the field. Finally, the co-authorship analysis was employed to determine the social structure of the authors in the field. Co-authorship analysis facilitates the aggregation of co-cited authors. It also helps identify relevance and make inferences about the co-studied contexts to develop a research framework (Bu et al., 2018).
Step 3: The third step entails the preparation of the dataset for analysis. The dataset was developed in four stages: data retrieval, data output, data merge and data cleaning. The process is presented in Figure 4.

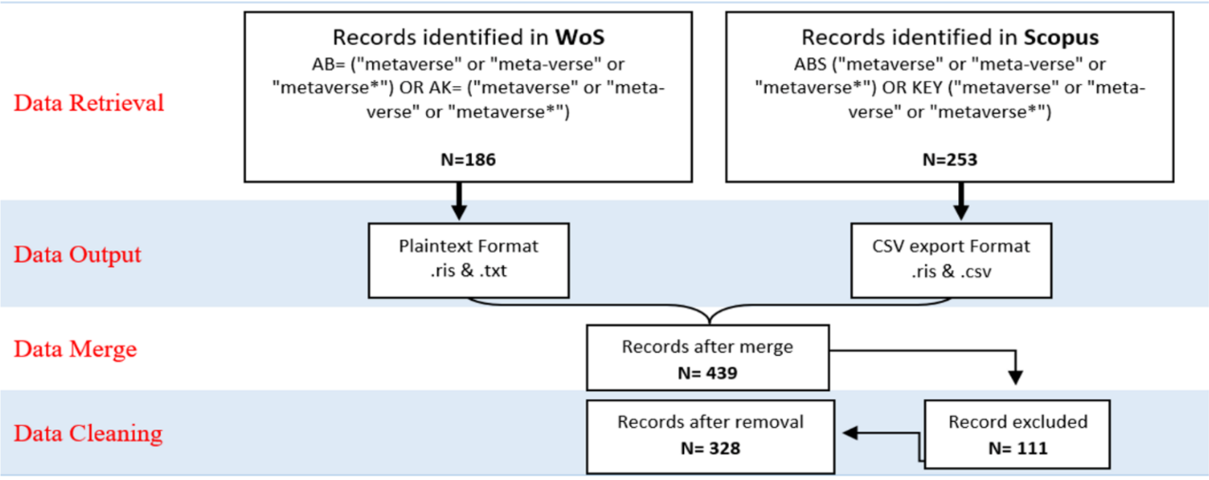


Figure 4. Preparation of the data source

The database that was employed in the data retrieval phase was determined based on exclusion and inclusion criteria, and the search strategy that included the search query. Table 2 outlines the inclusion and exclusion criteria employed in the study.

Table 2. The criteria for exclusion and inclusion

	Inclusion criteria	Exclusion criteria
Database	Scopus and WoS	Other databases
Publication period	until 17 March 2022	-
Source type	All	-
Document type	All	-
Subject area	All	-
Language	All	-

WoS and Scopus databases were searched since the data output formats of these databases were compatible with the Bibliometrix R software, which was employed in bibliometric analysis. The research was conducted in the WoS database, where Select All Fields was selected in the Advanced Search section, and the Query Preview entry was as follows: *AB=("metaverse" or "meta-verse" or "metaverse*") OR AK=("metaverse" or "meta-verse" or " metaverse*")*. The query aimed to search for keywords associated with metaverse in abstract and keywords sections. The Scopus database was queried with the following code: *ABS("metaverse" or "meta-verse" or "metaverse*") OR KEY("metaverse" or "meta-verse" or "metaverse*")*. WoS search revealed 184 records on 17.03.2022 and Scopus search revealed 252 records. In the data output stage, the data should be converted into an adequate format for bibliometric tools (R in the article). The WoS data were saved in 'plaintext' format with .ris and .txt extensions (export→ citiation information, bibliographical inf, abstract & keywords, Funding details, other inf.). The Scopus data were saved in 'CSV export' format with .ris and .csv extensions (export→citiation information, bibliographical inf, abstract & keywords, Funding details, other inf.). The data merge stage revealed 439 records. Once the adequate data are identified, duplicates should be removed from the analysis. Indeed, while bibliometric data are often confidential, challenges can arise in the recording of data. Issues such as variations in the spelling of authors' names, multiple versions of the same publication, complications with common names, diverse spellings of journal titles, and discrepancies in book editions are common pitfalls in the bibliometric data

collection process. These challenges underscore the importance of meticulous data management and standardization procedures to ensure accuracy and reliability in bibliometric analyses. Thus, the data should be cleaned. As mentioned in the data merge stage, 111 data were removed from the dataset and the analysis was conducted on 328 records.
Step 4: In the concluding phase, a bibliometric analysis was carried out, and the results were presented. The Bibliometrix R software played a pivotal role in importing bibliographic data, conducting bibliometric analysis, and constructing data matrices for co-citation, consolidation, co-word analysis, and collaboration analysis. R stands out as one of the most potent, adaptable, and open-source statistical software, making it a valuable tool for comprehensive and rigorous bibliometric examinations. (Aria & Cuccurullo, 2017). It also provides an extensible and flexible free environment for research and analysis (Linnenluecke et al., 2020). The analysis findings are reported in network visualization maps and tables.

3 Findings

3.1 Performance of the Metaverse field

3.1.1 Primary information about data sources

To evaluate the performance of the metaverse field, an initial descriptive analysis was performed, and the results are outlined in Table 3.

Table 3. Fundamental details regarding the sources of data

Description	Result	Description	Result
GENERAL INFORMATION OF DATA		Editorial material; book chapter	1
Timespan	1995:2022	Proceedings paper	57
Sources (Books, Journals etc.)	250	Review	5
Documents	328	DOCUMENT CONTENTS	
Average years from publication	7,62	Keywords Plus (ID)	906
Average citations per documents	6,829	Author's Keywords (DE)	927
Average citations per year per doc	0,6909	AUTHORS	
References	8882	Authors	630
DOCUMENT TYPES		Author Frequency	859
Article	137	Authors of single-authored documents	74
Article; book chapter	16	Authors of multi-authored documents	556
Article; early access	6	AUTHOR COLLABORATION	
Book	2	Single-authored documents	110
Book chapter	16	Documents per Author	0,521
Conference paper	68	Authors per Document	1,92
Conference review	11	Co-Authors per Documents	2,62
Editorial	2	Collaboration Index	2,55
Editorial material	7		

Note: The Authors per Document Index (APDI) indicates the ratio of total authors to total documents, offering insights into the average number of authors per document in a specific context (e.g., 630/328 = 1.92). The Co-authors per Document Index, reflecting collaboration intensity, calculates the average co-authors per document (e.g., 859/328 = 2.618). APDI consistently yields lower values than the Co-authors per Document Index because it counts each author only once, while the latter considers all co-authors, providing a more comprehensive measure of collaboration. The Collaboration Index (e.g., 556/(328-110) = 2.55) assesses the ratio of authors in multi-authored documents to the total count, indicating collaborative patterns. (Chakraborty et al., 2021)

Table 3 includes descriptive dataset statistics such as main information, document types, document content and author. It was observed that the word metaverse has been used in the literature since 1995. The total number of papers in the field was 250, and the number of documents was 328 between 1995 and 2022. This total was consistent with the data count presented in Figure 4. The papers were cited every 8 (7.63) years on average. Each paper was cited 7 (6.82) times on average. All papers collectively received a total of 8882 citations. This provides an overview of the dataset based on the time period, total number of papers, total number of documents, mean year since publication, average annual citation per document, mean citation per document and total number of citations. All document types were included in the study to determine the publications. There were 12 types of publications and 328 papers on metaverse. Most common documents were articles (137), proceedings (68), book chapters (16) and article chapters (16). The analysis of document content revealed 906 automatically generated keywords in bibliographical titles and 927 keywords determined by the authors. There were 630 authors in the field, while the total number of contributing authors and the number of papers they authored was 859. Seventy-four authors published alone, while 556 collaborated with others. When two or more authors published a document, the authorship was considered collaborative. There were 110 single-authored documents, averaging 0.521 documents per author, with an approximate ratio of 2 authors per document and 3 authors per document. The Collaboration Index (CI), indicating collaborative trends, yielded a coefficient of 2.55 in the metaverse field.

3.1.2 The most productive authors

One of the main factors that determine the performance of the field is the author data. Therefore, the productivity of each author in the dataset (total 630) was assessed based on the number of publications, and the top five most productive authors are outlined in Table 4.

Table 4. Five most productive authors

Authors	Affiliation	Country	NP	AF
Ayiter, Elif	Sabanci University	Turkey	19	17,83
Schlemmer, Eliane	Universidade do Vale do Rio dos Sinos	Brazil	16	7,83
Backes, Luciana	Centro Universitario La Salle	Brazil	14	7,5
Fukumura, Yoshimi	Nagoka Univ Technol	Japan	6	0,95
Kanematsu, Hideyuki	National Institute of Technology	Japan	6	0,93
Note: NP= Number of publications; AF= Articles Fractionalized				

These authors were ranked based on number of publications. Thus, the most productive authors were Elif Ayıter (19) from Sabancı University in Turkey, Eliane Schlemmer (16) from Centro Universitario La Salle, Brazil, Luciana Backes (14) from Centro Universitario La Salle, Brazil, and Yoshimi Fukumura (6) from Nagoka Univ Technol and Hideyuki Kanematsu (6) from the Japan National Institute of Technology, Japan. Also, Elif Ayıter (17.83) made the highest contribution based on AF figure.

