

Adaptation of traditional children's games to social studies course: STEM course design for teachers

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Abstract

One of the greatest goals of the 21st century is the acquisition of high-level skills through the STEM course designs to provide skill-assisted transformation in learning processes. The purpose of this research; The aim of this course is to examine the views of teachers about STEM course designs supported by traditional Turkish games adapted to primary school social studies course. Each teacher who participated in the research was able to videotape all his practices and fill out the observation forms. Through the obtained data, it was shared with the teachers whether the achievements of the course were realized or not. After these practices, the opinions of the teachers towards the research were obtained through a semi-structured interview form. Descriptive analysis technique was applied on the collected data. According to the findings obtained at the end of the study, it was stated by the participants that their students developed a significant sense in cognitive, affective and psychomotor aspects.

Keywords: Design, Senior Skill, 2023 Vision Document, Traditional Games, Game Based Learning;

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1. Introduction

In the constructivist education approach, the teacher is not the one who presents the information, but makes the information interesting and guides the students to reach the information through their own efforts and to make use of the information in daily life and produce new information. The student must be motivated to learn in order to make an effort to reach information. According to Selçuk (2001), children learn what they want to learn by showing selective perception and attention to the subject they choose. When we look at the students at primary level, it is seen that there are very few motivated and motivated students for learning. In this context, it is an indicator of the need for various practices that will motivate and make students willing to learn. When we examine the students at primary school level, it is an important tool in providing students' motivation, guiding their attention and perception, and improving the students in many ways such as mental, social and emotional. While playing; adherence to the rules in the game, acquiring group dynamics, belonging to the group, making group decisions contribute to the social development of the student. In the literature, it is emphasized that traditional children's games have started to be forgotten and their adaptation to education will contribute to both national and universal culture. Traditional children's games should be re-structured considering the objectives of the curriculum (Özbakır, 2009; Esen, 2008; Ruthven, Laborde, Leach and Tiberghien, 2009).

Global competition, which affects the future of all living things on earth, is based on the economic powers of countries. Education, on the other hand, is the biggest and wisest investment made in the future of countries. Throughout history, adapting to competition has shaped the economies, prosperity and future of nations. Dependence on such economic changes has revealed that education is an indisputable necessity in achieving countries' goals. The importance it attaches to the future of a nation is parallel to the importance it attaches to education. It is necessary to educate generations that apply 21st century competencies and specialties in every field of life. The education of the generations that can respond to the changing and developing world conditions should be based on the effective use of knowledge during the solution of the problem, rather than the level of knowledge. In this context, students are expected to have very different perspectives and use their acquisitions from different disciplines in problem solving process. Based on these considerations, STEM training aims to increase the knowledge and skills acquired by students from the interdisciplinary perspective to the creation and evaluation stages of Bloom's taxonomy. STEM Education (Science, Technology, Engineering, Mathematics, Science, Technology, Engineering, Mathematics), which aims to provide individuals with knowledge and skills from an interdisciplinary perspective, is seen as an important tool for economic development and scientific leadership (Lacey and Wright, 2009). Given the requirements of the age and equality of opportunity in education, the education of students, teachers and administrators should not be confined to traditional school walls. In 2005, the definition of social studies course in the primary education program established by the Ministry of National Education is as follows:

"Social studies, with the aim of facilitating the realization of a person's social existence, history, geography, economics, such as social sciences and citizenship issues, including the unification of learning areas under a unit or theme, the interaction of human social and physical environment with the past, present and future examined; It is an elementary education course based on collective education."

In a multi-disciplinary course such as social studies course, learning processes in which the student is passive and the teacher tries to transfer the information; it can lead to both the abstract and difficult to understand information transferred to the students and the course to be boring. When students do not have the opportunity to apply the transferred information in daily life, they may have difficulty in recognizing the importance of the course. In STEM education approach, there are methods and techniques such as 5E, 7E, design-oriented thinking and reverse-face learning in project-based learning, which includes a real-life problem to be associated with social studies gains. The use of traditional play at one stage of these techniques will make the question "why do we learn?" meaningful, allowing students to care and love the lesson.

1.1.Traditional Game

According to Marsell (2009), play is the most effective way to prepare the child for adult life. Play plays an encouraging role in children's learning (Krentz, 1998). Our country has a culture with different traditional games

in seven regions. Turkey Radio and Television Supreme Council (RTÜK) was shared by compiling our traditional games. Considering this list, some of the common traditional children's games in our country are: Körebe, Ebe Davul Zurna Bana Vurma, Arapsaçı, Çelik Çomak, Kurt Baba, Kutu Kutu Pense, İstop, Üç taş, Kukalı Saklambaç etc. According to Dewey (2004), self-esteem develops as children play in trying to achieve or influence something. Since traditional games are a part of culture, they keep children in the process and rules with their satisfying, fun and motivating aspects (Garvey, 1990) and reinforce the determination to finish the work.

