Investigation of Primary-School Teachers' Attitudes towards Educational Game According to Different Variables

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ABSTRACT
Educational games are included in student-centered practices in the contemporary education system, which are suitable for the purpose of raising students who know themselves and love to research and learn. Educational games enable children to develop their cognitive, social and psycho-motor skills by being inspired by activities that are different from traditional learning environments and that they love to do in their daily lives. As well as being instructive, it is important that the learning activities to be developed are interesting and entertaining. Teachers who design and implement the activities also play an important role at this point. The aim of this study is to examine the attitudes of classroom teachers towards educational game according to the variables of gender, place of work, professional year, and the grade they teach. For this purpose, the research was carried out according to the descriptive survey model, which is one of the quantitative research methods. The study group consists of 307 primary-school teachers working in Erdemli district of Mersin province in the spring term of the 2020-2021 academic year. The Personal Information Form developed by the researchers and the "Attitude Scale of Basic Education Teachers towards Educational Games" designed by Altuner-Çoban, Bozkurt and Kan (2019) were used in order to determine the attitudes of the participants towards educational games, Statistical analysis package program was used in the analysis of the data and data analysis was carried out by using the appropriate techniques for the data set. As a result of the research, it was determined that primary-school teachers generally have a positive attitude towards educational games. While there was no difference in the variables of gender, professional year and working region, there was a difference in the grade level variable. It has been concluded that teachers who teach lower class groups have a more positive attitude towards educational games.
Keywords: Educational Game, Attitude, Primary-school Teacher

INTRODUCTION
The modern education system aims to raise children with advanced thinking skills, problem solving, strong, tolerant, consistent, high self-confidence and sensitive to universal values. In this context, raising children who are self-aware, have their own truths and are beneficial to society is among the aims of today's education programs. (Gültekin, Atalay and Ay, 2014). In order to achieve these goals, it is necessary to implement new approaches, namely student-centered education (Kukul, 2013). Educational games are also included in student-centered practices.

Games allow children to move away from traditional learning environments and to realize and use their individual talents. The fact that the games have rules and the obligation to follow these rules increases the attention of children and ensures that learning is permanent. In addition to all these, teaching with games also increases the success of students (Hanbaba & Bektaş, 2011). In this context, it is seen that the contribution of educational games is great. The difference of the educational game from the ordinary games is that the educational game is designed for a purpose, in order to bring a knowledge or skill to the player. In addition, attention should be paid to the fact that educational games are of a quality that will provide target-behavior, are appropriate for the age and developmental level of children, and meet their developmental needs. Also, educational games should be of a quality that will attract children's attention and have a good time while playing. By means of educational games, children both have fun and learn. With this way, the acquired knowledge and skills become permanent (Erçetin, 2007). Thanks to educational games, monotony educational environments become interesting and student participation reaches a high level (Chen et al., 2001).

Educational game applications have a positive effect on the physical development of the children. The game also supports the children's memory retention, naming, matching and classification abilities (Aral, Gürsay, & Köksal, 2000). Children exhibit a positive attitude towards learning through educational games. As a result, they participate more actively in the learning process. Thus, the child's sense of curiosity and motivation increases even more. As

a result, the child becomes ready to learn (Kıldan,2001)

It is known that educational games that allow students' active participation have a positive effect on students' academic success (Bayat, Kılıçaslan, & Şentürk, 2014; Boyraz & Serin, 2016). Educational games develop skills such as problem solving and creativity by attracting the attention of the student and making learning enjoyable. They provide permanent learning by increasing motivation. (Torun & Duran, 2014; Altınbulak, Emir & Avcı, 2006). However, teachers think that the program and the game are separate, they do not use the game as an effective teaching method, think that the game will take a lot of time, do not know the importance of the game in the development of the child, and generally see the game as an activity used to evaluate the free time in the program (Cooney, 2004; Tuğrul, Aslan, Ertürk and Altınkaynak, 2014). However, educational game is a teaching technique that entertains while reinforcing the learned information, repeat it in a comfortable environment and provide memorability in mind. Educational game is a technique that develops individual abilities, that teaches winning and losing, obeying the rules, not only on children, but also on all individuals, including adults.

