A Scale Development Study for Determining Caricature Reading Skills of Students

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ABSTRACT
An achievement test was prepared to determine students' caricature reading skills. In the first draft of the achievement test, 32 test items and four choices were prepared for each question. The item analysis of the data obtained from the pre-application was made and the internal consistency coefficient (KR-20) was calculated as 0.67 for the reliability of the scale. The mean of item discrimination of the achievement test is 0.34 and the mean of item difficulty is 0.38. After the pre-application, it was decided (concluded) that the achievement test was feasible (applicable), and general application was initiated. General application was performed on 160 sixth-grade students. As a result of the item analysis, it was seen that item difficulty levels of achievement test were between 0.32 and 0.67. The mean of difficulty index of the test was determined to be 0.50. The test items, was found to be between 0.20 and 0.72. Items 2 and 6 with a value less than 0.30 were removed from the scale due to their low discrimination strength index. The reliability coefficient was calculated as 0.85. A valid and reliable 30-item assessment tool was created to determine students' caricature reading skills. Caricature reading scale has been considered as a valid and reliable assessment instrument to be used to detect the caricature reading students’ skills.

Keywords: Achievement Test, Caricature, Caricature Reading, Scale

INTRODUCTION
The constantly developing and changing world has greatly influenced the materials used in educational environments. The impact of a material on the target group in an educational environment may change every single day. For this reason, individuals who are in the position of tutors exploit different materials considering the tendencies of the target audience and the characteristics of the educational environment. One of these types of materials is visual materials, whose value increases even more with the emergence of the effect of the enrichment of learning environments with multiple stimuli on learning. In Turkish language education too, visual materials are used in order to enrich the learning environment and to increase the interest and participation of the students in the course. Caricatures are also among these visual materials that can be benefited from in Turkish language education.

Caricature reproduced from the word "caricare", which means overstatement and loading (Topuz, 1986); It is rich, versatile and remarkable as a visual material. Due to this feature, there are many definitions that emphasize different qualities of the caricature art in the literature: taking the humorous and remarkable aspects of the event or situation as the fundamental (Avşar, 2007), combining thought and humor and illustrating them by drawing (Akkaya, 2011); depicting people or objects in exaggeration (Kılınç, 2006), presentation of any event that concerns people and society as a subject in the form of a thought-provoking and humorous picture (TDK, 1998), the use of breaking lines such as humor, exaggeration and contrast in conveying emotions and thoughts.

When the literature is reviewed, it is seen that there is a variety of caricature definition based on the types of caricatures, as well as several caricature classifications: Kamiloğlu (2014) after dividing caricature into three as political, humorous-funny and explanatory, he states that caricature that deal with current issues and events are political caricatures. He explains that caricatures with a dominant humor aspect explain individual or social events with an allegory. He emphasizes that advertising and teaching material-oriented products are included in the field of explanatory caricatures.

Kazanevsky (2005) classifies caricatures by topic as; drawing reflecting philosophical problems of human being, criticizing the social structure of the community, and caricatures that include humor. Kabapınar’s (2003) scientific classification of events cause-and-effect relationship that describes the visual elements at the macro level the question as to single or multi-stage questions, or thinking a character with balloons, consisting of a single frame or several frames, caricatures, and more than one idea discussed is in the form of concept caricatures. Depending on the elements it carries, Avşar (2007) divides the caricature into three parts as: artistic,
intellectual, and humorous. He states that it is not possible to create comic-strips without the art, ideas, and humor which he defines as the basic components of caricature.

Kar (2004) compiled the types of caricatures in his study and listed them as follows:

- Political caricatures
- Advertising-oriented caricatures
- Portrait caricatures
- Surreal caricatures
- Humor caricatures
- Surreal (absurd) caricatures
- Surreal (romantic) caricatures
- Typifying caricatures
- Caricatures with and without words
- Black humor caricatures
- Line-comedy
- Comic-strips
- Collage caricatures

LITERATURE REVIEW
THE PLACE OF CARICATURE IN EDUCATION
Numerous teaching materials are used to ensure permanent learning and to create an effective learning environment. One of these materials -even one of the most influential (Uslu, 2007)- is caricature due to its educational function. When we look at the studies related to caricature, they are used in teaching Social Studies (Tuncel, 2017), History (Avşar, 2007), Geography (Ayyıldız, 2010), Mathematics (Karaduman & Ceviz, 2018) yet the number of the studies on the use of caricature as an educational tool in Turkish language education is insufficient. When we classify the studies administered in Turkish language education, it is seen that research on the use of caricature in teaching the rules and concepts of Turkish language education has been quantitatively insufficient. There are studies that focus on demonstrating how caricature-strips (or caricatures as is stated in this study) develop vocabulary (Mürsel, 2009; Varışoğlu, Şeref, Gedik, & Yılmaz, 2014), their effect on academic success (Eker & Karadeniz, 2014), the impact of caricature-supported education on teaching literary arts (Coşar, 2005), their contribution to writing skills (Üstün, 2007), in teaching abstract subjects (Delp & Jones, 1996; Göçer & Akgül, 2018), and from basic language skills to the effect of listening and speaking skills (Şeref, Gedik, & Yılmaz, 2014).