1.2. Game Learning

Many techniques are used in the teaching process to increase the efficiency of the method. One of the techniques that attracts the attention of children is that it is widely used at the elementary school level at an early age. The game, which was thought to have emerged with religious goals in the past, is as old as human history (Güneş, 2014: 307). The definition of the game by the Turkish Language Association is as follows: eğlence Talent and intelligence enhancer, with certain rules, fun for having a good time. According to Akandere (2013), play is one of the main factors affecting the development and change of the child. In the past, the game as an empty activity in time Plato, Aristotle, Locke, Rousseau, Dewey, such as the importance of the game for children's education by mentioning the importance of educational programs have expressed that it should form (Pehlivan, 2014: 75). According to Güneş (2014), oyun Educational games are pre-prepared by taking into consideration the feature of the subject, the rules are defined, individual or group competition or non-competition oyun (Güneş, 2014: 308). Child; understand, learn and develop concepts, objects, social rules, rights and responsibilities, and struggle after the game. The game contributes greatly to children's cognitive, physical, social and emotional development. In terms of health, games that involve physical activity contribute to the regular functioning of the systems (circulation, digestion, etc.) in the children's body. For the first time, Freud introduced the relationship between the child's emotional life and play. Because of the child's independent movement during play, the child is emotionally relaxed. Confidence, joy, pleasure, love and appreciation of the child develops by controlling the emotional reactions of the child and moving away from the problems.

Children who see the world differently from adults, perceive the facts differently and play the best way to solve their problems with their own methods. The play is the reality that the child creates his own space of freedom (Marsell, 2009) and makes inferences about life by giving him special meanings (Öğülmüş, 2019). Within the scope of game-based learning, he / she learns the facts such as motivation to success, acting together, cooperating, knowing individuals, making predictions, socializing, culturing, doing things he likes to be happy and choosing to be with the people he loves. In addition, it also develops tendencies to deal with frustration, to draw conclusions from mistakes, not to do things that they do not like and to stay away from those who do not like them (Malone and Lepper, 1987; Mann, Eidelson, Fukuchi, Nissman, Robertson, and Jardines, 2002; Dickey, 2003; Ebner and Holzinger, 2007; Bottino et al, Akt.Yağız 2007, p.4). According to McFarlane (2004), because they are instructive and guiding, games provide motivation for learning by doing-learning, being able to play an active role in the solution stage of the problem by means of interactive application. Plays that reflect the dominant lifestyle or structure also help children acquire the attitudes and values required by cultural norms. The game contributes to the building of the knowledge structure that determines the successful adaptation of the child to the environment and to the domination of the environment. Moreover, children develop their creativity while producing their own toys (Rasen, Öngen, 1984).

Although there are different views on what 21st century skills are, it is said that these skills should include non-cognitive skills as well as cognitive skills. Students are also required to acquire non-cognitive skills to facilitate the application of their cognitive skills, including language, mathematics and other school subjects, to daily life in order to reveal their full potential in the future (National Research Council, 2012). Lifelong learning, creative thinking (Trilling and Fadel, 2009), cooperation and self-management, critical thinking and problem solving, communication, innovation (Kylonen, 2012; Partnership for 21st Century Learning, 2007) are seen as the most important skills.

1.3. Science Technology Engineering Mathematics (STEM)

Global competition, which affects the future of all living things on earth, is based on the economic powers of countries. Education, on the other hand, is the biggest and wisest investment made in the future of countries. Throughout history, adapting to competition has shaped the economies, prosperity and future of nations. Dependence on such economic changes has revealed that education is an indisputable necessity in achieving countries' goals. The importance it attaches to the future of a nation is in line with its investments and innovations in education. For this reason; the basis of strong economies is the generations that apply 21st century competencies and expertise in every aspect of life. The education of the generations that can respond to the changing and developing world conditions should be based on the effective use of knowledge during the solution of the problem, rather than the level of knowledge. In this context, students are expected to have very different perspectives and use their acquisitions from different disciplines in problem solving process.