Educational games improve learners' perception levels, decision-making skills and practical thinking skills (Yiğit, 2007). The more the child plays in in-school and out-of-school learning environments, the more stimuli he encounters and develops. These developments can only improve with the positive attitude of classroom teachers towards educational games. This study aims to examine the attitudes of primary-school teachers towards educational game according to different variables, and seek answers for the sub-problems identified for this purpose. Identified sub-problems are as;

- What is the distribution of the primary school teachers' scores according to the scale of attitude towards educational game?
- Do primary-school teachers' attitude scores towards educational games differ according to gender?
- Do primary-school teachers' attitude scores towards educational games differ according to their placement years?
- Do primary-school teachers' attitude scores towards educational games differ according to the grade level they teach?
- Do primary-school teachers' attitude scores towards educational game differ according to the region?

METHOD

This research was carried out through the descriptive survey model, which is one of the quantitative research methods. Karasar (2006) defines general survey models as scanning studies on the entire population or on selected samples from the population in order to reach a general conclusion about a population. The research aims to determine the attitudes of classroom teachers towards educational game according to different variables. For this reason, the descriptive survey model is thought to be appropriate to use in the research.

Study Group

Participants to be included in this study are selected by purposive sampling method The study group of the research consists of 307 primary-school teachers working in Erdemli district of Mersin province in the spring term of the 2020-2021 academic year.

Table 1. Distribution of Primary-school Teachers by Variables

	Variable	N	%
Gender	Female	145	47,2
	Male	162	52,8
Placement Year	0-5 Years	0	0
	6-10 Years	23	7,5
	11-15 Years	91	29,6
	16-20 Years	76	24,8
	20+ Years	117	38,1
Grade Level	1. Grade	85	27,7
	2. Grade	62	20,2
	3. Grade	74	24,1
	4. Grade	86	28,0
Region	Urban	175	57,0
	Rural	132	43,0

Data collection tool

In the study, the data have been collected through the Personal Information Form developed by the researchers and the "Basic education teachers' attitude scale towards educational games" developed by Altuner-Çoban,

Bozkurt and Kan (2019). The scale consists of a total of 20 items and two sub-dimensions, with the first dimension "Positive Attitude" 16 items and the second dimension "Negative Attitude" 4 items. The Cronbach's Alpha reliability coefficients for the entire scale and its first and second sub-factors were calculated as .92, .95 and .82, respectively.

FINDINGS

In the first place, the relevant data was checked whether it showed a normal distribution. Tabachnick and Fidell (2013) state that the distribution shows a normal distribution when the skewness and kurtosis values are between ±1.50. Since the kurtosis and skewness coefficients of the data obtained in the study were between these values, it was supposed that the data showed a normal distribution. For this reason, parametric tests were used in the analyses.

Table 2. Descriptive Statistics of Primary-school Teachers' Attitude Scores Towards Educational Game

	N	$\bar{X}$	SS
Positive Attitude	307	4,84	0,356
Negative Attitude	307	2,07	1,281
General Attitude*	307	4,39	0,673

*The items in the negative attitude sub-dimension were reverse coded in the calculation of the general attitude average.

In Table 2, "Positive Attitude" ($\bar{X}$=4.84), which is the sub-dimension of the "Attitude Scale towards Educational Play" regarding the attitudes of primary-school teachers towards educational game, is observed to be at high level and "Negative Attitude" ($\bar{X}$=2.07) is at a low level. and the general attitude average ($\bar{X}$=4.39) is at a high level.

Table 3. T-Test Results of Primary-school Teachers' Attitude Scores Towards Educational Game by Gender Variable

	Gender	N	$\bar{X}$	SS	sd	t	p
Positive Attitude	Female	145	4,84	0,435	305	0,031	0,976
	Male	162	4,84	0,267			
Negative Attitude	Female	145	2,17	1,450	305	1,339	0,181
	Male	162	1,97	1,103			
General Attitude	Female	145	4,34	0,752	305	-1,265	0,207
	Male	162	4,43	0,593			

In Table 3, The "Positive Attitude" (t(305)=0.031, p>0.05), "Negative Attitude" (t(305))=1.339, p>0.05) and general attitude averages (t(305)= -1,265, p>0.05) have shown no statistically significant difference in the attitudes of primary-school teachers towards educational games according to the gender variable.