Caricature is one of the materials frequently used in educational activities. The fact that caricature has a transdisciplinary feature is the factor in choosing caricatures as a teaching material in many different fields. The humorous feature of the caricature is very important in terms of motivating students during educational activities. With humor, students can learn while having fun. Another feature of caricatures is that it eliminates the lack of self-confidence (Haugaard, 1973); Caricature facilitates communication and offers individuals the opportunity to express themselves better. In addition, caricature develops individuals' problem solving skills and encourages them to think critically.

In the studies carried out in the field, (Kleeman, 2006; Vogler, 2004) the contributions of caricatures to educational environments are described as follows:

- It has a facilitating feature to remember because it contains materials for different intelligence types. This feature of the caricature directly affects the permanence of learning.
  - Students can improve their oral and written communication skills by adding meaning to the caricature.
  - The critical approach at the center of the caricature makes it easier for individuals to approach social events with a critical point of view and to become conscious about critical thinking.
- With caricatures, individuals can also gain aesthetic pleasure while exploring their interests.
- By embodying soft information, caricatures both ensure the continuity of learning and shorten the time spent on learning.
- Caricature emerges as a major element in improving courtship skills and controlling cognitive understanding.
- Caricatures directly affects students' thinking skills and creativity.
- As an educational material, caricature offers the opportunity to bring popular culture outcomes and current events to the classroom.
- Caricatures can be used to understand the subject, as well as to prepare for the lesson or determine whether students are ready and draw attention to the subject.
Considering the specified characteristics of the caricature, it is one of the original materials that are very effective in terms of understanding and organizing information and relating different pieces of information to each other.

**ASSESSMENT OF APPRAISAL**

An assessment for appraisal is a type of assessment that is used to determine whether at the end of a program individuals are able to achieve the goals set initially. As a result of this evaluation, the instructor determines the success level of the student and the program. Achievement tests, final tests, proficiency and expertise tests are among the tests that are used to determine the success levels of the students in assessments. Achievement tests used in assessments are performed to find the difference between an instructional program's input and output skills or behaviors. Achievement tests are among the most commonly used and valued assessment techniques known by most teachers in the education and training process. Through the achievement tests, teachers can determine the students' achievement level, the level of learning of the subjects, and the competence of the autonomous cognitive field skills.

**METHOD**

This research was conducted with the aim of developing a measurement tool to determine individuals' caricature reading skills. According to Ercan & Kan (2004), measurement is whether the object has a specified property, if so, the degree of it is observed and the results are expressed in numbers and symbols. It is extremely important that the asset concerned is measurable in order to evaluate the asset under consideration in a scientific way. The accuracy and appropriateness of the evaluations and decisions to be made on individuals, events or objects subject to the measurement depends on the measurement results on which the decisions are based and the appropriateness of the criteria. For this reason, standardization of the scale and measurement instrument is very important, so item analysis or similar applications needs to be done.

In this study, the validity and reliability procedures of the scale, which was designed as an achievement test in order to evaluate students' caricature reading skills, were performed.

**STUDY GROUP**

The study group consists of sixth grade students from a secondary school in Afyonkarahisar. The pre-application was carried out with 59 students, 27 girls and 32 boys. The working group of the general practice consists of 160 students, 77 girls and 83 boys.

<table>
<thead>
<tr>
<th>Table 1. Distribution of Students in the Working Group (by Gender)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Study Group</strong></td>
</tr>
<tr>
<td>Preliminary Application</td>
</tr>
<tr>
<td>Boy</td>
</tr>
<tr>
<td>General application</td>
</tr>
<tr>
<td>Boy</td>
</tr>
</tbody>
</table>

**SCALE DEVELOPMENT PROCESS**

In order to determine the levels of the students, a caricature reading scale was prepared by the researcher online as a data collection tool. During the preparation process, the following measurement tool development stages were followed:

- Determining the purpose of the test
- Determining the curriculum standards to be measured and creating the specification table
- Determining the number and type of items
- Determining the duration of the test
- Writing test items
- Getting expert opinion
- Piloting the test
- Item analysis and selection
- Finalizing the test

While preparing the test items, all activities related to visual reading skills in the 2018-2019 academic year Turkish language course textbooks of all grades were examined. Thus, it was aimed to ensure that the question styles included in the test items are compatible with the activity styles that the students are accustomed to in the
The theoretical background of the measurement tool to be developed has been created based on a literature review.