The approach towards STEM training implementation; science, technology, engineering and mathematics, which aims to integrate four important disciplines with each other (Akgündüz, 2015). Based on these considerations, STEM education aims to increase the knowledge and skills acquired by the students through the interdisciplinary flow to the synthesis and evaluation stages of Bloom's taxonomy. STEM Education (Science, Technology, Engineering, Mathematics, Science, Technology, Engineering, Mathematics), which aims to provide individuals with knowledge and skills from an interdisciplinary perspective, is seen as an important tool for economic development and scientific leadership (Lacey and Wright, 2009). 21st century skills include; production-oriented studies, coding, programming, critical thinking, problem solving, creative thinking, collaborative work. In line with these skills, efforts have been made to develop strategies based on technology and production in education systems in order to benefit the society and the economy. Given the requirements of the age and equality of opportunity in education, the training of students, teachers and administrators should not be confined to the walls of the school. STEM The education approach paves the way for the enjoyable, lasting learning of traditional games for children at primary level. Learning methods and techniques (such as project-based learning, design-oriented thinking, 5E, 7E model) used in the STEM education approach facilitate high-level cognitive skills acquisition in Bloom's taxonomy, so learning processes limited to remembering and understanding levels will be enriched to acquire high-level cognitive skills in taxonomy. . To use traditional games that follow basic courses in a way that facilitates the acquisition of the gain at a stage of the methodologies used in the STEM / education approach; it will enable students to develop cognitive, affective and psychomotor skills. In addition, combining traditional games with STEM aims at psychomotor, language and social development. New words are easier to learn and develop skills to perceive and communicate various messages in games (Carlson and Gingeland, 1961; Act: Öncü and Özbay, 2006, p. 15). In games developed with STEM logic / STEM, children find an ideal environment for the development of power, speed, attention, coordination and flexibility with psychomotor abilities (SVET, 2007, p. 8), and they can gain flexibility and agility in movements by providing coordination and balance between organs (Pehlivan) , 2005, p. 19). In addition to all these, he learns to respect and accept, cooperate and share (Hazar, 2000, p. 14) and to obey the rules (Çiftçi, 2005, p. 44).

The overall objectives of STEM training can be summarized as follows; to produce labor force, to produce innovations that provide economic advantage, to be sufficient in future business areas (Thomas, 2014). A STEM based curriculum guides students in solving real-life problems by connecting them to real life. It also helps them to combine their existing knowledge and natural phenomena in a new situation by improving their ability to redesign, experiment, structure, analyze and interpret data. It enables students to make more sense of what they have learned and to make knowledge permanent (Wang, 2012).

1.4. Related Research

In Akinsola (2007), Alemi (2010), Azarmi (2010) studies and many studies in our country, it was found that educational play positively affected student achievement and attitudes. When we examine the studies abroad, Mubaslat (2012), Shen, Chen, C., Chen, M., Chuang and Huang (2011), it is stated that teaching through games positively affects students' interest, attitudes and achievements. In their study, Shen, Chen, C., Chen, M., Chuang and Huang (2011) examined the effects of teaching through play on students' memory techniques and

perceptions. These researchers stated that students can overcome difficulties, analyze problems and perform tasks in the game. Few studies have received teachers' views on STEM-based activities (Siew, Amir & Chong, 2015; Wang, Moore, Roehrig & Park, 2011). A similar situation is observed also in Turkey (Baran, Canbazoğlu-seer and Mesutoğlu of 2015; Karahan, Canbazoglu, Bilici and Unal, 2014, Şahin, Avar and Adıgüzel, 2014). When the relevant literature is examined, it is seen that there are not enough studies on how the programs based on the STEM approach should be, how the four disciplines should be associated and brought together, and how the teachers will implement the programs (Dugger, 2011; Williams, 2011). When the researches were examined, it was not seen that the gain-oriented studies that used the games as a learning tool especially at the elementary school level but which were combined with the traditional games and STEM were adapted to the Social Studies course.

2. Method

2.1. Purpose of the research

The game is defined as a means of entertainment in various sources; Since it supports the physical, emotional, cognitive and social development of the students, it has been included in the learning processes within the learning-teaching activities. The purpose of this research; The aim of the course is to examine the views of teachers about STEM course designs that are supported by traditional games adapted to primary school social studies course. For this purpose, the following questions were sought:

1. What are the activities that students like in STEM course designs?
2. What are the differences between traditional game-supported STEM course designs and previous courses?
3. Can the skills acquired in the courses made with traditional game-supported STEM course designs be used in other courses?
4. Can the skills acquired in the courses performed with traditional game-supported STEM course designs be used in daily life?
5. What top level skills are acquired by the students in the courses with traditional game-supported STEM course designs?

