

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

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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 Hacı Bektaş 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 BİLSEM.

**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" (BİLSEM) 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 BİLSEM (MEB, 2018).

### 1.1. Literature Review

There are numerous studies on the effectiveness of BİLSEMs. 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 BİLSEM, 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 BİLSEM buildings.

Sezginsoy (2007), in his research based on descriptive survey model, examined the views of 227 teachers working in BİLSEMs within the scope of the attitude scale and found that BİLSEMs 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 BİLSEMs are appropriate functioning for their purposes. In their study, which included 43 BİLSEMs in the sample, the researchers found that BİLSEMs 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 BİLSEMs 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 BİLSEMs. In their mixed method research, they examined the opinions of administrators and teachers working in one BİLSEM 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 BİLSEMs 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 BİLSEMs 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, BİLSEMs 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 BİLSEMs 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 BİLSEM 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 BİLSEMs 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 BİLSEM 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 (BİLSEM) 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 BİLSEM 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 BİLSEM?

## 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 BİLSEM 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 BİLSEM 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)	<b>Gender</b>	Female	4	44.4
		Male	5	55.6
	<b>Field</b>	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
		<b>Education Status</b>	Graduate	7
	Postgraduate		2	22.2
	<b>Training status on gifted individuals</b>	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)	<b>Gender</b>	Female	17	58.6
		Male	12	41.4
	<b>Age</b>	25-35	2	6.9
		36-45	22	75.9
		46 and above	5	17.2
	<b>Education Status</b>	Secondary	6	20.7
		College	23	79.3
	<b>Number of people working in</b>	Both parents	16	55.2
		Father only	10	34.5
		Mother only	2	6.9
None		1	3.4	

the household			
<b>Occupation</b>	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
	<b>Monthly Income</b>	0-500 TRY	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
<b>Number of Children</b>	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

STUDENT		Categories	Frequency(f)	Percentage (%)
(n:40)	<b>Gender</b>	Female	21	52.5
		Male	19	47.5
	<b>Age</b>	7-9	8	20.0
		10-12	25	62.5
		13-15	6	15.0
		16+	1	2.5
		<b>Education status</b>	3 <sup>rd</sup> grade	13
	4 <sup>th</sup> grade		2	5.0
	5 <sup>th</sup> grade		5	12.5
	6 <sup>th</sup> grade		11	27.5
	7 <sup>th</sup> grade		6	15.0
	8 <sup>th</sup> grade		2	5.0
	10 <sup>th</sup> grade		1	2.5
	<b>Type of School</b>	Private	2	5.0
		State	30	75.0
		Primary	6	15.0
		Secondary	2	5.0
	<b>Education Duration at BILSEM</b>	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 3<sup>rd</sup> grade, 2 (5.0%) in the 4<sup>th</sup> grade, 5 (12.5%) in the 5<sup>th</sup> grade, 11 (27.5%) in the 6<sup>th</sup> grade, 6 (15%) in the 7<sup>th</sup> grade, 2 (5.0%) in the 8<sup>th</sup> grade and 1 (2.5%) in the 10<sup>th</sup> 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  $\alpha=.74$ . 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 .52 and .79, and Cronbach Alpha Reliability Coefficient is  $\alpha=.90$ , 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  $\alpha=.89$ . 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  $\alpha=.86$  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,  $\alpha=.71$ , 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,  $\alpha=.82$  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"	<b>Purpose</b>	3	0.900
	<b>Organization</b>	33	0.946
	<b>Process</b>	17	0.919
	<b>Climate</b>	4	0.974
	<b>Total</b>	57	0.962
"BILSEM organizational effectiveness student scale"	<b>Purpose</b>	6	0.777
	<b>Organization</b>	12	0.871
	<b>Process</b>	16	0.708
	<b>Climate</b>	4	0.589
	<b>Total</b>	38	0.791
"BILSEM organizational effectiveness parent scale"	<b>Purpose</b>	5	0.507
	<b>Organization</b>	7	0.778
	<b>Process</b>	15	0.816
	<b>Climate</b>	4	0.683
	<b>Total</b>	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 (Büyükoztürk, 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- Disagree", "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. Opinions of teachers and administrators on the efficiency level of BILSEM

The opinions of teachers and administrators on the efficiency level of BILSEM 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	BILSEMs 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		<b>3.81</b>	<b>1.07</b>
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 studying 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**

	<b>Total</b>		<b>3.64</b>	<b>0.77</b>	
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
	<b>Total</b>			<b>3.61</b>	<b>0.82</b>
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
	<b>Total</b>			<b>4.50</b>	<b>0.35</b>

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.