**PREPARING THE SPECIFICATION TABLE**

During the creation of the test items on the scale, the curriculum standards on caricature perception mentioned in the “caricature literacy module,” prepared by the researcher himself, were taken into consideration. Özgüven (2012) states that content validity should be taken into consideration in the development of tests, such as achievement tests, and completion tests, aiming to reveal the difference between the skill level at the entrance and the skill level at the exit. Attention was paid to the balanced distribution of the test items for the content validity of the caricature reading skill achievement test developed within the scope of the research to the standards in the curriculum specified in the “caricature literacy module.” Careful attention has been paid to make sure that each of the test items actually measures the behavior it was designed to measure. Accordingly, the specification table was prepared. Through the specification table, it is possible to ensure that strong items with high power to represent the universe are included in the test. The specification table is presented below:

<table>
<thead>
<tr>
<th>Learning Area</th>
<th>Goal</th>
<th>Related Standards in the Curriculum</th>
<th>Question No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caricature Perception</td>
<td>Recognizing and analyzing the structural features of caricatures</td>
<td>Explains the art elements and design principles in visual materials.</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Explain the laws governing perception used in the perception of visual materials.</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Explains the perception areas used in the perception of visual materials.</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Explain the effect of perception fields used in visual material perception on visual material perception.</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Explains the breaking lines forming the caricature.</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Explains the types of caricatures according to their application.</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Distinguishes the types of caricatures according to their application.</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Explains the types of caricatures according to the expression style.</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Distinguishes the types of caricatures according to the expression style.</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Questioning the contents of the caricature</td>
<td>Explains the effect of context on the content of the caricature.</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Questions the caricature formed by individuals or groups with different socio-cultural characteristics in the context.</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Realizes the effect of different perspectives (by the artist) on the visual material's message.</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Analyzes the effect of prejudice on caricatures of similar theme.</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Compares the message of the caricature with her own life.</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Realizes that effect of caricature varies according to the variables.</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Questions the consistency of a caricature appropriate to their level.</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Explains the effect of popular culture on contemporary caricatures.</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inquires messages in advertising-oriented caricatures.</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Questioning the origin of the caricature</td>
<td>Explains the manipulation that emerges from the source of the caricature.</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Discusses the reliability of the source on which the content in the caricature is based.</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Questions the interventions carried out by the source for propaganda and persuasion.</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Complies with ethical principles when accessing and using caricatures.</td>
<td>22</td>
</tr>
</tbody>
</table>
In addition to the researcher, a visual communication design expert and a visual arts teacher worked together on the preparation of the test items and the preparation of appropriate images for the items. Some of the caricatures, which are considered suitable for the test items by scanning various sources and thus selected, were edited by the researcher with the web 2.0 tool named "Toondo". Some of the caricatures were drawn and made suitable for the research by a student, who had similar characteristics with the target audience in accordance with the pedagogical approach. It was decided to submit the test online taking into account the reasons such as easy achievement of the participants to the test, the caricatures used in the test are not adversely affected by factors such as printing, the ease of storing the answers, the control of the test if needed, and the ease of making the necessary analyses. Prepared items were processed into Google Form and students' responses to the test were also stored in Google Form database. Participants reaching the caricature reading test on the “Google Form” via the web, see the welcome screen with information about the test when they visit the site for the first time.

In preparing the screen view of the test, special attention was given to the caricatures, texts, visual design principles and elements on the screen, where the participant could easily see them and to be of a certain quality. During the answering of the test, choices were given under the test items regarding its use and students were asked to mark the correct answer. Again in the answering of the test, the screen was designed to advance with student approval, in terms of recognizing individuality to the participants. At any time during the test, the participant returned to the item if he / she wanted and changed its previously marked choice. When all the test items were answered, the participant was greeted by a closing screen and a message “your responses have been recorded” is displayed on the screen. A student, who completes the test can no longer see the items and answers related to the test. Responses and response statistics of participants can be viewed from the admin panel of “Google Form”. Each participant's response to each test item is separately stored.