2.2. Importance of Research

To increase the self-confidence of each student as an individual, to progress more confidently to the future by knowing its past, to know and undertake its responsibilities as an individual in the society, to develop qualified individuals through the development of knowledge, concepts, values, skills, to be physically, emotionally healthy and peaceful, to provide social order, thinking, asking questions, researching, exchanging views, adopting universal values by centering on national identity, strengthening their social identities by developing spiritual, moral, social and cultural aspects around their traditions and customs, knowing their rights and responsibilities, being sensitive to social problems Traditional games are important tools for achieving the aims of social studies course which is based on contributing to the use of and interaction with the environment. From this point of view, considering the aims of social studies course, our traditional games have been made to support acquisitions at primary level. The games played since ancient times have undergone some changes and have survived to the present day. Traditional games, which are effective in conveying our cultural values to new generations, are gradually being forgotten with the effect of urbanization and technology. This study will help to create a pleasant and lasting learning process with the traditional games adapted to the social studies course gains by the researcher and to keep the traditional games forgotten from digital development and urbanization. Increasing the number of games to be used in classes will benefit significantly from the use of traditional games in social studies as both a teaching and cultural heritage transfer tool from generation to generation. Considering the STEM education approach in lesson plans involving traditional games, this study will set an example for teachers in terms of not being seen in the STEM education approach in social studies course and will allow the students to use what they learned in social studies course in real life. In the STEM education approach, students are expected to solve a real-life problem by using two or more disciplines.

2.3. Research Design

A case study, one of the qualitative research designs, was used to examine the views of primary school teachers about STEM course designs that included traditional games adapted to the Social Studies Course. According to Yıldırım and Şimşek (2016), the case study is used to understand, define and describe the causes, consequences of situations where the control of the researcher is not over the variables. The eight stages to be followed in the case study are:

It was formed by paying attention to the stages to be followed in the case study. The teachers who participated in the study were taken to workshop trainings in order to adapt their course gains to Bloom Taxonomy and to apply them with STEM course designs by recognizing "Traditional Turkish Games arak. Following the face-to-face trainings with 100 teachers participating in these trainings, application development trainings were repeated monthly via the webinar. Our traditional games in social studies course; In order to support the acquisition of our achievements, the state of the traditional game was first played with the students, then transformed into an educational game by the researcher. In this way, the students were first familiar with the game and the course gains were made more visible with the second game. Each teacher who participated in the research was able to videotape all his practices and fill out the observation forms. Through the obtained data, it was shared with the teachers whether the achievements of the course were realized or not. After these practices, the opinions of the teachers towards the research were obtained through a semi-structured interview form. The following are our traditional games adapted by researchers to the social studies course and supported by the STEM course designs and their paired gains with the social studies course.

Table 1. Some of our traditional games adapted to the social studies course and the gains paired with the social studies course, added top level skill, the product obtained

Traditional Games	Targeted Gain	Added Top Level Skill	Result / Product
Körebe	SB.4.4.1. Categorize technological products according to their usage areas.	Creation/ Evaluation	Synthesis He imagines the technological products 50 years later and designs the two-dimensional and then the three-dimensional. Compares the current state of technological products 50 years later according to a certain criterion in terms of their use.
Ebe Davul Zurna Bana Vurma	SB.4.1.2. List the main events related to his life in chronological order.	Analyzing	The students, who put the main events related to their own life in chronological order, express the similarities and differences between the important events in their own lives and the main events in their friends' lives. Writes common important events in this field by making a set of intersections.
Arapsaçı	SB.4.7.2. Understand the relations with Turkey's neighbors and other Turkish Republics.	Analyzing	Using the knowledge they have acquired in the natural disaster resistant structure in their new designs, they have created a unique design.
Çelik Çomak	SB.4.3.1. Makes inferences about the location of any place around it.	Evaluation	Makes inferences about the location of any place around it and makes judgments about that place according to certain criteria.
Kurt Baba	SB.4.2.1. Relate needs and occupations.	Creation/ Synthesis	The student designs his / her own new profession considering the needs of the future.
Kutu Kutu Pense	SB.4.1.5. It respects the different characteristics of other individuals. Players hold hands and form a ring.	Creation/ Synthesis	Describe how a world in which everyone has the same characteristics using differentiated learning strategies.
İstop	SB.4.7.1. Introduces various countries in the world.	Creation/ Synthesis	Identifies a specific aspect / feature of a country of choice and makes a unique prototype that demonstrates how it can be developed.
Üç taş	SB.4.2.3. Compares traditional children's games with today's games in terms of change and continuity.	Evaluation	He makes a judgment by comparing traditional children's games with today's games in terms of change and continuity.
Kukali Saklambaç	SB.4.4.3. Investigates the inventors of technological products and the development of these products over time.	Creation/ Synthesis	He chooses one of the inventors and writes a story of digital science fiction in which he experiences an adventure with him and states in his adventure the prior, present and future of a technological product.