3.1.3 The most cited authors

In the metaverse field, the number of times an author was cited by other authors was analyzed based on g-index, h-index, total number of citations, m-index and number of publications. The five most influential authors are presented in Table 5 based on total citations.

Table 5. Five most cited authors

Author	g_index	h_index	m_index	TC	NP	PY_start
Papagiannidis, Savvas	3	3	0,2	134	3	2008
Bourlakis, Michael	3	3	0,2	134	3	2008
Khazanchi, Deepak	4	3	0,214	125	4	2009
Owens, Dawn	4	4	0,214	125	4	2009
Zigurs, Ilze	3	3	0,214	123	3	2009
Note: TC: Total citations; PY_start: Publication year start; NP: Number of publications						

Although the number of publications by Papagiannidis and Bourlakis, which were ranked at the top in Table 5, was only 3, these papers were cited the most (134). Furthermore, their g-index (3), h-index (3), m-index (0.2) and the year of publication (2008) figures were the same. Although the number of publications by Khazanchi and Owens, who ranked third and fourth, was 4, their studies were cited 125 times [g-index (4), h-index (3), m-index (0.214)]. Also, the year of publication (2009) was the same. Finally, Zigurs started publishing on metaverse in 2009 and published 3 papers [g-index (3), h-index (3) and m-index (0.214)].

3.1.4 The most influential publications based on citations

One of the main factors that determine the performance of the field is the reference data. Thus, each article in the dataset (total 250) was analyzed based on total number of citations and the first five results are presented in Table 6.

Table 6. Five most cited documents

Title	Source	Author	P.Year	DOI	TC	TCY
"Avatars, People, & Virtual Worlds: Foundations for Research in Metaverses"	J1	Davis, A. et al.	2009	10.17705/1jais.00183	107	7,6429
"Making real money in virtual worlds: MMORPGs & emerging business opportunities, challenges and ethical implications in metaverses"	J2	Papagiannidis, S., Bourlakis, M., & Li, F.	2008	10.1016/j.techfore.2007.04.007	63	4,2
"Second Life & the New Generation of Virtual Worlds"	J3	Kumar, S. et al.	2008	10.1109/MC.2008.398	60	4
"Modelling the determinants of a simulated experience in a virtual retail store and users' product purchasing intentions"	J4	Papagiannidis, S. et al.	2013	10.1080/0267257X.2013.821150	41	4,1
"3D Virtual worlds and the metaverse"	J5	Dionisio, J. D. N., III, W. G. B., & Gilbert, R.	2013	10.1145/2480741.2480751	37	3,7
Note: J1: "Journal of the Association for Information Systems"; J2, "Technological Forecasting and Social Change", J3: "Computer", J4: "Journal of Marketing Management", J5: "ACM Computing Surveys", PY: Publication Years, TC: Total citation, TCY: Total citation year						

As seen in Table 6, Davis et al.'s (2009) "Avatars, People, & Virtual Worlds: Foundations for Research in Metaverses" was cited the most in total (107) and annually (about 8 per year). This paper was followed by "Making real money in virtual worlds: MMORPGs & emerging business opportunities, challenges and ethical implications in metaverses" by Papagiannidis et al. (2008) with 63 citations. This article receives about 4 citations per year. "Second Life and the New Generation of Virtual Worlds" by Kumar et al. (2008) ranked third with 60 citations and 4 citations per year. "Modeling the determinants of a simulated experience in a virtual retail store & users' product purchasing intentions" by Papagiannidis et al. (2013) was the fourth with 41 citations and about 4 citations per year, followed by "3D Virtual worlds and the metaverse" by Dionisio et al. (2013) with 37 citations and about 4 citations per year. It was observed that the most cited articles were published after 2008, and the most cited articles were relatively few in 2013. Furthermore, the top five most cited articles were distributed across various journals.

3.1.5 The most influential journals

The journal performance was analyzed based on g-index, m-index, h-index, total number of publications and total number of citations variables. The first five journals based on total number of citations are presented in Table 7. This analysis measured whether the articles published in journals contributed to the field.

Table 7. Five most cited journals

Element	h_index	g_index	m_index	TC	NP	PY
"The Journal of the Association for Information Systems"	2	2	0,142	136	2	2007
"Technological Forecasting and Social Change"	1	2	0,067	64	2	2008
"Computer"	1	1	0,067	60	1	2008
"Electronic Commerce Research"	2	2	0,143	54	2	2009
"International Journal of Health Geographics"	2	2	0,125	49	2	2007
Note: TC: Total citations; PY: Publication year; NP: Number of publications;						

As seen in Table 7, the "Journal of The Association for Information Systems" was the most influential journal in metaverse research. Two articles published in the journal were cided 136 times. Technological Forecasting and

Social Change journal ranked second with 60 citations for two articles. An article published in Computer magazine ranked the journal third with 54 citations. Two articles published in the Electronic Commerce Research journal were ranked fourth with 49 citations. Finally, two articles published in the International Journal of Health Geographics were cited 49 times. However, although the publication year, h_index and g_index values were similar, there was a difference between the m_indexes of the journals.

3.2 The conceptual, intellectual structure and social structure of the metaverse field

3.2.1 Frequently studied keywords / development trends in the field

To determine the trends in metaverse research and the correlations between the keywords, co-word analysis was conducted and the term metaverse was excluded from the analysis. The common keywords in 1107 articles published between 2004 and 2021, in other words, the topical structure of the metaverse research is presented in Figure 5.

Figure 5. Common keyword frequencies in papers published between 2004 and 2021

Note: The size of the circle indicates the frequency of the keyword, and the weight of the link indicates the strength of the correlation.

The list of frequently used keywords is presented in Figure 5. Forty-one keywords were mentioned in the abstracts or keywords and formed 6 clusters presented in 6 colors (second life, augmented reality, avatar, immersion, virtual environments and embodiment, respectively). The cluster reflects different topics/fields of study. A thicker line between the clusters indicates a stronger correlation between the keywords. However, keywords with no or very weak lines indicate a zero or weak correlation. Thus, the first five keywords were analyzed based on betweenness. These were the second life, avatar, virtual world, augmented reality and virtual reality. Analysis of all keywords is presented in the appendix.

3.2.2 Frequetly studied topics by certain author groups in certain countries

In the study, three variables (word-author-country) were determined to investigate the intellectual and social structure. Three-fields plot was used to analyze the correlations between these variables and presented in a Sankey diagram (Figure 6). The diagram allows a better comprehension of the social structure not only of the authors but also of their countries.

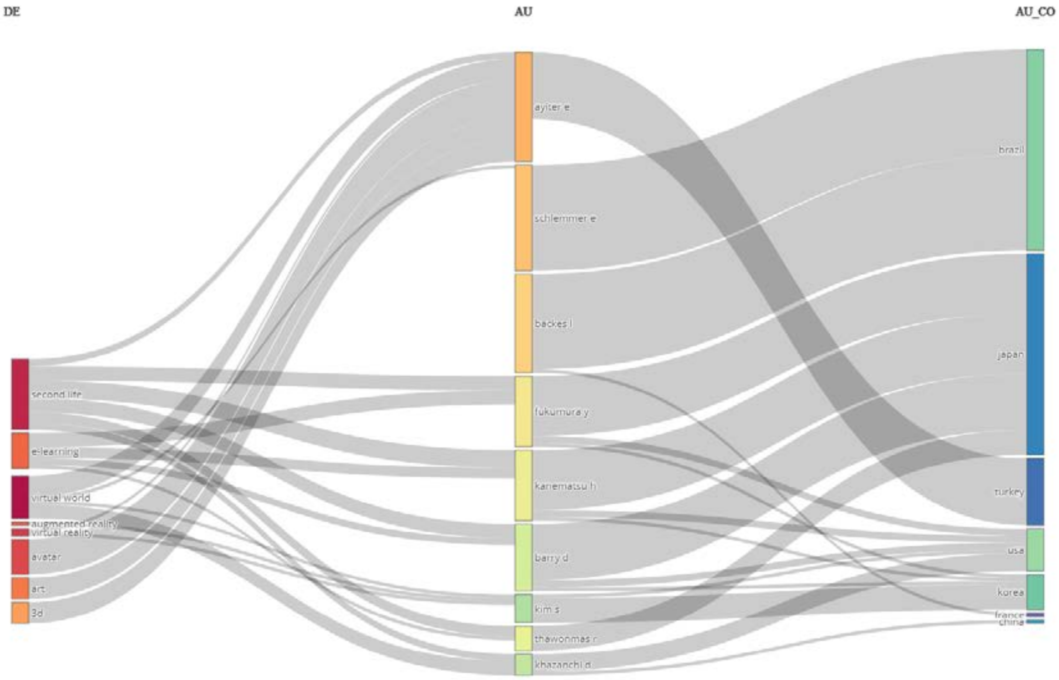


Figure 6. Country, author and keyword Sankey diagram

Sankey diagrams are often used to show weighted networks and connections between two or more nodes (or domains). Rectangles represent these nodes, and the connections are indciated by arrows with a width that reflects the significance of the correlation (Holtz, 2018). The correlation between the countries (left), the authors (middle), and the keywords (left) are presented in Figure 6. In a Sankey diagram, the widths of both the arrows and boxes are directly proportional to the quantity or magnitude of publications they represent. This proportional scaling visually emphasizes the volume or flow of data, illustrating the relative size or significance of different elements within the diagram (Soundararajan et al., 2014). The diagram reflects the links between country-author-word and different countries. The border width of the country box exhibits that the country performance in the field of metaverse. Active countries were Brazil, Japan, Turkey, America, Korea, France and China, respectively. Based on the diagram, the analysis of the first three countries revealed that Brazil conducted research on the virtual world metaverses field. Brazil collaborated with France. Similarly, Japan collaborated with the US and Korea in research on Second Life and e-learning. It was observed that Turkey, which ranked third, conducted studies in the field other than e-learning and did not collaborate with any country. Based on the study topics, Fukumura, Kanematsu and Barry from Japan conducted studies mostly on Second Life and e-learning, Ayiter from Turkey and Khazanchi from the US conducted studies mostly on virtual worlds, Kim from Korea conducted studies mostly on augmented reality and virtual reality, and Ayiter from Turkey conducted studies mostly nn avatars, art and 3D.