In the first draft of the achievement test designed by the researcher, 32 test items were produced according to the indicator table prepared for a total of 32 standards in the curriculum on the field of caricature reading, and four choices in accordance with the level were arranged for each question. The prepared draft form was presented to the experts’ opinion in terms of content validity. During this process, the opinion of the field experts, who have a first-degree relationship with caricature literacy, was taken into consideration. At this point, three faculty members from Uşak University, Institute of Social Sciences Turkish Education Department, one faculty member from the Department of Visual Communication Design at Dumlupınar University, Faculty of Fine Arts, one Visual Arts teacher and two Turkish language teachers were consulted. The experts in the field of Turkish language teaching examined the test items both in terms of language and in terms of compliance with the standards in the curriculum. In addition, the Visual Communication Design Department expert examined the suitability of the test items for the standards in the curriculum, and the visuals used, in terms of design, and presented their opinions. Expert opinions on the test items are about; whether the test items are appropriate (if not the experts wanted corrections), the comprehensibility of the test items and their appropriateness for the participants.

The similarity / difference between the opinions of experts was compared for each question regarding the suitability of the test items in accordance with the opinions of the experts, and the content and structure validity of the scale was ensured. As a result of the expert opinion, a pre-application form with 32 questions was developed.
Prior to the application on the target sample, in order to make an observation-based questioning of the validity and reliability of the test, to check the clarity of the instructions (technical terms, etc.) and the clarity of the test items, to evaluate the answering duration and the application style in general, a preliminary application was made on a group of 59 sixth-grade students representing end-groups with similar characteristics (academic success, economic condition etc.) to the target group of the study.

The preliminary application has facilitated the researcher's work by providing considerable labor and economic benefits. In that preliminary application, test items, instructions and choices that were not understood by the participants, and the caricature drawings used were evaluated and response time of the participants was noted. The Caricature Reading Skill Achievement Test lasted an average of 35-40 minutes. During the test process, necessary observations were made, the students' understanding of the questions was monitored, and no negative situation was encountered. The item analysis of the data obtained as a result of the pre-application was made and KR-20 internal consistency coefficient was calculated for the reliability of the scale. After determining that the achievement test was feasible at the end of the preliminary application, general application has been started in order to obtain the most accurate structure of the concept, feature and skill that was intended to be measured and to obtain the necessary data in a healthy way.

In the general practice carried out in the second term of the 2018-2019 academic year, the necessity of applying to a group with similar characteristics, which is one of the aims of scale development, was taken into consideration and the achievement test prepared to calculate the reliability coefficient of the Caricature Reading Skill Achievement Test was studied in a public school in Afyonkarahisar. It was applied to a group of students who saw. The voluntary basis and heterogeneous distribution were taken into account in the formation of the working group. Easily accessible sample selection technique was used. As the variance applied to the Scale decreased, the scale's capacity to represent the structure decreased, Pituch and Stevens' (2006) formula of 5-20 people per variable (item) was taken into account in the trial application of the scale and the scale was applied to 160 participants. Scale development analyses were started with the number of N = 160 samples.

DATA ANALYSIS
Preliminary and general application data were analyzed using Microsoft Excel 2010. The scores obtained from the test were calculated from top to bottom and scores of 27% of the upper group and 27% of the subgroup were determined. For each question, the number of correct answers was determined for forty-three each students in the upper and lower groups. Since the measurement tool was applied once to the sample group, single-application methods were used. Item analysis was performed to check whether a high reliability and validity scale was obtained or not, for the standards in the curriculums to be measured. Since the measurement tool was applied once to the sample group, single-application methods were used. Item analysis was performed to check whether a high reliability and validity scale was obtained or not, for the standards in the curriculums to be measured. When item difficulty (p) is evaluated, the closeness of p value to 1 indicates the ease of that test and the closeness to 0 indicates difficulty. Tests with a p value between 0.30 and 0.70 are considered to be of medium difficulty, whereas tests with a p value less than 0.30 are considered difficult and tests with a p value greater than 0.70 are considered easy (Güler, 2019). Another analysis conducted in item analysis is the strength of item discrimination (r). Item discrimination is the level of the test items' ability to distinguish between those who know and those who do not. The test item has a value between -1 and 1 for distinguishing purposes. Test items with an R value of 0.40 or greater are very good in terms of discrimination, items between 0.30 and 0.39 are good, items between 0.20 and 0.29 need to be corrected, items with 0.19 and below are accepted weak because of their incompetency in discrimination (Baykul, 2010). Finally, reliability coefficient was calculated in item analysis. Kuder-Richardson 20 (KR-20) formula was used to calculate the reliability coefficient.