2.4. Sample of The Research

The sample of the study was taken from purposeful sampling methods with easily accessible status sampling. The research gains speed and practicality because the researcher chooses the situation that is close and easy to access with the easily accessible case sampling. The sample of the study consisted of 16 teachers (16 female and 13 male) working in Ankara elementary school teacher.

2.5. Data Collection Tool

Semi-structured interview form was used as a data collection tool within the scope of qualitative research approach. A predetermined type of communication made in the form of a question-answer, based on a mutual interaction for a serious purpose is called negotiation. In the interview form, it is aimed to reveal the thoughts and feelings of the participants systematically by asking purposeful questions (Türnüklü, 2000: 544).

The semi-structured interview form was presented to the opinion of two faculty members with qualitative studies in the field of educational sciences and expert opinion was obtained. Necessary corrections were made by taking into consideration the opinions of experts and interview form was started to be applied. The semi-structured interview form consists of five questions stated in the aim of the research. Semi-structured interview form; It was applied by appointing 29 teachers who were randomly identified among the 100 teachers working in the STEM course designs by supporting "Traditional Turkish Games by adapting the gains of Social Studies course to Bloom Taxonomy in Çankaya District of Ankara. The answers given to the interview questions were

recorded in the interview form by writing, the participants were re-checked and the written statements were reviewed together and finalized.

2.6. Data Analysis

In the study, sel descriptive analysis "technique (Yıldırım and Simsek, 2016, p.239) was used to analyze the data obtained. For the data analysis, the answers of the teachers to the semi-structured interview form were enumerated (Teacher 1). By reading each sentence, the sentences defending the same main idea were transformed into a single thematic sentence so as not to distort the meaning. Similar views of other teachers were combined under the same theme to form a common theme and their percentages were determined. In addition, teachers' views on related themes were quoted.

3. Findings and Interpretation

Findings of the research; Traditional Game Supported STEM Lesson Designs Activities Students Enjoy in the Lessons, Traditional Game Supported STEM Lesson Design Differences Between Courses and Previous Courses, Traditional Game Supported STEM Lesson Designs to be used in the Lessons in the course of the course STEM Course Designs in the course of the use of the skills obtained in the course of daily life and traditional game-supported STEM Lesson Design with the use of high-level skills in the course of the course is discussed by students. The categories and subcategories of each theme were formed by using the opinions of the participants and the literature.

3.1. Traditional Game Supported STEM Course Designs

The findings related to the activities that the students liked in the courses in Traditional Game Supported STEM Course Designs were discussed in three categories as learning with fun, "learning with artistic works" and "learning with scientific activities temas". Learning with fun category; through play"(N: 29), "with activities" (N: 27) and "contests" (N: 26). Artistic learning category; "Music" (N: 26), "painting" (N: 25), "drama" (N: 23) and "storytelling" (N: 18). Learning with scientific activities category; "high-level thinking" (N: 28), "group studies" (N: 28) and "scientific studies" (N: 21). Results and abridged views from the participants are shown in Table 2.

Table 2. Traditional Game Supported STEM Course Design

Categories	Sub Categories	N	(%)	Exhibitor Sample Statements
Learning With Fun	Through Play	29	100	Teacher 2 "The activities that allow them to move, play, etc., in which they are themselves, by living, and by which they perform songs or cut and paste."

				Teacher 29 "They enjoyed the activities that reinforce the ambitious retention."
	With activity	27	93	Teacher 21 "To be able to do out-of-class activities, game-oriented learning, sharing ideas, applications where they can be on the move."
				Teacher 11 "Children are very happy with all the activities in the active learning environment where there is a play. Especially the interdisciplinary connected playful processes attract their attention."
	With competition	26	90	Teacher 9 "Competitive, simple competing... .. activities."
Learning with Artistic	Music	26	90	Teacher 25 "Turkish language activity, music, musical games, drama, prototyping, discussion, research games, project production process, product creation activities are very much enjoyed."
	Painting	25	86	Teacher 13 "Painting was one of her/his favorite activities."
	Drama	23	79	Teacher 24 "Drama content becomes one of the most favorite games"
	Stories	18	62	Teacher 10 "Story-reinforced activities are our favorite."
Learning with Scientific Activities	Group work	28	97	Teacher 27 "They enjoy playing together."
	Scientific studies	23	79	Teacher 7 " Doing scientific activities, revealing products has increased their self-confidence.
	Top level thinking	21	72	Teacher 1 "They love activities that give them the opportunity to use technology or physical skills."