Table 4. ANOVA Result of Primary-school Teachers' Attitude Scores Towards Educational Game by Placement Year Variable

	Source	Sum of Squares	sd	Mean Square	F	p	Diff.
Positive Attitude	Between Groups	,409	3	0,136	1,076	0,359	-
	Within Groups	38,378	303	0,127			
	Total	38,787	306				
Negative Attitude	Between Groups	5,028	3	1,676	1,022	0,383	-
	Within Groups	496,908	303	1,640			
	Total	501,937	306				
General Attitude	Between Groups	1,441	3	0,480	1,060	0,366	-
	Within Groups	137,311	303	0,453			
	Total	138,752	306				

In Table 4, It has been observed that there is no statistically significant difference among "Positive Attitude" (F(3,303)=1.076, p>0.05), "Negative Attitude" (F(3.3033)=1.022, p>0.05) and general attitude averages (F(3.3033)=1.060, p>0.0 according to the placement year variables.

Table 5. ANOVA Result of Primary-school Teachers' Attitudes Towards Educational Game According to Grade Level Variable

	Source	Sum of Squares	sd	Mean Square	F	p	Diff.
Positive Attitude	Between Groups	4,904	3	1,635	14,617	0,000	1-4, 2-4, 3-4
	Within Groups	33,883	303	0,112			
	Total	38,787	306				

Negative Attitude	Between Groups	15,487	3	5,162	3,215	0,023	1-2
	Within Groups	486,450	303	1,605			
	Total	501,937	306				
General Attitude	Between Groups	3,192	3	1,064	2,378	0,070	-
	Within Groups	135,561	303	0,447			
	Total	138,752	306				

As in Table 5, there is a statistically significant difference between the "Positive Attitude"(F(3,303)=14,617, p<0,05) and "Negative Attitude" score (F(3,303)=3,215, p>0,05) according to the grade level variable of the primary-school teachers' attitudes towards educational game. Tukey test was applied to determine in which groups these differences exist. According to the result of the Tukey test, it is determined that this difference is between 1st grade and 4th grade, 2nd grade and 4th grade, 3rd grade and 4th grade in the "Positive Attitude" sub-dimension. Again, according to the test results, it can be said that the levels of the 1st grade, 2nd grade and 3rd grade teachers are higher than the positive attitude sub-dimension levels of the 4th grade teachers.

The significant difference in the "Negative Attitude" sub-dimension of the Tukey test is between the 1st grade and 2nd grade teacher scores. The negative attitude levels of the 1st grade teachers are observed to be higher than the negative attitude levels of the 2nd grade teachers.
When the general attitude scores in the table are examined, it is seen that there is no statistically significant difference between the general attitude scores (F(3,303)=2.378, p>0.05) according to the grade level variable of the primary-school teachers' attitudes towards educational games.

Table 6. T-Test Results of Primary-school Teachers' Attitude Scores Towards Educational Game by Region Variable

	Gender	N	$\bar{X}$	SS	sd	t	p
Positive Attitude	Urban	175	4,83	0,251	305	-0,665	0,506
	Rural	132	4,86	0,461			
Negative Attitude	Urban	175	2,02	1,209	305	-0,811	0,418
	Rural	132	2,14	1,372			
General Attitude	Urban	175	4,41	0,610	305	0,595	0,552
	Rural	132	4,36	0,751			

As is seen in Table 6, there is no statistically significant difference between the averages of “Positive Attitude” (t(305)=-0,665, p>0,05), “Negative Attitude” (t(305)=-0,811, p>0,05) and general attitude (t(305)=0,595, p>0,05) of the primary-school teachers towards educational games according to the variable of the region they teach.