FINDINGS
Item analysis helps the researcher by revealing the usefulness of the test items prepared by the researcher according to the determined criteria. With item analysis, the researcher realizes the errors in the scale he has prepared and can make the corrections if required. Item analyses (item difficulty and item discrimination strength), and the reliability coefficient for the preliminary application are given in Table 3:

<table>
<thead>
<tr>
<th>Caricature Reading Skill Achievement Test</th>
<th>Numerical Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of questions</td>
<td>32</td>
</tr>
<tr>
<td>Number of people applied</td>
<td>59</td>
</tr>
<tr>
<td>Mean of item discrimination (rJx)</td>
<td>0.34</td>
</tr>
<tr>
<td>Mean of item difficulty (pj)</td>
<td>0.38</td>
</tr>
<tr>
<td>Kuder Richardson-20 Reliability Coefficient</td>
<td>0.67</td>
</tr>
</tbody>
</table>

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Item analysis of the data obtained from the preliminary application was performed and the internal consistency coefficient KR-20 was calculated for the reliability of the scale. When Table 3 is examined, the mean of item discrimination of the achievement test at the end of the pre-application is calculated as 0.34 and the average of item difficulty is 0.38 and the reliability coefficient (KR-20) is 0.67.

At the end of the preliminary application, the achievement test was found to be feasible. As a result of the general application, which was made after the pre-application, item analysis (item difficulty and item discrimination) of the data obtained was performed and then KR-20 internal consistency coefficient was calculated for the reliability of the scale. The data obtained are shown in Table 4:

### Table 4. Item Analysis Related to General Application

<table>
<thead>
<tr>
<th>Item Name</th>
<th>Item Difficulty (pjx)</th>
<th>Item Discrimination (rjx)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Item</td>
<td>0.37</td>
<td>0.47</td>
</tr>
<tr>
<td>2. Item</td>
<td>0.35</td>
<td>0.28</td>
</tr>
<tr>
<td>3. Item</td>
<td>0.45</td>
<td>0.53</td>
</tr>
<tr>
<td>4. Item</td>
<td>0.64</td>
<td>0.49</td>
</tr>
<tr>
<td>5. Item</td>
<td>0.48</td>
<td>0.35</td>
</tr>
<tr>
<td>6. Item</td>
<td>0.45</td>
<td>0.21</td>
</tr>
<tr>
<td>7. Item</td>
<td>0.64</td>
<td>0.44</td>
</tr>
<tr>
<td>8. Item</td>
<td>0.52</td>
<td>0.49</td>
</tr>
<tr>
<td>9. Item</td>
<td>0.53</td>
<td>0.47</td>
</tr>
<tr>
<td>10. Item</td>
<td>0.42</td>
<td>0.51</td>
</tr>
<tr>
<td>11. Item</td>
<td>0.62</td>
<td>0.44</td>
</tr>
<tr>
<td>12. Item</td>
<td>0.55</td>
<td>0.44</td>
</tr>
<tr>
<td>13. Item</td>
<td>0.58</td>
<td>0.51</td>
</tr>
<tr>
<td>14. Item</td>
<td>0.55</td>
<td>0.53</td>
</tr>
<tr>
<td>15. Item</td>
<td>0.33</td>
<td>0.56</td>
</tr>
<tr>
<td>16. Item</td>
<td>0.43</td>
<td>0.58</td>
</tr>
<tr>
<td>17. Item</td>
<td>0.51</td>
<td>0.70</td>
</tr>
<tr>
<td>18. Item</td>
<td>0.67</td>
<td>0.47</td>
</tr>
<tr>
<td>19. Item</td>
<td>0.55</td>
<td>0.49</td>
</tr>
<tr>
<td>20. Item</td>
<td>0.56</td>
<td>0.70</td>
</tr>
<tr>
<td>21. Item</td>
<td>0.40</td>
<td>0.51</td>
</tr>
<tr>
<td>22. Item</td>
<td>0.58</td>
<td>0.60</td>
</tr>
<tr>
<td>23. Item</td>
<td>0.48</td>
<td>0.72</td>
</tr>
<tr>
<td>24. Item</td>
<td>0.56</td>
<td>0.51</td>
</tr>
<tr>
<td>25. Item</td>
<td>0.55</td>
<td>0.67</td>
</tr>
<tr>
<td>26. Item</td>
<td>0.47</td>
<td>0.65</td>
</tr>
<tr>
<td>27. Item</td>
<td>0.51</td>
<td>0.60</td>
</tr>
<tr>
<td>28. Item</td>
<td>0.63</td>
<td>0.42</td>
</tr>
<tr>
<td>29. Item</td>
<td>0.48</td>
<td>0.53</td>
</tr>
<tr>
<td>30. Item</td>
<td>0.48</td>
<td>0.53</td>
</tr>
<tr>
<td>31. Item</td>
<td>0.42</td>
<td>0.47</td>
</tr>
<tr>
<td>32. Item</td>
<td>0.50</td>
<td>0.44</td>
</tr>
</tbody>
</table>