When the findings of this theme are examined, it can be said that students enjoy learning more by having fun and playing games. This finding is in line with the findings that students show behaviors such as motivation for success, acting together, cooperating (Malone and Lepper, 1987; Mann, Eidelson, Fukuchi, Nissman, Robertson, and Jardines, 2002). In addition, it supports the finding that teaching through play positively affects students' interest, attitudes and achievements (Mubaslat, 2012; Shen, Chen, C., Chen, M., Chuang and Huang, 2011).

3.2. Differences Between Traditional Game Supported STEM Course Designs and Previous Courses

The findings related to the differences between traditional game supported STEM course designs and previous courses were discussed in three categories: "participation in classes", "interest / concentration" and "permanence". Attending classes category; "active in lessons" (N: 29), "desire to reach results" (N: 28) and "desire to express oneself" (N: 28). Interest / concentration category; liking the lesson" (N: 29), "having fun / being happy in the lesson" (N: 29), "increased attention time" (N: 28) and "increased interest in the lesson" (N: 18). It was obtained. Persistence category; "learning by living" (N: 29), "learning by concrete" (N: 29), "thinking and spending more" (N: 27) and "easier comprehension" (N: 27). Results and abridged views from the participants are shown in Table 3.

Table 3. Differences Between Traditional Game Supported STEM Course Designs and Previous Courses

Categories	Sub Categories	N	(%)	Exhibitor Sample Statements
Attending classes	Active in classes	29	100	Teacher 5 "I observe participation in more active lessons in activities with games"
	Willingness to reach results	28	97	Teacher 23 "They want to achieve or produce a result or product as soon as possible".
	Will to express yourself	28	97	Teacher 18 "They can't wait to express their opinion."
Interest /	Like the lesson	29	100	Teacher 8 "Children began to learn more actively through active learning."

Concentration	Having fun in class / being happy	29	100	Teacher 20	"Children have fondly participated." "Lessons are more enjoyable and enjoyable."
	Increase in attention span	28	97	Teacher 20	"There is more intense interest and concentration."
	Increased curiosity	27	93	Teacher 12	"With the exception of a few students who were not interested in the game I chose, even my most indifferent student was able to give an example on the subject during the game."
Permanence	Learning by experience	29	100	Teacher 9	"..Traditional games are more colorful, interesting, lively, by doing-live learning is effective on students to provide. Learning is also permanent. Web2 tools are used in the activities are very interested."
	Learning by concrete	29	100	Teacher 15	"In the course of the previous course, there was usually abstract information. For example, in mathematics, when I applied geometric objects to the upper learning level with pipettes, the resulting product became more concrete. Students enjoyed designing and producing. More students participated in the lesson."
	More thinking / labor spending	27	93	Teacher 14	"I have seen that the gains in my students have increased to a higher level and that the students have tended to fall more."
	Easier grip	27	93	Teacher 10	"It makes me happy that they can grasp much easier."

When the findings of the research on the theme of Comparing Courses with Previous Courses in Traditional Game Supported STEM Course Designs were examined, it was seen that the participants expressed positive opinions in terms of students' participation, interest and permanence of the lessons learned. This finding supports the conclusion that educational play positively affects student achievement and attitudes in the studies conducted by Akinsola (2007), Alemi (2010) and Azarmi (2010). Selcuk (2001) also supports the view that ç children learn what they want to learn by showing selective perception and attention to the subject they choose.. At the same time, these findings are similar to those of Shen, Chen, C., Chen, M., Chuang and Huang (2011), which show the positive effects of game learning on students' memory techniques and perceptions. In a study by Wang (2012), it is shown that a STEM based curriculum enables students to make more sense of what they have learned and to ensure that knowledge is permanent.

3.3. Traditional Game Supported STEM Lesson Designs of the Skills Achieved in the Lessons in Other Courses

Traditional Game Supported STEM The Findings of the Use of the Skills Obtained in the Lessons in the Lessons are discussed in two categories as developing new ideas "and "interdisciplinary thinking temas. Developing new ideas category; "transferring what you have learned" (N: 24), "recognizing similarities / differences" (N: 23) and "generating solutions to environmental problems "(N: 21). Interdisciplinary thinking category; "making inferences from different fields" (N: 22), "using what you have learned in other courses" (N: 22) and "connecting with the past" (N: 21). Results and abridged opinions of the participants are shown in Table 4.