**Table 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
<b>Total</b>			<b>4.17</b>	<b>0.67</b>
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
<b>Total</b>			<b>2.38</b>	<b>0.67</b>
<b>Total</b>			<b>3.81</b>	<b>0.67</b>
ORGANIZATION	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
		<b>Total</b>		<b>2.41</b>	<b>0.63</b>
	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
		<b>Total</b>		<b>3.14</b>	<b>0.38</b>
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
		<b>Total</b>		<b>3.92</b>	<b>0.37</b>
		<b>Scale Total</b>		<b>3.17</b>	<b>0.33</b>

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.

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

DIMENSIO N	ITEM	z	x̄	s̄
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
	<b>Total</b>		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
	<b>Total</b>		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
CHILD	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	
	<b>Total</b>		3.61	0.82
CHILD	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
<b>Total</b>			4.04	0.69
<b>Scale Total</b>			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"	<b>Purpose</b>	3.81	1.07
	<b>Organization</b>	3.64	0.77
	<b>Process</b>	3.61	0.82
	<b>Climate</b>	4.50	0.35
	<b>Total</b>	3.74	0.74
"BILSEM organizational effectiveness student scale"	<b>Purpose</b>	4.17	0.67
	<b>Organization</b>	2.41	0.63
	<b>Process</b>	3.14	0.38
	<b>Climate</b>	3.92	0.37
	<b>Total</b>	3.17	0.33
"BILSEM organizational effectiveness parent scale"	<b>Purpose</b>	2.88	0.87
	<b>Organization</b>	2.72	0.62
	<b>Process</b>	2.85	0.45
	<b>Climate</b>	4.04	0.69
	<b>Total</b>	3.18	0.41

Table 3.4 shows that the average score of the administrators and teachers in the study is  $3,82\pm 1,07$  for the "**Purpose**" sub-dimension,  $3,65\pm 0,77$  for the "**Organization**" sub-dimension,  $3,63\pm 0,79$  for the "**Process**" sub-dimension,  $4,51\pm 1,27$  for the "**Climate**" sub-dimension and  $3,74\pm 0,74$  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  $4,17\pm 0,67$  for the "**Purpose**" sub-dimension of the "BILSEM Organizational Effectiveness Student Scale",  $2,41\pm 0,63$  for the "**Organization**" sub-dimension,  $3,14\pm 0,38$  for the "**Process**" sub-dimension,  $3,92\pm 0,37$  for the "**Climate**" sub-dimension, and  $3,17\pm 0,33$  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  $2,88\pm 0,87$  in the "Purpose" sub-dimension of the "BILSEM Organizational Effectiveness Parent Scale",  $2,72\pm 0,62$  in the "Organization" sub-dimension,  $2,85\pm 0,45$  in the "Process" sub-dimension,  $4,04\pm 0,69$  in the "Climate" sub-dimension, and  $3,18\pm 0,41$  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	0,0	0,2	0,0	0,2	-	0,1	-	0,2	0,1	0,3	-	0,0	-	-
	p		25	39	63	4	0,0	66	0,0	54	59	6	0,1	59	0,4	0,0
Administrator organization (2)	r	0,02	1	,95	0,0	,97	-	-	-	-	-	-	0,0	0,0	-	-
	p	0,95		5	35	06	6	0,5	0,9	0,6	0,9	0,5	0,6	0,3	0,7	0,8
Administrator process (3)	r	0,23	,95	1	0,0	,98	-	-	-	-	-	-	0,1	0,0	-	-
	p	0,53	7*		0,16	8*	0,2	0,2	0,4	0,2	0,4	0,3	29	57	0,5	0,1
Administrator climate (4)	r	0,63	0,3	0,5	1	0,5	-	0,2	0,3	0,2	0,2	-	-	-	-	-
	p	0,06	44	6		0,31	0,7	0,5	0,4	0,5	0,4	0,5	0,5	0,3	0,0	0,1
Administrator total (5)	r	0,24	,97	,98	0,0	1	-	-	-	-	-	-	0,0	0,0	-	-
	p	0,53	1*	8*	0,13		0,5	0,4	0,1	0,5	0,0	0,2	0,9	0,9	0,1	0,0
Student purpose (6)	r	-	-	-	-	-	1	-	0,0	0,2	0,26	-	-	-	-	-
	p	0,9	0,5	0,5	0,7	0,5		0,1	0,5	0,0	0,10	0,0	0,0	0,4	0,8	0,09
Student Organization (7)	r	0,1	-	-	0,2	-	-	1	,61	0,0	,815	0,2	0,1	-	0,2	0,12
	p	0,67	0,3	0,5	0,5	0,4	0,1		0,0	0,6	0,00	0,1	0,3	0,6	0,2	0,51
Student Process (8)	r	-	-	-	0,3	-	0,0	,61	1	,31	,810	0,2	-	-	0,0	-
	p	0,9	0,1	0,1	0,4	0,1	0,5	0,0		0,0	0,00	0,1	0,2	0,1	0,6	0,47
Student Climate (9)	r	0,2	-	-	0,2	-	0,2	0,0	,31	1	,363	0,3	-	-	0,1	-
	p	0,54	0,3	0,2	0,45	0,2	0,2	0,0	3*	3*	*	14	0,3	0,1	15	0,09