As a result of item analysis, it was seen that item difficulty levels of caricature reading skill achievement test ranged between 0.32 and 0.67. The average difficulty of the test was determined as 0.50. According to these results, it can be said that caricature reading skill achievement test is of medium difficulty. Another analysis conducted in item analysis is the power of item discrimination (r). The test item has a value between -1 and 1 for distinguishing purposes. Test items with an R value of 0.40 or greater are very good in terms of discrimination, items between 0.30 and 0.39 are good, items between 0.20 and 0.29 need to be corrected, items with 0.19 and below are accepted weak because of their incompetency in discrimination (Baykul, 2010). After the item analysis for the caricature reading skill achievement test, the discriminative strength index of the test items was found to be between 0.20 and 0.72. Since the item discrimination average is 0.51, it can be said that the scale is sufficient in terms of discrimination. Due to the low discrimination strengths of items 2 and 6 with a value less than 0.30, it was decided to remove these two items from the scale. Finally, reliability coefficient was calculated in item analysis. Kuder-Richardson 20 (KR-20) formula was used to calculate the reliability coefficient. According to
this formula, the reliability coefficient of the caricature reading skill achievement test was calculated as 0.85. Item analysis showing the numerical values of the general application is summarized in Table 5:

<table>
<thead>
<tr>
<th>Caricature Reading Skill Achievement Test</th>
<th>Numerical Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of questions</td>
<td>32</td>
</tr>
<tr>
<td>Number of people applied</td>
<td>160</td>
</tr>
<tr>
<td>Mean of substance discrimination (rJx)</td>
<td>0.51</td>
</tr>
<tr>
<td>Mean of item difficulty (pj)</td>
<td>0.50</td>
</tr>
<tr>
<td>Kuder Richardson-20 Reliability Coefficient</td>
<td>0.85</td>
</tr>
</tbody>
</table>

When Table 5 is examined, the average item difficulty index is 0.50, which indicates that the test consists of questions at the intermediate difficulty level. The fact that the item discrimination is 0.51 on average indicates that the test actually has a high validity at the point of distinguishing students. As a result of the general application of the achievement test, it was found to be of moderate difficulty and to have high discrimination strength. The internal consistency coefficient (KR-20) was calculated as 0.85. The fact that this value is above 0.70 indicates that it is positive in terms of reliability in addition to its validity (Büyüköztürk, 2018). Regarding these results, it can be stated that the items included in the caricature reading skill achievement test are compatible with the whole test and in terms of difficulty and discrimination level, the test is of a moderate difficulty and discriminative.

CONCLUSION
In the 32-item achievement test developed to measure students' caricature reading skills, a specification table was prepared for the balanced distribution of test items to the standards in the curriculum in the “caricature literacy module” in order to ensure content validity. Following the specification table, 32 test items were formed according to the specification table designed for a total of 32 standards in the curriculum on the caricature reading field, and four choices were prepared for each question. The draft form prepared was submitted to the expert opinion for content validity. Content and structure validity of the scale was ensured with expert opinion. As a result of the expert opinion, a pre-application form with 32 questions was developed. Prior to the application on the target sample, in order to make an observation-based questioning of the validity and reliability of the test, to check the clarity of the instructions (technical terms, etc.) and the clarity of the test items, to evaluate the answering duration and the application style in general, a preliminary application was made on a group of 59 sixth-grade students. The average of item discrimination index as a result of the pre-application test was calculated as 0.34, the average of item difficulty index was 0.38 and the reliability coefficient (KR-20) was 0.67. At the end of the preliminary application, it was decided that the achievement test was feasible, and the general application was started in order to obtain the most realistic structure of the concept, feature and skill that is aimed to be measured. Item analysis was performed in order to check whether a high reliability and validity scale was obtained for the standards in the curriculum to be measured for general application. As a result of item analysis, it was seen that item difficulty levels of caricature reading skill achievement test ranged between 0.32 and 0.67. The average difficulty index of the test was 0.50. After the item analysis for the caricature reading skill achievement test, the discriminative strength index of the test items was found to be between 0.20 and 0.72. The mean of item discrimination is 0.51. Due to the low discrimination strengths of items 2 and 6 with a value less than 0.30, it was decided to remove these two items from the scale. Finally, the reliability coefficient was calculated by Kuder-Richardson 20 (KR-20) formula. According to this formula, the reliability coefficient of the caricature reading skill achievement test was calculated as 0.85. After the necessary corrections based on the results of item analysis, the 30-item test consisting of 1 item to remember, 13 to understand, 9 to analyze and 6 to evaluate and 1 to create; has taken its final shape (See appendix A). After all these validity and reliability procedures, it can be stated that the caricature reading scale is a valid and reliable measurement tool that can be used to determine the students' caricature reading skills.