Table 4. Traditional Game Supported STEM Lesson Designs of the Skills Achieved in the Lessons in Other Courses

Categories	Sub Categories	N	(%)	Exhibitor Sample Statements
Developing new ideas	Transferring what you have learned to new situations	24	83	Teacher 29"..... as their skills improved and their knowledge increased, so did their ability to use them in new situations."
				Teacher 9 "In math class, when the question of the time when the question. Or the time before the afternoon, the afternoon time is the time, the time zone of the day. Bezirgan Başı while painting the picture of the time thinking in the picture of the picture. Ebe Davul Zurna Bana Vurma, in his life listed important events as time "

	Recognizing similarities / differences	23	79	Teacher 2 "It's good to see that they're making comparisons like 'like this' or 'different from' what they've learned."
	Solving environmental problems	21	72	Teacher 6 "... When it grows and has a job, it will be easier to deal with similar problems."
Interdisciplinary thinking	Making inferences from different fields	22	76	Teacher 3 "While there was only one goal in the traditional method, they had the opportunity to know themselves in different fields."
	Using what you have learned in other courses	22	76	Teacher 9 "They remember and repeat the games they have learned in other lessons. We also observe that they compete and repeat the activities they have learned in their games during their breaks and in their spare time." Teacher 14 "As their coordination skills are improved, they play more comfortably and smoothly in games and physical activities."
	Linking with the past	21	72	Teacher 2 "Fairy tale heroes seen in our national and spiritual values to see the presence of today was the biggest gain. Canakkale victory again and again as if they lived. Three stone game was very suitable for this"

Findings related to this theme of the research, 21st century skills shown as; Lifelong learning, creative thinking (Trilling and Fadel, 2009), collaboration and self-management, critical thinking and problem solving, communication and innovation (Kylonen, 2012; Partnership for 21st Century Learning, 2007). The ability of the students to use the skills they have gained in the courses made with Traditional Game Supported STEM course designs in other courses is an indication that the skills are acquired as a preparation for life. as well as the implementation of STEM education STEM education aims to integrate four important disciplines such as science, technology, engineering and mathematics (Akgündüz, 2015). At the same time, this finding shows that students can realize interdisciplinary thinking through STEM education (Lacey and Wright, 2009) which aims to provide individuals with knowledge and skills from an interdisciplinary perspective.

3.4. Traditional Game Supported STEM Course Designs in the course of the skills obtained in the course of daily life can be used

The findings on the theme of Usability of the Skills Obtained in Lessons Made with Traditional Game-Supported STEM Lesson Designs were discussed in three categories: ran peer learning development ", "transfer to families" and transfer to daily problems temas. "Peer learning development category; "sharing what they learned with their peers / helping" (N: 26) and "acquiring social skills" (N: 26). Transfer to families ategor category; "sharing what they have learned with their families "(N: 20) and "family satisfaction" (N: 19). Transfer to daily problems category; "solving everyday problems" (N: 21) and "recognizing issues in daily life" (N: 20). Results and abridged views from the participants are shown in Table 5.

Tabeo 5. Traditional Game Supported STEM Course Designs in the course of the skills obtained in the course of daily life can be used

Categories	Sub Categories	N	(%)	Exhibitor Sample Statements
Peer learning development	Sharing / helping others with what they have learned	26	90	Teacher 4 "They talk about their friends, who have been able to learn easily by teaching our games to friends around the house who are forced to rhythmic numbers in mathematics." Teacher 17 "... they use the playgrounds we draw in the schoolyard to produce different games and teach them to other classes."
	Gaining social skills	26	90	Teacher 3 "I think that using traditional drama techniques is effective in social skills gains. I think that there is efficiency especially in verbal communication, effective presentation, listening and creativity acquisition."
Transfer to families	Sharing what he learned with his family	20	69	Teacher 3 "Parents learned to question like an adult person at home, giving positive feedback to my child, indicating that we are on the right track."

	Family satisfaction	19	66	Teacher 13 "First of all, their families become aware of this, like the big man, they ask us questions, they make logical explanations, and they say we're happy."
Transfer to everyday problems	Solutions to daily problems	21	72	Teacher 14 "They use the skills obtained from the activities we do for Turkish lessons in speaking and writing in their daily lives."
	Recognizing topics in daily life	20	69	Teacher 26 "They learned to look more effectively and consciously in everyday life."

With regard to this theme of the research, the participants were able to express that they were able to use peer learning in the lessons designed with Traditional Game Supported STEM course designs, improve their social skills, share what they learned with their families, and realize what they learned in daily life and solve it in life. This finding supports the behaviors of respecting the rights of others, cooperating and sharing (Hazar, 2000, p. 14) and following the rules (Çiftçi, 2005, p. 44). Students will be able to use the traditional game supported STEM course designs. skills, cooperation, communication, problem solving and communication skills (Kylonen, 2012; Partnership for 21st Century Learning, 2007). This finding supports the view expressed by Pehlivan (2014: 75) that the game should constitute an important part of the educational programs for children's education.