CONCLUSIONS AND DISCUSSION

In this study, which aims to examine the attitudes of primary-school teachers towards educational game according to different variables, the Attitude Scale towards Educational Game have been used used and the results have been revealed in line with the scores of 307 primary-school teachers working in Erdemli district of Mersin province.
According to the results for the first sub-problem, the scores obtained from the "Attitude Scale towards Educational Play" regarding the attitudes of primary-school teachers towards educational game, it is observed that the results of the scale's positive attitude sub-dimension are high, while the negative attitude sub-dimensions are low. In addition, when the scores obtained from the overall scale are examined, it can be said that the general attitude is high.The primary-school teachers participating in the study can be said to have a positive attitude towards educational games. In the study conducted by Tortop and Ocak (2010), it was concluded that primary-school teachers consider themselves sufficient in educational games.

Özyürek and Çavuş (2016) stated that teachers consider themselves sufficient in using educational games in the learning process. On the contrary, in the study conducted by Hazar and Altun (2018) in which teachers' opinions and competencies regarding educational games are examined, it is stated that Physical Education and Turkish teachers are observed to consider themselves sufficient, while participants from other teaching fields have seen themselves as inadequate. They stated the reason for this to be the teachers not receiving training on educational games.

When the results for the second sub-problem are examined, the Attitude Scores of Primary-school Teachers towards Educational Game do not differ according to gender. There is no statistically significant difference in terms of gender variable both in general attitude scores and in sub-dimensions of the scale. Tortop and Ocak (2010), in their study examining self-efficacy perceptions towards educational play, concluded that male primary-school teachers consider themselves more competent than female primary-school teachers.

Considering the results for the third sub-problem; It has been observed that there is no significant difference both in the general attitude average score and in the positive and negative attitude sub-dimensions according to the placement year variable of Primary-school Teachers' Attitudes Towards Educational Game. Çangır (2008), on the other hand, found in his study with primary school religious culture and moral knowledge teachers that teachers with less seniority years use educational games more than those with more seniority years.

Considering the results for the fourth sub-problem; It is seen that the Attitude Scores of Primary-school Teachers towards Educational Game differ according to the grade level variable. While this difference is not reflected in the general attitude average scores, it can be observed in the sub-dimensions of the scale. According to the results of the "Positive Attitude" sub-dimension, the 1st grade, 2nd grade and 3rd grade teachers have higher positive attitude sub-dimension levels than the 4th grade teachers. When the "Negative Attitude" sub-dimension is examined; The negative attitude levels of the 1st grade teachers are found to be higher than the 2nd grade teachers. Similar to these results, Çangır (2008) found in his study that teachers reduced the use of educational games as the grade level increased. He pointed out that the reason for this situation is the difficulty of classroom control and the decrease in the ambition of the students to play as they get older. In the study conducted by Tortop and Ocak (2010), teachers stated that they take class and age levels into consideration when planning the activities they will do, and they adjust the duration of the educational games according to the signs of fatigue. Also, Kırbaş and Breaking Girgin (2018); Topçu, Küçük, and Göktaş (2014) also emphasized the importance of educational games to be suitable for age level in their studies. In the light of this information, one can conclude that the reason teachers design educational game-based learning activities at lower grade levels have a high attitude is that they design shorter-term activities and implement them correctly.

Looking at the results for the fifth sub-problem; It is observed that the Attitude Scores of Primary-school Teachers towards Educational Game does not differ according to the region of study. These results are seen both in the general attitude average scores and in the positive and negative attitude sub-dimensions.

When the results of the study are considered in general, it is seen that the primary-school teachers have a positive attitude towards the educational game. In addition, it is observed that there is no statistically significant difference in the variables of gender, placement year and working region. On the other hand, when the variable of grade level is examined, the attitudes of teachers who teach lower grade levels are observed to be higher towards educational games. This indicates that more attention is paid to educational games at younger ages and that teachers are not indifferent to it. In line with the results of the research, it is recommended to encourage teachers to use educational games suitable for age and grade level more in the learning process, and to conduct research on issues such as the effectiveness of educational games and attitudes towards educational games in different fields.

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