3.2.3 Collaboration in metaverse research

A co-author analysis was conducted to determine the social structure and cooperation in metaverse research. Co-author analysis investigates the interactions between academicians in a research field (Donthu, 2021). The author collaboration network is presented in Figure 7.

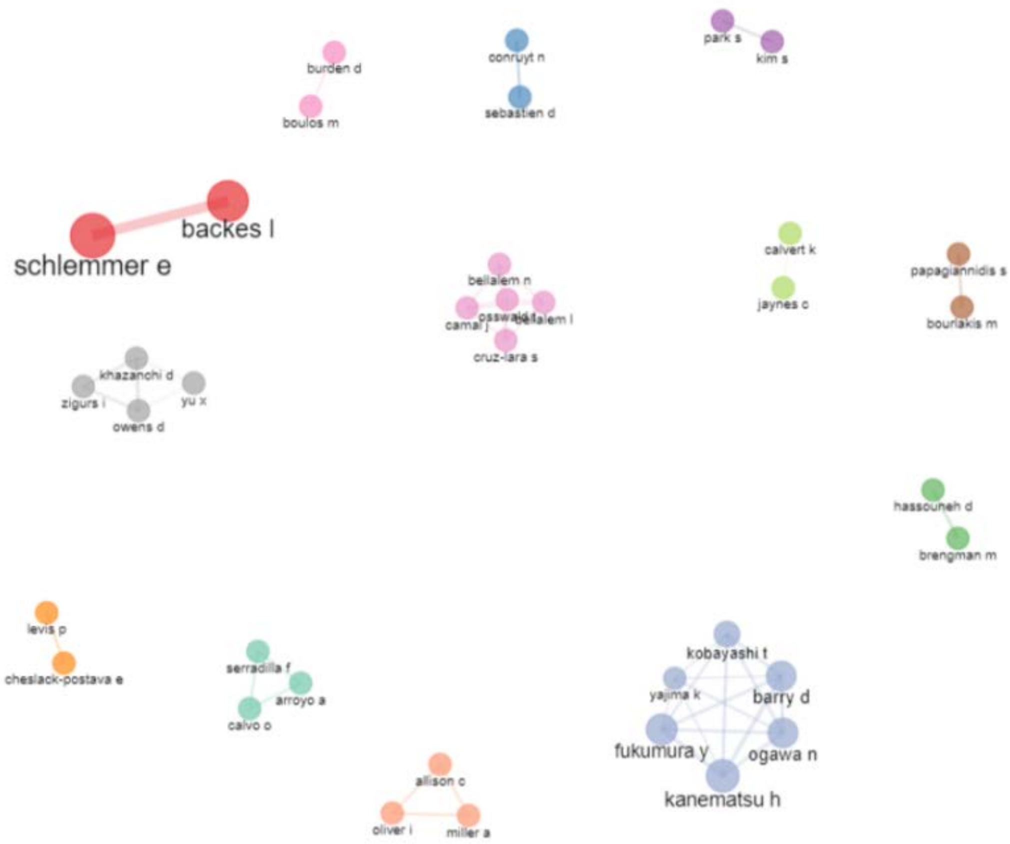


Figure 7. Author Network of Collaboration

In Figure 7, the node size reflects the number of publications by each author, and the thickness of the connection reflects the number of co-publications. It was observed that collaboration was sparse in metaverse research. The analysis of the colors revealed that the authors could be categorized in 13 research communities. The largest central node (the network core) included six researchers; Kanematsu H., Ogawa N., Barry D., Fukumura Y., Kobayashi T., and Yajima K. It was also observed that the number of co-publications by Schlemmer E and Backes L. was high. With the exception of a few isolated co-authorship groups, the broader network appears highly fragmented, suggesting that collaboration within the field is currently limited in scale. Prolific authors tend to be situated within dense clusters, characterized by sparse connections to individuals outside of their immediate scientific circles. This pattern underscores a prevailing lack of extensive collaboration within the larger network.

4 DISCUSSION

4.1 The performance of metaverse research

The performance of the metaverse field was determined with descriptive analysis. Initially, this overview could be used as an introduction to the performance of the research topic (Ahmi, 2022). Then, the most productive author, the most cited author, the most influential publications and the most influential journals are investigated. The data collected with this method could provide an overall picture of the dataset.

In descriptive analysis, the publication period, the total number of documents, the total number of publications, average annual publications, the average citations per paper, the average annual citations per paper and the total number of references, etc. are analyzed. One of the important findings in this analysis was that the first metaverse paper was published in 1995. Since then, metaverse studies have been published for 27 years. However, it was reported in the literature that the concept of metaverse was first employed by Neil Stephenson in his science fiction novel Snow Crash in 1992 (Stephenson, 1992). Park and Kim (2022) also mentioned this in their study "A Metaverse: Taxonomy, Components, Applications, and Open Challenges". Abbate et al. (2022) reported that the concept of metaverse emerged in 1992; however, they mentioned 2003 as the first year of publication. Tas and Bolat (2022) reported that initial studies were published in 1994, while Narin (2021) mentioned 2005. These differences were due to the scope and coverage criteria determined by the researchers during the development of the dataset. Abbate (2022) reviewed the articles that included the term "metaverse" in title, abstract or keywords in the Scopus database. Tas and Bolat (2022) conducted a different query ("Metaverse" OR "Second Life" OR

"Virtual Reality" OR "Virtual Worlds" OR "augmented reality"), filtering educational scientific research, articles and English language papers in WoS database. Similarly, Narin (2021) investigated the publications that included the "metaverse" keyword in all journals in the WoS database and those that were indexed in the SCI-Expanded, SSCI, A&HCI, ESCI indices. It was also determined in the current study that only 328 papers were published in 27 years, an average of 12 papers per year. This was due to the fact that the researchers only focused on the field in recent years. Taylor (2022) reported that the interest in metaverse research increased after Mark Zuckerberg renamed his company Facebook as "Meta" in 2021. Another significant finding in the current study was that the most prolific author in metaverse research was Elif Ayiter of Sabancı University (Turkey), Faculty of Arts and Social Sciences. Damar (2021), who conducted a bibliometric analysis of the metaverse research, reported the same finding. Ayiter is a designer and researcher. She is also the chief editor of the "Metaverse Creativity with Intellect Journal". Metaverse design and application include several components since various environments such as AR, VR, AI, IoT could be employed. It was determined that Ayiter focused on the avatar visual design component. This also reflected the multidisciplinary aspect of the metaverse. Although Ayiter was the most prolific writer, the most cited authors were Savvas Papagiannidis and Michael Bourlakis. The difference between the most productive writer and the most influential writer was based on different measurements. While the most prolific author was determined based on the number of publications, the most cited author was determined by the citations that an author (or a paper) in the most influential author dataset received (Aria & Cuccurullo, 2017). Although the authors had no collaborations with others (Papagiannidis et al., 2008), the study was determined as the second most influential (most cited) article in the dataset. Also, other authors on the list (Deepak Khazanchi, Dawn Owens and Ilze Zigurs, respectively) collaborated with Papagiannidis. Davis et al. (2009) was determined as the most influential article in the field. Based on research topics (e-business, e-marketing, e-commerce, information systems, digital innovation & transformation, food supply chain, retail supply chain, B2B, risk management, virtual project management, virtual worlds, mental models, applied ML, etc.), the multidisciplinary feature of metaverse was significant. Papagiannidis et al. (2008) noted that metaverses allow both interdisciplinary and multidisciplinary research. The most influential article was "Avatars, People, and Virtual Worlds: Foundations for Research in Metaverses" by Davis et al. (2009). Similarly, Abbate et al. (2022) reported that this was the most cited article. It was one of the articles reviewed by Narin (2021). Davis et al. (2009) conducted an in-depth analysis of virtual worlds such as World of Warcraft and Second Life, which were considered novel technological platforms back then. They developed a conceptual model for metaverse research. The model was based on five key constructs: people/avatars, metaverse, capabilities of the metaverse technology, behaviors, and outcomes. Since Second Life and Metaverse were trending in 2009, this study, which investigated the conceptual structure, was one of the building blocks of virtual world research. Papagiannidis et al. (2008), in "*Making real money in virtual worlds: MMORPGs & emerging business opportunities, challenges and ethical implications in metaverses*", investigated the business opportunities and challenges in a virtual world such as Second Life based on ethical and policy concerns. The review of the five articles revealed that the similarities included virtual worlds and Second Life. This was due to the fact that the Second Life virtual game was launched in the early 2000s and became quite popular. Davis et al. (2009) was published in "The Journal of the Association for Information Systems (JAIS)", one of the most influential journals. It is comprehensive in terms of topics, unit and level of analysis, method, theory and scientific research approach and reflects all aspects of Information Systems globally. This journal has an h-index of 85. The best quartile for this journal is Q1. Based on the year that the journal started publication (2007), virtual worlds have been one of the current issues and adequate for the journal.