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Appendix A

6th Grade Caricature Reading Skill Achievement Test

Dear Students,
This Study was designed to determine your cartoon reading skills. Please read all items carefully and reply. This is not an exam or assessment tool for your Turkish course. Your answers to these items will be used for scientific purposes only. Thank you for your contribution to the research.

Dr. Kadir KAPLAN

1- Visual design elements and principles are the principles necessary for a design to be more comprehensible, clear and clearly perceived by the individual. Which of the following pairings is incorrect in terms of visual design element principles?

A) POINT

B) SHAPE

C) TYPOGRAPHY

Türkiye Cumhuriyeti

Türkiye Cumhuriyeti

Türkiye Cumhuriyeti

Türkiye Cumhuriyeti

Türkiye Cumhuriyeti

D) LIGHT (SHADOW)

2- Which of the perception field matches played a role in the perception of the visual material given below is wrong?

A) Magnitude Invariance

B) Color Invariance

C) Shape Invariance

D) Brightness Invariance

3- Hundreds of people who look at the same caricature at the same time may not see the same thing, even though they look at the same
caricature. Some people looking at the material on the side see people gathered at some point, while others see pigeons with olive branches in their mouths. What area of perception does this explain that plays a role in the perception of visual material?
A) Detection Stability
B) Invariance in Perception
C) Color Invariance
D) Selective perception

4- From the above caricatures, identify the lines of break in the caricature.
A) Surprise-Humor-Criticism  B) Education-Political-Social
C) Color-Black-White / Mixed  D) Humor-Opport-Exaggeration

5- What kind of caricature is given on the side according to its application?
A) Series  B) Vignette
C) Single Frame  D) Tape
6- Which of the following is one of the caricatures used according to the expression style?
A) Black / White-Color  B) Written-Unwritten  C) Single-Band  D) Humor-Exaggeration

7- Find the type of caricature given according to its application and expression.
A) Single Frame-Written  B) Single Frame-Unwritten  C) Unwritten-Single Frame  D) Written-Single Frame

8- Which of the following caricatures that reveal the impact of technology on people is not suitable for Eren born in 2011?
9- What is the reason for the content difference in the two caricatures, the subject of violence against healthcare workers?

A) Being the product of individuals or groups with different socio-cultural characteristics.
B) The difference in caricature technique.
C) Preparation of different dates.
D) Caricature variety flexibility.

10-Aylan is a 3-year-old refugee. From Turkey to the Greek Islands lost their lives while trying to pass. The painful event in Bodrum has affected the whole world. Two caricatures were published after the event. The first caricature in Turkey, the second caricature was published in France. In the caricature published in France; If Aylan Bebek had grown, he would have been a pervert who harassed us. What is the reason why the two caricatures interpret the same event differently?
11- French caricaturist, before going to Turkey and the Turkish barbarians despite the absence of any Turkish friends (coarse, primitive) has revealed that the right draw caricatures. French caricaturist draws the caricatures two years after coming to Turkey rough reality of the Turkish people will see that being a nation to handle and upset. What could be the reason for the French caricaturist?
   A) French caricaturist training
   B) Dominance in Turkey's political history
   C) Prejudiced approach to the situation
   D) Loving his own people

12- Fırat sees the following caricature on the economy page of the newspaper. First he is happy to see inflation falling; but then recalls that his father had regularly reduced his allowance for 4 weeks. He did not believe that the inflation in the caricature fell. What is the reason that the Euphrates made this decision?
   A) Comparing the accuracy of the message in the cartoon with his daily life
   B) Increase in unemployment rate
   C) Error in caricature technique
   D) Method of application

13- To prepare for a magazine publishing a caricature themed freedom to continue life in Turkey is required. Which of the following drawings do you not include in the caricature you will send to the magazine, which is a readership of Turkish citizens and individuals aged 30-40?
14- One day Muhsin meets his friend on the road and the dialogue presented between them is experienced. Muhsin On top of that, when questioned the accuracy of the information given by the friends get the results of the research conducted by the Turkey Statistical Institute. He sees the truth is not what his friend says. What is the most comprehensive judgment that can be drawn from this situation where Muhsin lived?

A) Eat with friendly, drink inside but don't shop.
B) The truth is unique. One has to trust his friend.
C) Technology can have negative effects on people.
D) The information claimed to be adopted by the majority must be verified.