**Table 3.5**

Student purpose (6)	r	-	-	-	-	-	1	-	0,0	0,2	0,26	-	-	-	-	-
	p	0,24	0,12	0,33	0,1	0,2		0,2	0,86	0,81	3	0,3	,43	0,1	0,0	0,31
Student Organization (7)	r	0,1	-	-	0,2	-	-	1	,61	0,0	,815	0,2	0,1	-	0,2	0,12
	p	0,67	0,3	0,5	0,5	0,4	0,1		0,0	0,6	0,00	0,1	0,3	0,6	0,2	0,51
Student Process (8)	r	-	-	-	0,3	-	0,0	,61	1	,31	,810	0,2	-	-	0,0	-
	p	0,9	0,1	0,1	0,4	0,1	0,5	0,0		0,0	0,00	0,1	0,2	0,1	0,6	0,47
Student Climate (9)	r	0,2	-	-	0,2	-	0,2	0,0	,31	1	,363	0,3	-	-	0,1	-
	p	0,54	0,3	0,2	0,45	0,2	0,2	0,0	3*	3*	*	14	0,3	0,1	15	0,09

	p	0,5	0,3	0,4	0,5	0,5	0,0	0,6	0,0		0,02	0,0	0,0	0,5	0,5	0,62
		1	83	69	25	03	79	42	49		1	97	64	15	54	3
Student total (10)	r	0,1	-	-	0,2	-	0,2	,81	,81	,36	1	0,2	-	-	0,2	-
		59	0,6	0,4	93	0,5	63	5*	0*	3*		51	0,0	0,1	07	0,95
			45	87		15*		*	*				63	66		4**
	p	0,6	0,0	0,1	0,4	0,0	0,1	0,0	0,0	0,0		0,1	0,7	0,3	0,2	0,00
		83	61	84	44	16	01	01	01	21		89	45	9	82	2
Parent Purpose (11)	r	0,3	-	-	-	-	-	0,2	0,2	0,3	0,25	1	0,2	0,3	0,3	,561
		6	0,4	0,3	0,2	0,3	0,3	8	98	14	1		42	44	48	**
			42	64	49	95	49									
	p	0,3	0,2	0,3	0,5	0,2	0,0	0,1	0,1	0,0	0,18		0,2	0,0	0,0	0,00
		41	33	36	19	93	64	42	16	97	9		07	67	64	2
Parent Organization (12)	r	-	0,0	0,1	-	0,0	-	0,1	-	-	-	0,2	1	,40	0,2	,668
		0,1	59	29	0,2	46	,43	95	0,2	0,3	0,06	42		4*	25	**
		07		55		1*		07	48	3						
	p	0,7	0,8	0,7	0,5	0,9	0,0	0,3	0,2	0,0	0,74	0,2		0,0	0,2	0,00
		84	8	41	07	06	2	1	82	64	5	07		3	41	1
Parent Process (13)	r	0,0	0,0	0,0	-	0,0	-	-	-	-	-	0,3	,40	1	,65	,899
		59	54	57	0,3	13	0,1	0,0	0,2	0,1	0,16	44	4*		5*	**
				75		57	96	79	26	6					*	
	p	0,8	0,8	0,8	0,3	0,9	0,4	0,6	0,1	0,5	0,39	0,0	0,0		0,0	0,00
		8	91	84	2	74	15	2	43	15		67	3		01	1
Parent Climate (14)	r	-	-	-	-	-	-	0,2	0,0	0,1	0,20	0,3	0,2	,65	1	,730
		0,4	0,4	0,5	,78	0,5	0,0	25	89	15	7	48	25	5*		**
		04	22	37	3*	56	32						*			
	p	0,2	0,2	0,1	0,0	0,1	0,8	0,2	0,6	0,5	0,28	0,0	0,2	0,0		0,00
		81	58	36	13	2	67	41	48	54	2	64	41	01		1
Parent total (15)	r	-	-	-	-	-	-	0,1	-	-	-	,56	,66	,89	,73	1
		0,0	0,1	0,1	0,4	0,6	0,3	26	0,1	0,0	0,95	1*	8*	9*	0*	
		17	13	02	84	59*	16		38	95	4**	*	*	*	*	
	p	0,9	0,7	0,7	0,1	0,0	0,0	0,5	0,4	0,6	0,00	0,0	0,0	0,0	0,0	0,0
		66	71	94	86	43	95	14	74	23	2	02	01	01	01	

\*\* 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 BILSEMs 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 BILSEMs 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 BILSEM 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 BILSEM 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 BILSEM 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.

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