4.2 The conceptual intellectual structure and social structure of metaverse research

The conceptual structure of the metaverse research demonstrated that the keywords Second Life, avatar, virtual world, virtual reality and augmented reality were employed, and these had a thematic relationship. Co-word analysis operates on the assumption that words frequently appearing together share a thematic relationship (Donthu, 2021). Due to the wide-range and ever-growing nature of the metaverse research, various definitions and similar concepts coexist. Thus, these words are in a closer and stronger relationship with the metaverse research. This finding was consistent with the descriptive analysis conducted by Narin (2021). Park and Kim's (2022) definition of the metaverse (a 3D virtual world that avatars engage in economic, political, social and cultural activities) includes the same words. It was also observed that these words were frequently associated with metaverse in various studies (Kye et al., 2021; Park and Kim 2022). There are two reasons for this. The first is the christening of Second Life as a metaverse (Papagiannidis et al., 2008). Another reason stems from the conceptual structure, approach and basic components required to create a metaverse. Park and Kim (2022) discussed the concepts and basic techniques required to create a metaverse based on three components (hardware, software and content) and three approaches (user interaction, implementation, and application). They also discussed the concepts of virtual world, avatar, augmented reality and virtual reality in their study. In brief, to create a metaverse, a virtual world (i.e., second life), technologies required by this world (i.e., augmented reality and virtual reality) and avatars are required. To analyze the intellectual and social structure of metaverse research, the correlations and flow between the keywords, authors and countries were investigated. The most significant correlation between the countries was observed between Japan and the US in Second Life and e-learning research. This could be since Linden Research, Inc., the developer of Second Life, is an American company. Furthermore, the fact that Japan is advanced in technologies and had the highest number of authors could explain the collaboration between American and Japanese authors. It was also significant that Ayiter employed a higher number of keywords when compared to other authors. This indicated a significant coverage. It is important to understand the interaction between the scientists. The co-author analysis findings revealed the intellectual collaboration across scientists. The analysis revealed cooperation among Korean, Japanese and American authors, as seen in the Sankey diagram, within a network that included six researchers. The authors published a joint study titled "*Multilingual Discussion in Metaverse among Students from the USA, Korea and Japan*". Co-authorship represents a formal intellectual collaboration among scholars (Cisneros et al., 2018) and It is crucial to comprehend the dynamics of scholars' interactions (Donthu, 2021). The work of collaborating researchers creates a network called "invisible collages," which could facilitate research initiatives (Crane, 1969). The authors who published the most collaborative studies were Schlemmer and Backes. The study findings revealed that authors from the same country or who study the same topics created research teams and each team worked independently.

4.3 Recommendations
Certain recommendations are presented for upcoming studies relying on bibliometric analysis. Based on the performance of the field, several types of papers have been published (articles, books, proceedings, etc.) in the field of metaverse. The most influential publications were articles and proceedings. Thus, the publication in each paper type would contribute to the field.

4.3.1 Recommendations on the performance of metaverse research
Certain recommendations are presented for upcoming studies relying on bibliometric analysis. Based on the performance of the field, several types of papers have been published (articles, books, proceedings, etc.) in the field of metaverse and the most influential publications were articles. Publications in various types would contribute to the field from different perspectives. Since it was determined that there is a need for future in-depth studies, the authors may prioritize articles. The most influential and productive authors and their work should be taken into consideration when determining a study topic on metaverse. Thus, the most prominent authors (Ayiter, Schlemmer, Backes, Fukumura, Kanematsu), the authors with the most influential publications (Papagiannidis, Bourlakis, Khazanchi, Owens, and Zigurs) and their work should be reviewed. The diversity across the most influential and most productive authors would provide various perspectives. Then, future authors could learn the building by reviewing the most influential work. Thus, the authors could develop a roadmap. The most cited articles could help discover dominant fields in related sciences. Also, highly cited articles could be employed to improve the acceptability and visibility of future papers. Submitting the articles to the journal that published a higher number of studies would also improve the chance of publication and visibility of their works. Since the journal was in Q1, they could first submit their work to "The Journal of the Association for Information Systems". As in any publication process, the aim and scope of the journals should be considered.

4.3.2 Recommendations on the conceptual, social, and intellectual structure of metaverse
Better comprehension of metaverse research requires the determination of a starting point. Thus, the keywords determined in the present study, especially second life, augmented reality, virtual world, virtual reality should be investigated. The similarities and differences between the environments would help understand the metaverse better and build future studies on solid foundations. The employment of keywords is important for visibility and therefore readability of the paper. Therefore, they may prefer these keywords (based on the study topic). Authors could save time by reviewing the literature based on their selected topic. For example, researchers who want to study Second life should review the studies by Fukumura, Kanematsu and Barry, those who desire to study avatars, art and 3D should review Ayiter's publications. Collaboration between researchers in different countries would provide different perspectives and expand professional networks.

4.3.3 Recommendations on research scope
The findings of the present article would provide information on metaverse research trends based on specified criteria. Nevertheless, future studies should address certain limitations. For instance, the present investigation primarily concentrated on visualizations and link maps related to words, publications, authors, journals, and collaborations. Thus, for a comprehensive approach to the field of metaverse, the current bibliometric study findings should be complemented with a comprehensive content analysis based on the review of the publications in the dataset. Only WoS and Scopus database were employed in the study. Although these databases are reliable data repositories for bibliometric work, certain significant studies indexed in other databases could have been missed. The measurement used to analyze journal performances was the number of related publications. Thus, other journal performance indicators such as Altmetrics could be considered in future studies.

References

Abbate, S., Centobelli, P., Cerchione, R., Oropallo, E., & Riccio, E. (2022a). A first bibliometric literature review on Metaverse. *2022 IEEE Technology and Engineering Management Conference (TEMSCON EUROPE)*, 254–260. https://doi.org/10.1109/TEMSCONEUROPE54743.2022.9802015

Abbate, S., Centobelli, P., Cerchione, R., Oropallo, E., & Riccio, E. (2022b). A first bibliometric literature review on Metaverse. *2022 IEEE Technology and Engineering Management Conference (TEMSCON EUROPE)*, 254–260. https://doi.org/10.1109/TEMSCONEUROPE54743.2022.9802015

Ahmi, A. (2022). *Bibliometric Analysis using R for Non-Coders: A practical handbook in conducting bibliometric analysis studies using Biblioshiny for Bibliometrix R package.*

Allahverdiyev, M., & Yucesoy, Y. (2017). Development stages and types of glass art from past to present. *Ponte*, *73*(4), 224–238. Scopus. https://doi.org/10.21506/j.ponte.2017.4.53

Andersen, N., & Swami, V. (2021). Science mapping research on body image: A bibliometric review of publications in Body Image, 2004–2020. *Body Image*, *38*, 106–119. https://doi.org/10.1016/j.bodyim.2021.03.015

Aria, M., & Cuccurullo, C. (2017). bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics*, *11*(4), 959–975. https://doi.org/10.1016/j.joi.2017.08.007

Bu, Y., Wang, B., Huang, W., Che, S., & Huang, Y. (2018a). Using the appearance of citations in full text on author co-citation analysis. *Scientometrics*, *116*(1), 275–289. https://doi.org/10.1007/s11192-018-2757-z

Bu, Y., Wang, B., Huang, W., Che, S., & Huang, Y. (2018b). Using the appearance of citations in full text on author co-citation analysis. *Scientometrics*, *116*(1), 275–289. https://doi.org/10.1007/s11192-018-2757-z

Cai, Y., Lu, W., Wang, L., & Xing, W. (2015). Cloud Computing Research Analysis Using Bibliometric Method. *International Journal of Software Engineering and Knowledge Engineering*, *25*(03), 551–571. https://doi.org/10.1142/S0218194015400203

Chakraborty, K., Mukherjee, K., Mondal, S., & Mitra, S. (2021). A systematic literature review and bibliometric analysis based on pricing related decisions in remanufacturing. *Journal of Cleaner Production*, *310*, 127265. https://doi.org/10.1016/j.jclepro.2021.127265

Cobo, M. J., López-Herrera, A. G., Herrera-Viedma, E., & Herrera, F. (2011). An approach for detecting, quantifying, and visualizing the evolution of a research field: A practical application to the Fuzzy Sets Theory field. *Journal of Informetrics*, *5*(1), 146–166. https://doi.org/10.1016/j.joi.2010.10.002

Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Research*, *133*, 285–296. https://doi.org/10.1016/j.jbusres.2021.04.070

Emich, K. J., Kumar, S., Lu, L., Norder, K., & Pandey, N. (2020). Mapping 50 Years of Small Group Research Through Small Group Research. *Small Group Research*, *51*(6), 659–699. https://doi.org/10.1177/1046496420934541

Forty years of the Journal of Futures Markets: A bibliometric overview—Baker—2021—Journal of Futures Markets—Wiley Online Library. (n.d.). Retrieved April 1, 2022, from https://onlinelibrary.wiley.com/doi/full/10.1002/fut.22211

Gall, J. E., Ku, H.-Y., Gurney, K., Tseng, H.-W., & Yeh, H.-T. (2004). An Analysis of Citation Patterns in ETR&D, 1990-99. In *Association for Educational Communications and Technology*. Association for Educational Communications and Technology. https://eric.ed.gov/?id=ED485011

Gibson, E., Daim, T., Garces, E., & Dabic, M. (2018). Technology Foresight: A Bibliometric Analysis to Identify Leading and Emerging Methods. *Форсайт*, *12*(1 (eng)), 6–24.