15- What is the reason why the Hulk is used in advertising-based caricatures?
A) The natural relationship between the Hulk and the band-aid  
B) Hulk's frequent injuries in his daily life  
C) Show Hulk band-aid for sale (reference)  
D) Hulk's being a giant

16- It is seen that caricaturists periodically concentrate on certain subjects and publish caricatures on similar subjects. For example, since the date of the exam is approaching recently, "LGS" has appeared in almost all newspapers and magazines. How can this be explained?  
A) Contains a difficult process  
B) To be known and followed by everyone  
C) LGS affects parents

17- A computer company outperformed other companies in desktop computer sales in the first quarter of 2019. The difference between the second company and the number of sales is only 3. The company announced this information in the caricature on the side. Which of the following is not one of the directions that the company makes by hiding that information and not providing information in the caricature?  
A) Sales information for the first quarter of 2019  
B) Sales information is for desktop computers  
C) Numerical difference in sales information with the second company  
D) Year of establishment

18- Which of the following is important in the perception of the caricature given the dialogue between the people in the caricature?  
A) Contact  
B) Air pollution  
C) Technology
D) Verifying Information

19- What is the effect of the caricature on the side?
   A) Persuasion
   B) Information
   C) Offering Options
   D) Increasing Interest in Print Media

20- Muhammed Can, a student of Hamidiye Secondary School, deals with caricatures and draws very successful caricatures. One day, he shows a caricature to his friend. His friend loves the caricature and takes a picture of it. A few weeks later, Muhammed Can, who wandered through social media, sees that his caricature is shared by his friend on his own page. He is very happy at first, but when he looks carefully, he is very upset when he sees that his signature is clipped in the lower right corner of the caricature. What is the cause of Muhammed’s upset?
   A) Sharing Caricature on Social Media
   B) Sharing without permission
   C) No Value to Art
   D) Copyright Truncation

21- Ömer Halis loves to read books. Ömer Halis reads two stories before going to bed last night. The subject of two stories he read is “Love of the Fatherland”. The author is also a partner. However, Ömer Halis understood the second story better than the other one and answered his questions more easily. What could be the reason for this?
   A) Different Author
   B) Caricature Support
   C) Understanding the Language
   D) Low Number of Foreign Words
22- Oktay suffers from time to time in identifying the subjects of caricatures. Help Oktay by finding out which of the following unwritten caricatures is different.

![Caricature A]

![Caricature B]

![Caricature C]

![Caricature D]

23- The aim of the caricaturist is; is to open a discussion of the things that go wrong by looking critically at life. Find the main idea of the caricature below.

A) You must submit to the law of nature.
B) We should protect animals.
C) Never give up, struggle is hope.
D) You shouldn't trust everybody.
24- Yunus Emre teacher shows the caricature on the side as an example to save Turkish from the influence of foreign languages and asks his students to make caricatures with similar messages. Which of the following caricatures is not one of the caricatures Yunus Emre wants?

25- Tuğrul confuses the order of his brother Çağrı's caricature for him. Help Tuğrul by
arranging the caricatures that are given in mixed form in order of formation.

A) 3-4-1-2  
B) 1-3-4-2  
C) 3-4-2-1  
D) 1-3-2-4

26- Meaning in which a second meaning is obtained outside the given meaning is called implicit meaning. What are the two meanings to be drawn from the given caricature?

A) Pigs are cowards-wolves are brave.  
B) The wolf is Muslim - the pigs survived because Muslims did not eat pork.  
C) The wolf gave salute-The pigs did not receive the salute.  
D) The wolf has greeted - he can speak among the animals.

27- The mystery of space has been the reason people have admired the night sky since the dawn of time. These fascinating formations in distant lands will continue to excite both astronomers and us with their secrets for many more years. Who knows, maybe one day we'll go to one of them and settle down.  
Which of the following caricatures is not relevant to this text?
28- Based on the main idea of the given caricature, which of the following cannot be reached?
   A) Human is also involved in the harm done to nature.
   B) Excessive and uncontrolled concretization destroys trees.
   C) If we raise people’s awareness, we can protect nature.
   D) Nature is disappearing by human hand.

29- Alparslan was born in 1990. Last year, he went to caricature school and studied caricature. One day he finds a magazine while he is reading books from his father. In one of the magazines he finds a caricature of the Ottoman Empire;
however, they have problems in interpreting and evaluating the caricature. What is the reason of this?
   A) Since the evaluation was not made considering the years of the caricature
   B) Since the assessment is not objective
   C) Because different people are involved in the evaluation process
   D) Because evaluation skills are not improved

30- Which of the following caricatures may not be suitable for students aged 9-10?