Kent Baker, H., Pandey, N., Kumar, S., & Haldar, A. (2020). A bibliometric analysis of board diversity: Current status, development, and future research directions. *Journal of Business Research*, *108*, 232–246. https://doi.org/10.1016/j.jbusres.2019.11.025

Kye, B., Han, N., Kim, E., Park, Y., & Jo, S. (2021a). Educational applications of metaverse: Possibilities and limitations. *Journal of Educational Evaluation for Health Professions*, *18*. https://doi.org/10.3352/jeehp.2021.18.32

Kye, B., Han, N., Kim, E., Park, Y., & Jo, S. (2021b). Educational applications of metaverse: Possibilities and limitations. *Journal of Educational Evaluation for Health Professions*, *18*, 32. https://doi.org/10.3352/jeehp.2021.18.32

Leung, X. Y., Sun, J., & Bai, B. (2017). Bibliometrics of social media research: A co-citation and co-word analysis. *International Journal of Hospitality Management*, *66*, 35–45. https://doi.org/10.1016/j.ijhm.2017.06.012

Lim, M. K., Xiong, W., & Lei, Z. (2020). Theory, supporting technology and application analysis of cloud manufacturing: A systematic and comprehensive literature review. *Industrial Management & Data Systems*, *120*(8), 1585–1614. https://doi.org/10.1108/IMDS-10-2019-0570

Linnenluecke, M. K., Marrone, M., & Singh, A. K. (2019). Conducting systematic literature reviews and bibliometric analyses: *Australian Journal of Management*. https://doi.org/10.1177/0312896219877678

Mapping knowledge structure by keyword co-occurrence: A first look at journal papers in Technology Foresight in: Scientometrics Volume 85 Issue 1 (2010). (n.d.). Retrieved April 1, 2022, from https://akjournals.com/view/journals/11192/85/1/article-p65.xml

Prieto, J. de la F., Lacasa, P., & Martínez-Borda, R. (2022a). Approaching metaverses: Mixed reality interfaces in youth media platforms. *New Techno Humanities*. https://doi.org/10.1016/j.techum.2022.04.004

Prieto, J. de la F., Lacasa, P., & Martínez-Borda, R. (2022b). Approaching metaverses: Mixed reality interfaces in youth media platforms. *New Techno Humanities*. https://doi.org/10.1016/j.techum.2022.04.004

Rodríguez-Soler, R., Uribe-Toril, J., & De Pablo Valenciano, J. (2020). Worldwide trends in the scientific production on rural depopulation, a bibliometric analysis using bibliometrix R-tool. *Land Use Policy*, *97*, 104787. https://doi.org/10.1016/j.landusepol.2020.104787

Siew, C. Y., Ong, S. K., & Nee, A. Y. C. (2019). A practical augmented reality-assisted maintenance system framework for adaptive user support. *Robotics and Computer-Integrated Manufacturing*, *59*, 115–129. https://doi.org/10.1016/j.rcim.2019.03.010

Stephenson, N. (2008). *Snow crash* (Bantam spectra trade paperback reissue). Bantam Books.

Thomason, J. (2022a). Metaverse, token economies, and non-communicable diseases. *Global Health Journal*. https://doi.org/10.1016/j.glohj.2022.07.001

Thomason, J. (2022b). Metaverse, token economies, and non-communicable diseases. *Global Health Journal*. https://doi.org/10.1016/j.glohj.2022.07.001

Wang, C., Lim, M. K., Zhao, L., Tseng, M.-L., Chien, C.-F., & Lev, B. (2020). The evolution of Omega-The International Journal of Management Science over the past 40 years: A bibliometric overview. *Omega*, *93*, 102098. https://doi.org/10.1016/j.omega.2019.08.005

Wang, J., Lim, M. K., Wang, C., & Tseng, M.-L. (2021). The evolution of the Internet of Things (IoT) over the past 20 years. *Computers & Industrial Engineering*, *155*, 107174. https://doi.org/10.1016/j.cie.2021.107174

Wohlin, C. (2008). An analysis of the most cited articles in software engineering journals – 2001. *Information and Software Technology*, *50*(1), 3–9. https://doi.org/10.1016/j.infsof.2007.10.002

Zupic, I., & Čater, T. (2015). Bibliometric Methods in Management and Organization. *Organizational Research Methods*, *18*(3), 429–472. https://doi.org/10.1177/1094428114562629

AUGMENTED REALITY ACTIVITY ON MATHEMATICS SUBJECT IN ADDITION AND SUBTRACTION OF NUMBERS UP TO A HUNDRED THOUSAND FOR LEARNING DISABILITIES PRIMARY 5 (GRADE5) STUDENTS

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ABSTRACT
This research aimed to use augmented reality games to teach five-grade math subjects effectively to students with learning disabilities .Examine students' academic achievements after learning difficulties. Moreover, assess the satisfaction of students with learning disabilities .The sample group comprised nine learning disability students at Wat Pathum Nayok school under the jurisdiction of the Primary Educational Service Area Office 2, Pathum Thani Province, using a specific sampling technique .The tools used to collect data include an augmented reality game activity in Mathematics in the addition and subtraction of numbers up to a hundred thousand for learning disability students, pretest-posttest, and student satisfaction from statistics used in data analysis, including percentage, mean, and standard deviation .The t-test for the Wilcoxon signed-rank test for the single sample critical value for W with a two-tailed alpha .05 .The results showed that augmented reality game activities in mathematics in addition and subtraction of numbers up to one hundred thousand for learning disability students performed E1/E 82.40/81.33 (after learning augmented reality game activities in mathematics . Learning achievement after studying was higher than before studying .The mean and standard deviations before class were 8.80 and 2.33 .T-test scores between before and after class were 20.68 .The scores significantly differed at the .05 level from the augmented reality game activity in Mathematics in Addition and subtraction of numbers up to a hundred thousand for learning disability. Students are satisfied with augmented reality game activities on Mathematics in Addition and subtraction of numbers up to one hundred thousand, which is at a high level, with an average of 4.51.

Keywords: augmented reality game, mathematics subject, addition, and subtraction of numbers up to a hundred thousand .Learning Disability

INTRODUCTION
Augmented Reality (A.R.) can potentially revolutionize the educational system for students with Learning Disabilities (L.D.). By providing individualized learning experiences tailored to each student's capabilities and progress, A.R. can simplify complex topics and enhance learning through various senses. Visual learning, which involves interacting with 3D models of historical items or scientific concepts, can be enhanced by A.R. Augmented Reality can also integrate real-world context, making learning more accessible for L.D. students who struggle with abstract ideas. Education has increasingly embraced techno pedagogy, utilizing ICT for active

teaching and learning. This study analyzes the impact of augmented reality training on physical education, focusing on spatial orientation. A quantitative study involving 140 high school students found significant links between dimensions, with motivation being the most significant deviation. Professors' grades were also found to be the lowest despite being significant. Overall, incorporating augmented Reality in teaching has successfully acquired spatially oriented knowledge for students in education (Moreno-Guerrero et al.; G., 2020). Learning through games can be valuable for students, as A.R. can transform educational content into engaging and enjoyable games. Accessibility features like text-to-speech and speech-to-text functionalities can make instructional information more accessible to L.D. students. Augmented Reality also increases student engagement, allowing for better material retention and comprehension. Teaching students with specific learning difficulties is complex, and incorporating augmented reality technology can help them acquire new information more effectively. This research investigates the effects of combining real and virtual elements on students' learning processes with specific learning difficulties. Results showed that augmented reality technology successfully aided the learning of students with specific learning challenges, and they were ready to use it due to its appeal.

Further research is needed to explore the emotional processes of students and the design processes of instructional materials supplemented by augmented Reality (Turan et al.; G., 2021). Augmented Reality platforms can track students' Development, providing real-time feedback to educators and parents. Collaborative and social learning can be fostered through A.R., allowing students with learning disabilities to collaborate on projects and discuss their points of view. Inclusivity can be achieved by fostering an educational environment where everyone can engage and learn together. This comprehensive literature review investigated the social validity of Augmented Reality (A.R., Virtual Reality ,V.R. and Mixed Reality)M.R.in the context of teaching social skills to students with autism spectrum disorder, ASD A.R. stands for Augmented Reality, V.R. for Virtual Reality, while M.R. refers to Mixed Reality .The studies centred on identifying emotions, developing relational skills, gaining social awareness, working together with others, and improving executive functioning .The findings indicated that AR/VR was effective in 63 %of the experiments, but in 10 %of the research, it was ineffective .It is possible that the effectiveness of the intervention could be improved by elevating the status of parents, teachers, and students as treatment agents and social skill pickers .The use of augmented Reality and Virtual Reality together has the potential to improve generalization and provide a practice environment for performance shortcomings (Mosher, M., & Carreon, A., 2021).

However, implementing A.R. in educational media for L.D. requires careful planning, teacher training, and creating appropriate A.R. content. By considering the unique requirements of each learner and personalizing A.R.'s experiences, A.R. can empower L.D. students, boost their confidence, and help them achieve academic success. Dyscalculia, a significant impact on students' understanding and excelling in mathematics, can manifest in various ways, particularly in fourth grade .These difficulties include difficulty understanding fundamental math concepts, spatial and time problems, memory tests, difficulties with mathematical symbols, sequencing problems, and difficulties in solving word problems .Students with dyscalculia may also experience frustration and anxiety, making it difficult for them to progress in the subject .Students with dyscalculia typically make slower progress in mathematics than their peers, requiring additional time and specific therapies .Multisensory teaching strategies can help students better understand mathematical ideas .Early diagnosis and support are crucial for improving students' confidence and ability to excel in mathematics .Individualized Education Programs. IEPs can be established to address individual needs and provide accommodations, adjustments, and interventions .Students utilize A.R. applications to improve their learning experience, combining real-world resources with digital resources and enhancing their junior high school mathematics learning experience (Cai et al.; Y., 2020). Creating a supportive classroom environment is essential for students with dyscalculia .Encourage participation from all students, provide practice opportunities and praise accomplishments . Teachers, parents, and caregivers should exhibit tolerance and understanding when working with students with dyscalculia .Collaboration with educational experts and specialists in the field is essential to design practical techniques for providing support to fourth-grade students struggling with mathematics and learning difficulties. Children with special needs require adapted education considering individual requirements and intellectual characteristics (Okyere et al.; S., 2019).

The researcher has come to grasp the significance of such issues and is aware that the administration of education for children who have special needs must be adapted to the specific requirements of the children, considering both their capabilities and their requirements, to bring about the maximum number of positive outcomes .It must consider the distinctions that exist between individuals on the physical, emotional, social, and intellectual fronts .Currently, schools are better equipped to accommodate children with special needs, and these youngsters have a greater chance of attending classes with typically developing peers .Because he was able to spend more time in school with typical kids, both of you will have a better understanding of one another as a result.

THE STUDY

The researchers experimented according to the One Group Pretest-Posttest Design research pattern. The population used in this research was the five primary students in the Salarat network group under the Office of Pathum Thani primary educational service Area 2, Academic year 2022, comprising seven schools, seven classrooms, and 77 students. The sample group used in this research was the primary five students at Wat Pathum Nayok School. Salarat Network Group under the Pathum Thani Primary Educational Service Area Office, Area 2, for the Academic year 2022, comprised of 1 school, one classroom, and nine learning disability students, obtained through purposive sampling. The student's achievement in the mathematics subject of addition and subtraction of numbers up to a hundred thousand was lower than the specified criteria. Research tools used in this research. The researcher used research tools as follows: (1) teaching activity application based on an augmented reality game activity on the mathematics subject in addition to subtraction of numbers up to a hundred thousand for learning disability students at the fourth-grade level, there is a process for finding the quality of research tools, with an opinion questionnaire for experts on the quality of application for teaching activities based on an augmented reality game activity on Mathematics subject in addition and subtraction of numbers up to a hundred thousand, (2) pretest-posttest from using the application of teaching activities according to the augmented reality game activity on Mathematics subject in addition and subtraction of numbers up to a hundred thousand, (3) assessment form for the satisfaction of an augmented reality game activity on Mathematics subject in addition and subtraction of numbers up to a hundred. The process for creating research tools is as follows: In *the first step*, application for teaching activities according to an augmented reality game activity on Mathematics subject in addition and subtraction of numbers up to a hundred thousand; the researcher applied the conceptual framework of Thosporn Sangsawang (2013, p. 22–23), (a) comprising her manual and lesson plan for teachers to study and follow the objectives. The manual explains how to use the application in booklet form. Contains explanations, lesson plans, knowledge sheets, activity sheets, pretest-posttests, answers to the department's activities, and pretest-posttests quizzes. (b) The student handbook is the part that tells students to proceed with their studies. Alternatively, assemble each activity according to the steps outlined in (c) content and media, an application for teaching activities according to an augmented reality game activity on Mathematics subject in addition and subtraction of numbers up to a hundred thousand for learning disabled primary five students., and (d) evaluation: Students self-assessed their knowledge before and after studying. The assessment form in the application is an exercise to choose the correct answer, fill in the blanks, match, Etc. The second step is an opinion questionnaire for experts on the quality of teaching activities application according to an augmented reality game activity on the mathematics subject of addition and subtraction of numbers up to a hundred thousand. The process for creating a questionnaire is application, research, and collecting data from research papers related to concepts, theories, and principles of an augmented reality game activity on the mathematics subject besides subtraction of numbers up to a hundred thousand for learning disabled primary five students. (e) analyze learning processes and elements and create questionnaires for constructing an open-ended questionnaire for the experts to express their opinions, and then take the results of the comments to find the value index of item objective congruence. Bring questions from three experts with educational or information technology experience to choose from and suggest improvements. To create a 5-level evaluation scale questionnaire, a score of +1 means that this question is consistent with the media design assessment process. In an augmented reality game activity in mathematics, besides subtracting numbers of up to a hundred thousand, a score of 0 means that this question is consistent with the media design assessment process. An augmented reality game activity on Mathematics subject in addition and subtraction of numbers up to a hundred thousand, with a score of -1, means that this question contradicts the assessment of media design according to the process of an augmented reality game activity on the mathematics subject in addition and subtraction of numbers up to a hundred thousand. Create a questionnaire with a rating scale of five levels according to the Likert criteria (Likert, R., 1932, p. 140) for the experts to consider giving weights most relevant to their opinions. Each level has the following meaning: 5 means having the highest opinion, 4 means having a high opinion, 3 means having an opinion at a moderate level, 2 means having an opinion at a Low level, and 1 means having the lowest opinion. The criteria for interpreting the values are as follows: 4.51–5.00 is most appropriate, 3.51–4.50 is very suitable, 2.51–3.50 is moderately suitable, 1.51–2.50 is low, and 1.00–1.50 is least suitable. submit a questionnaire that content-experienced experts have created. Three people considered making improvements to match the research subject in educational technology and the measurement and evaluation aspects. An augmented reality game activity on the mathematics subject in addition to subtraction of numbers of up to a hundred thousand by statistical Analysis, mean, and standard deviation. In *the third step*, Pre-study, and post-study tests, using the application of teaching activities according to a reality game activity on Mathematics subject in addition and subtraction of numbers up to a hundred thousand for learning disabled primary five students to the basic knowledge and measure skills after school in this research, the researcher has established a procedure for creating the test. There are steps to take, as follows. (a) study the documentation about the creation of the test by analyzing the specified content; (b) create pre-study and post-study tests by analyzing the content and behavioural purposes. Then, a 108-item, four-choice quiz was created that was assessed according to behavioural objectives. The exam will be classified as a pre-learning test. A 40-item parallel post-test, showing the acquisition of the exam (c) Bring the exam, which will create the pre-and post-test, to an expert to verify the correctness of the content using the IOC (Index of Item Objective Congruence) criteria. Scoring according to the following criteria: A score of +1 means that this test is consistent with the objectives of an augmented reality game activity on Mathematics subject in addition and subtraction of numbers up to a hundred thousand for learning disabilities primary five students' score of 0 means not sure that this test is consistent with the content according to objectives of the application of teaching activities according to an augmented reality game activity on Mathematics subject in addition and subtraction of numbers up to a hundred thousand for learning disabilities primary five students.

Data collection in this research, data was collected by using an experimental model set according to the procedure in the test of the application of teaching activities according to an augmented reality game activity on Mathematics subject in addition and subtraction of numbers up to a hundred thousand for learning disabilities primary five students as follows :(1) Continued coordination with graduate studies is the next step for the researcher. Thanyaburi Branch of the Rajamangala University of Technology's Faculty of Industrial Education The preparation of a letter requesting cooperation to seek an experiment in the conduct of research and the utilization of the facility is required. I am writing to the director of Wat Pathum Nayok School, which is in the Sala Khru Subdistrict in the Nong Suea District of Pathum Thani Province. (2) Organize the location and the equipment. Within the context of this experiment, the Wat Pathum Nayok School, Sala Khru Subdistrict, and Nong Suea District of Pathum Thani Province are the venues that were utilized. In the sample group, nine children from primary five explained the aims of the research. The process of research: To determine the results of data gathering and evaluation, the researcher developed a new medium for pupils in the 5 grades. (3) Students with learning difficulties in primary five, you should design an application for teaching activities that is based on an augmented reality game activity on the subject of mathematics, specifically addition and subtraction of numbers up to one hundred thousand. The following are the stages that make up the curriculum analysis process: 1) Examine the goals that the curriculum aims to achieve. The Thai language learning group curriculum, Substance 1: Reading, Standard T. 1.1, which focuses on utilizing the reading process to generate knowledge and ideas for decision-making, was the curriculum that was considered for use in this learning management. Learn to read and find solutions to the challenges you face in life. As stated in the fundamental curriculum of the basic education system in the year 2551 B.E. 2) Behavioral Objectives, the researchers stated that they defined behavioural objectives by using Bloom's learning theory as a foundation. to determine the path that the student's development will take in each area, which includes knowledge, memory, which is the lowest level, comprehension, and the application of knowledge. In the application, It is possible to solve, verify, assess, and measure analysis, as well as decide what is incorrect or to make a choice based on clear criteria and rationale. Synthesis has the potential to bring about variety. to be assembled in a new form that is distinct from the original form that was utilized in student evaluations, 3) An examination of the students who are interested in learning should first analyze their needs, goals, and the fundamental information they possess. 4) Content design of teaching activities application based on an augmented reality game activity on Mathematics subject in addition and subtraction of numbers up to a hundred thousand for learning disabilities primary 5(Grade 5) students; the content of the lesson, which is designed according to the learning process map, an augmented reality game activity on Mathematics subject in addition and subtraction of numbers up to a hundred thousand for learning disabilities primary five students, practice listening or Reading, Chi, practice thinking, practice asking questions, and practice writing to present the course content as a tool. Students in the fifth grade will benefit from the application since it will assist them in managing their studies. Using Thinkable, a website that offers free application development services, the researchers created a teaching activity application that was based on an augmented reality game activity on mathematics subjects such as addition and subtraction of numbers up to one hundred thousand. The application was designed for students with learning disabilities who were in the primary 5 (Grade 5) level. In addition, it possesses a comprehensive collection of development tools and applications for instructional activities that are based on an augmented reality gaming activity on mathematics topics such as addition and subtraction of numbers up to one hundred thousand for students with learning difficulties who are in the fifth grade. It provides students with the ability to learn about the subject matter without any limitations or limits. To determine the efficacy of the teaching activity application according to an augmented reality game activity on mathematics topics such as addition and subtraction of numbers up to one hundred thousand for students with learning disabilities who were in the primary 5 (Grade 5) level, the researcher carried out three experiments. These experiments determined the effectiveness of the application. Time and location were taken into consideration when carrying out these studies. In the fifth grade, children who were not involved in the trial took part in a relationship experiment that was one-to-one (1:1). There were three people from the strong group, three people from the medium group, and three people from the vulnerable group who took the test. I had never before sought to learn about this subject area. When the flaw is found, it is the imperfection that is brought to light with the discovery. For the sake of this investigation, we used a rather small group of individuals (1:10). The researcher deployed a teaching activity application that was based on an augmented reality gaming activity to assist students who were having difficulty studying. Several mathematical operations, including addition and subtraction of numbers up to one hundred thousand, were the primary objectives of the software. For the goal of experimenting with ten children who have difficulties learning, students from the primary level who were in the fifth grade were selected. From the strong group, medium group, and vulnerable group who were not the experimental group. When a bug is found, it will be used to improve and correct the content to be accurate. Then, the results from the experiment were used to determine the effectiveness of the teaching activity application according to an augmented reality game activity on Mathematics subject in addition and subtraction of numbers up to a hundred thousand for learning disabilities primary 5(Grade 5) students, Conducting large group experiments in the field, the researcher used the teaching activity application based on an augmented reality game activity on Mathematics subject in addition and subtraction of numbers up to a hundred thousand for learning disabilities primary five students.The results were then used to determine the effectiveness of the teaching activity application according to an augmented reality game activity on mathematics subjects in addition to subtraction of numbers up to a hundred thousand for learning disabilities primary five students Elementary school level 5 meets the criteria. Teaching was carried out by having students take a pre-study test consisting of twenty items and using the teaching activity application by an augmented reality game activity on the subject of mathematics, which included addition and subtraction of numbers up to one hundred thousand for students with learning disabilities in primary five. Following the completion of the experiment, the post-test was used to collect data. By having students complete a post-test consisting of twenty items and 15 surveys, we may determine how satisfied they are with the course. After conducting research on the application of teaching activities based on an augmented reality gaming activity on mathematics subjects such as addition and subtraction of numbers up to one hundred thousand for students with learning difficulties who were in the fifth grade, the researcher then carried out a pre-study and a post-study quiz. Keep the information in the form of a score. The accurate answer is equal to one, and the incorrect answer is zero (using the Zero-One Method). Utilizing statistical tools, let us put the theory to the test. There was a recording of the data obtained from the satisfaction assessment questionnaire. There was an analysis of the findings using statistical approaches for pupils in primary five.

FINDINGS

an augmented reality game activity on the subject of mathematics, including addition and subtraction of numbers up to one hundred thousand, for students with learning disabilities and students with learning disabilities in primary 5 (Grade 5). According to an augmented reality game activity on the subject of mathematics, including addition and subtraction of numbers up to one hundred thousand for students with learning disabilities in primary 5 (Grade 5). The activities of the program are based on an augmented reality game activity on mathematical subjects. These activities include addition and subtraction of numbers up to one hundred thousand for students with learning difficulties who are in the fifth grade and reading fundamental Thai words in the fifth grade. The results of the test scores of the students in Grades 5 of 9 students, representing an average percentage of 82.40 and an average percentage of post-study test scores of 81.33, indicate that the teaching activity application according to an augmented reality game activity on Mathematics subject in addition and subtraction of numbers up to a hundred thousand for learning disabilities primary 5 (grade 5) students efficiency criterion is 80/80, i.e., E1/E2 is equal to 82.40/81.33. Because of this, this is predicated on the assumption.

Table 4.1 The purpose of this report is to provide a summary of the findings about the effectiveness of the teaching activity application within the context of an augmented reality gaming activity on the subject of mathematics, specifically the addition and subtraction of numbers up to one hundred thousand for children with learning difficulties who are in the primary 5 (Grade 5) level.

Total score list	Scores	*Mean*	Percentage	Criteria standard.	E1 /E2
Grades during class	50	41	82	80	82
Test scores after school	20	16	81	80	81

After using the application of teaching activities by an augmented reality game activity on the subject of mathematics concerning addition and subtraction of numbers up to one hundred thousand for students with learning disabilities in primary five, the average score is 8.80, and the standard deviation value is 2.33. This is the result of the students having learned through the application. Teaching activities based on an augmented reality gaming activity on mathematics topics such as addition and subtraction of numbers up to one hundred thousand for kids diagnosed with learning difficulties who are in the fifth grade. Students have higher grade point averages when they are in the third year of primary school and when they take the test after taking class. There was a standard deviation of 1.48, and the mean score was 16.27. A study of the t-test between before and after school revealed a value of 20.68. With a significance level of.05, there was a statistically significant difference.

Table 4.2 A comparison of the pre-study and post-study successes of students who were engaged in the application teaching activities according to an augmented reality gaming activity on the subject of mathematics, namely addition and subtraction of numbers up to one hundred thousand for children with learning difficulties who were in the fifth grade.

Test	Scores: Full		Scores	SD.	t Sig.(2-tailed)
Pretest	20	7.80	2.33	20.68	.00
Posttest	20	16.27	1.48		

Primary 5 (Grade 5) children with learning difficulties expressed their satisfaction with the teaching activity application since it was based on an augmented reality gaming activity on the subject of mathematics. The activity involved the addition and subtraction of integers up to one hundred thousand. Students totalling thirty people were found to have a high level of satisfaction, with an overall average of 4.51; the highest level of satisfaction was found in the ability to assist learners in studying content anywhere and at any time, with an average of 4.70; the item that the primary five (Grade 5) students had the lowest level of satisfaction was not found. The results of the assessment of the level of satisfaction that students with learning disabilities in primary 5 (Grade 5) have with the application of the teaching activity according to an augmented reality game activity on the subject of mathematics, which involves the addition and subtraction of numbers up to one hundred thousand for students with learned disabilities. There was a high level of satisfaction among students with learning difficulties in primary 5 (Grade 5) when it came to applying basic mathematics subjects such as addition and subtraction of numbers up to one hundred thousand. The satisfaction level was 4.51.

CONCLUSIONS

This research study on the Development of teaching activities application according to an augmented reality game activity on Mathematics subject in addition and subtraction of numbers up to a hundred thousand for learning disabilities primary 5(Grade 5) students, which has research objectives; 1) to develop and find the effectiveness of the teaching activity application according to an augmented reality game activity on Mathematics subject in addition and subtraction of numbers up to a hundred thousand for learning disabilities primary 5(Grade 5) students.,2) to compare the learning achievement of the students who learned with the teaching activity application according to an augmented reality game activity on Mathematics subject in addition and subtraction of numbers up to a hundred thousand for learning disabilities primary 5(Grade 5) students, and (3) to find students' satisfaction towards application for teaching activities based on an augmented reality game activity on Mathematics subject in addition and subtraction of numbers up to a hundred thousand for learning disabilities Primary 5(Grade 5) students. When conducting this study, the sample group consisted of pupils from Wat Pathum Nayok School who were in the fifth grade (primary 5). Under the district office Pathum Thani Primary Education Area, District 2, thirty individuals utilized a method of selecting a specific sample (Purposive Sampling). The experiment utilized several tools, including the teaching activity application by an augmented reality game activity on the subject of mathematics, which included addition and subtraction of numbers up to one hundred thousand for students with learning disabilities who were in the fifth grade. The pre-study test and the parallel exam were both administered. Multiple choice, with four different options, twenty questions each, and the student satisfaction assessment form with the teaching activity application by an augmented reality game activity on the subject of mathematics, including addition and subtraction of numbers up to one hundred thousand for students with learning disabilities who are in the fifth grade. It is possible to summarize the findings, analyze the findings, and provide recommendations for further research in the third year of primary school as follows: (1) Conduct an investigation into the issue of data collection at Wat Pathum Nayok

School, which is under the jurisdiction of the Pathum Thani Elementary Education Service Area Office, Region 2, to determine the reasons behind difficulties in learning There are kids in primary 5 (Grade 5) who struggle with reading fundamental Thai words, and the media that teachers utilize in educational institutions is not sufficient to help them. (2) To study the Thai language learning subject group curriculum by the Core Curriculum of Basic Education B.E. 2551, and (3) to study the concepts, principles, and theories related to the development of teaching activities application by an augmented reality game activity on the subject of mathematics, including addition and subtraction of numbers up to one hundred thousand for individuals with learning disabilities. students in the fifth grade (primary 5), (4) an examination of the content, structure, and rules established for the management of teaching and learning, (6) create the structure of the teaching activity application by an augmented reality gaming activity on the subject of mathematics, including addition and subtraction of numbers up to one hundred thousand for individuals with learning difficulties. (5) establish the primary objectives of the research. students in the fifth grade (primary 5), (7) Develop an application by the structure of the material that has been determined by sticking to the core curriculum for learning the augmented reality game activity on the subject of mathematics, which includes addition and subtraction of numbers up to one hundred thousand for individuals with learning difficulties Primary 5 (Grade 5) students, (8) create a test and the satisfaction assessment form of grade 5 students towards the teaching activity application according to an augmented reality game activity on the subject of mathematics consisting of addition and subtraction of numbers up to one hundred thousand for students with learning disabilities Primary 5 (Grade 5) students to use as a research tool, (9) Present the application that was developed by the researcher to the specialists so that they can evaluate it. To find the consistency between the content, language used, questions, teaching and learning activities to create and find the effectiveness of the tool with three measurement and evaluation experts, and then use it to improve and correct errors to be utterly correct as Experts recommend in all respects, (10) Bring the application to demonstrate how to use it with students in schools other than the sample group, to determine the performance of the application and make improvements until the efficiency is acceptable, (11) Bring the application to demonstrate how to use it with a sample group, namely primary 5(Grade 5) students at Wat Pathum Nayok School. Under the Office of Pathum Thani Primary Education Area 2, 30 people to determine the efficiency of the application, E1 / E2 was determined to equal 80/80. SD., an augmented reality gaming activity on mathematics themes in addition and subtraction of numbers up to one hundred thousand, was utilized to calculate the standard deviation. This activity was designed for individuals with learning difficulties. Using the mean and t-tests, we compared the pupils in Primary 5 (Grade 5). Analyze all of the data presented above and then summarize the conclusions of the research. Using the following objectives as a guide, the researcher provided a summary of the findings of the research: (1) The efficiency of the educational application of an augmented reality gaming activity on the subject of mathematics, namely the addition and subtraction of numbers up to one hundred thousand for individuals with learning difficulties Primary 5 (Grade 5) kids who were produced and developed with efficiency according to the 80/80 criterion, which means that the percentage of the score during the study was 82.40 (E1), and the percentage of score from the post-study test was equal to 81.33 (E2), were the students who were formed and developed. (2) A comparison of pre-study and post-study achievement scores revealed that the scores obtained by students with learning disabilities in primary 5 (Grade 5) after participating in an augmented reality game activity as part of a teaching activity application on the subject of mathematics, which included addition and subtraction of numbers up to one hundred thousand, were higher than the grades obtained before the semester. There was a high level of satisfaction among students in primary 5 (Grade 5), according to the findings of the study, which met the criteria for statistical significance at the.05 level. Discussion of the findings of the research on the development of teaching activities application according to an augmented reality gaming activity on the subject of mathematics, including addition and subtraction of numbers up to one hundred thousand for children with learning difficulties who are in the fifth grade. Providing students with activities and tactics that correspond to them allows them to develop their capacity for independent learning as well as their capacity to work and produce ideas. Students can learn on their own by completing the learning activity sheet that corresponds to each field of study. The findings revealed that the pupils had a greater interest in studying and were more engaged in the process. Through the process of developing wisdom and self-awareness, teachers will assist in encouraging pupils to acquire knowledge and comprehension, as well as to think individually. This discussion is the result of the conversation (Sangsawang, T., 2015). The following is a list of the research team's objectives and hypotheses: (1) An application for teaching activities based on an augmented reality gaming activity on the subject of mathematics, including addition and subtraction of integers up to one hundred thousand for students with learning difficulties Activities that enable students in Primary 5 (Grade 5) to read words with rhymes and words with unvoiced consonants and vowels are the primary focus of instruction. The content of these activities is in line with the core curriculum. The year 2551 B.E. Based on the development of teaching activities application by an augmented reality game activity on the subject of mathematics, including addition and subtraction of numbers up to one hundred thousand, for students with learning disabilities who are in the fifth grade, the objective is to ensure that the application is effective by the 80/80 criteria. Students who have learning difficulties and who are learning through the use of teaching activities based on an augmented reality gaming activity on the subject of mathematics, including addition and subtraction of integers up to one hundred thousand Primary 5 (Grade 5) students, before using the teaching activity application by an augmented reality gaming activity on the subject of mathematics, including addition and subtraction of numbers up to one hundred thousand for students with learning difficulties Primary 5 (Grade 5) students are required to take pre-tests as part of the teaching and learning process. From a total of thirty pupils, has received an average score of twenty complete marks, which is equivalent to eight and a half. After finishing the pre-study test, the researcher applied the teaching activity application an augmented reality game activity on the subject of mathematics, specifically addition and subtraction of numbers up to one hundred thousand for students with learning disabilities who are in the primary 5 (Grade 5) level. This activity has been designed to be used in teaching and learning by providing students with activities to learn in which they are enthusiastic and more interested in learning. Following the recording of the results of the grades earned throughout the course, the results of the grades earned during the studies were taken into consideration to determine the average. The value of the percentage is 82.40 per cent. The students should take the test after class after they have learned through the application of teaching activities based on an augmented reality game activity on the subject of mathematics, which includes addition and subtraction of numbers up to one hundred thousand for students with learning disabilities who are in the primary 5 (Grade 5) level. It was found that the average post-test scores were 81.33%, indicating that learning through the teaching activities application according to an augmented reality game activity on Mathematics subject in addition and subtraction of numbers up to a hundred thousand for learning disabilities primary 5(Grade 5) students created by the researcher were as effective as 82.40/81.33. The efficiency is consistent with the research of teachers preparing along with students to challenge, motivate, encourage, advise, give advice, and seek the proper knowledge. According to the given criteria, the efficiency is by the 80/80 ratio. Suggested suggestions The researcher offers some recommendations for putting the findings of this study into practice, which are as follows: (1) It is necessary to get the essential equipment ready. In addition, an internet signal before every educational session (2) Students should get themselves ready by practising the skills necessary to use the application through the comprehensive instruction manual for every phase of the learning activities. Suggestions for additional research to examine After reviewing and discussing the findings of the research, the researcher has come up with the following recommendations and proposals as a result of the findings: (2) should develop an application on reading fundamental Thai vocabulary, as well as other extra themes, such as reading diphthongs and leading letters; (3) should study more information on reading Thai words; and (4) should produce an application on doing so. reading the words of royalty to ensure that there is a continual In addition to organizing various learning approaches, such as TAI (Team Assisted Individualization) and STAD (Student Team Achievement Division), Development (3) should also design an application that teaches its users how to read basic Thai language. In this study, multimedia games should be used as instruments for critical thinking activities based on the Self-Regulated Learning (SRL) framework. These games should be supported by achievement tests and questionnaires through student-directed instructional design online, where the students' guide should make some input into their learning processes. showing that the SRL framework for problem-solving was effective for teaching and career training, the student's degree of pleasure in learning reached a high level, showing that the SRL framework was useful. Teaching styles, which include things like consistent focus, orientation, or intent, are what make up the overall pattern of different teaching behaviours. Based on the findings of this study, it can be inferred that a self-directed learner can be characterized as self-managing when the individual is participating in student-centred education. in the year 2020 (Thosporn Sangsawang).

REFERENCES

Cai, S., Liu, E., Shen, Y., Liu, C., Li, S., & Shen, Y) .2020 .(Probability learning in mathematics using augmented Reality :impact on student's learning gains and attitudes . *Interactive Learning Environments*, 28, 560 -573 . https//:doi.org/10.1080/10494820.2019.1696839.

Likert, R.,)1932, June .(A Technique for the Measurement of Attitudes .*Archives of Psychology*, 22, pp .1-55.

Navinee Intarapreecha, Thosporn Sangsawang. (2023). Incorporating Augmented Reality to Enhance Learning for Students with Learning Disabilities: A Focus on Spatial Orientation in Physical. TOJET: The Turkish Online Journal of Educational Technology – October 2023, 22(4). 245-253.

Mano, K .et al.,)2021 .(**Developing educational applications with KWL PLUS teaching techniques in the Thai language Subject: Reading Comprehension Affects Analytical Reading Ability of Grade 3 Students.**) Master's Thesis, Silpakorn University).

Moreno-Guerrero, A., García, S., Navas-Parejo, M., Campos-Soto, M., & García, G) .2020 .(Augmented Reality as a Resource for Improving Learning in the Physical Education Classroom .*International Journal of Environmental Research and Public Health*, 17 . https//:doi.org/10.3390/ijerph17103637.

Okyere, C., Aldersey, H., Lysaght, R., & Sulaiman, S) .2019 .(Implementation of inclusive education for children with intellectual and developmental disabilities in African countries :a scoping review .*Disability and Rehabilitation*, pp. 41, 2578–2595 . https//:doi.org/10.1080/09638288.2018.1465132.

Sangsawang, T) .2020 .(An Instructional Design for Online Learning in Vocational Education According to a Self-Regulated Learning Framework for Problem Solving during the COVID-19 Crisis .*Indonesian Journal of Science & Technology*., DOI.org/10.17509/ijost.v5i2.24702, pp.108-123

Sangsawang, T) .2015 .(Instructional Design Framework for Educational Media .*Procedia - Social and Behavioral Sciences* .176, pp .65-80.

Sirisukphoka, U .& Krutjon, S.,)2019(. Developing a mobile application to enhance English aloud reading skills for grade 3 students who study with a reverse classroom learning technique. *Journal of Industrial Education King Mongkut*, North Bangkok, 10)2(, 227-236.

Turan, Z., & Atila, G) .2021 .(Augmented reality technology in science education for students with specific learning difficulties :its effect on students' learning and views .*Research in Science & Technological Education*, 39, 506 -524 . https//:doi.org/10.1080/02635143.2021.1901682.

Phuchada, R .& Suramanee, S.,)2015 .(Developing applications for learning on tablets about components of information systems for Primary 5(Grade 5). *Academic Journal of Information Technology Applications*. Maha Sarakham Rajabhat University, 1)2(, pp.132-138.