3.5. Traditional Game Supported STEM Lesson Design by the use of high-level skills by the students

The findings on the theme of the use of high level skills by the students in the courses made with traditional game supported STEM course designs were discussed in three categories as "analysis", "evaluation" and "creation / synthesis. Analysis category; "comparison" (N: 29) and aggregation "(N: 25), distributing structure" (N: 21), "outlining" (N: 20), "configuration" (N: 20), "Integration" (N: 20). Evaluation category; "supervision" (N: 28), "hypothesis building" (N: 26), "criticism" (N: 26), "experiment" (N: 26), "perception" (N: 24). Creation (Synthesis) category consists of; "design" (N: 29), "planning" (N: 29), "regeneration" (N: 26), "development" (N: 26) and "making" (N: 26). Results and abridged views from the participants are shown in Table 6.

Table 6. Traditional Game Supported STEM Lesson Design by the use of high-level skills by the students

Categories	Sub		N	(%)	Exhibitor Sample Statements
	Categories				
Analysis and Analysis	Comparison		29	100	Teacher 13 "21st century education, technology, brainstorming to produce ideas by making, adapting the ideas they produce to their lives, we have learned to live by doing."
	Assembling		25	86	Teacher 12 "Uniformly processed, only the skills remaining at the level of memorization moved to the upper levels."
	Deploy the structure		21	72	Teacher 11 "Arap Saçı was effective in teaching first to stir, to distribute the whole, and then to integrate."
	Outline		20	69	Teacher 7 "Developed synthesis and analysis skills to approach each event from a different perspective."
	Configuration		20	69	Teacher 16 "The students want to reinforce and apply what they have learned through play after they have taught the lessons. They think more about how we can design at the end of the topic."
	Integration		20	69	Teacher 2 "With the steel rod game, inferences about the location of any place around."
Evaluation	Check		28	97	Teacher 25 "They are very good at observing whether their friends follow the rules of the game"
	Hypothesis building		26	90	Teacher 25 "Why could that be? They enjoyed producing answers to his question."
	Criticizing		26	90	Teacher 7 "First of all, they learned to question, to ask a solution."
	Trial		26	90	Teacher 4 "They wanted to try and experience everything with these games."

Creation / Synthesis	Perception	24	83	Teacher 7 "They learned to look at an event from different perspectives, not one way.
	Design	29	100	Teacher 27 ".... Their 'cut-and-snap' activities increased their creativity."
	Planning	29	100	Teacher 18 "... they enjoy creating products by playing and having fun."
	Reproduction	26	90	Teacher 28 "...., The process of producing the project is the activities that the product creation has enjoyed a lot."
	Development	26	90	Teacher 23..... When I say ot create prototypes lar they work as scientists. "
Making	26	90	Teacher 22 "They enjoyed presenting their own activities."	

Regarding this theme of the research, the participants stated that the students showed many of the skills of analysis and analysis, evaluation, creation / synthesis from the top level skills in the courses made with Traditional Game Supported STEM course designs. Wang's (2012) studies also suggest that a STEM-based curricula guide students to solve real-life problems by linking them with real life, improving their ability to redesign, experiment, structure, analyze, interpret data, and present them in a new situation. information and natural phenomena. Children who put new meanings to the games (Öğülmüş, 2019) tend to learn by doing (Garris, R. Ahlers, R., & Driskell, J. 2002) and perceive the facts differently and solve their problems with their own methods (Marsell, 2009). While socializing by learning their own culture with traditional games, STEM facilitates the acquisition of high-level cognitive skills in Bloom's taxonomy with techniques such as project-based learning, design-oriented thinking, 5E, 7E model.

4.Conclusion and Suggestions

The purpose of this research; The aim of the course is to examine the views of teachers about the traditional games supported STEM course designs adapted to the primary school social studies course. For this purpose, according to the statements of the participants; In the traditional game supported STEM course designs, the activities that students like in the courses are mostly "learning with fun", "learning with artistic works "and "learning with scientific activities". Differences between traditional game supported STEM course designs and previous courses; increased participation in classes ", " increased interest / concentration "and "persistence of what is learned". They pointed out that the skills acquired in courses with traditional game-supported STEM course designs were reflected in the other courses as developing new ideas "and "making interdisciplinary thinking and making new inferences. They stated that the skills obtained in the courses with traditional game-supported STEM course designs were shown as "realizing peer learning and developing social skills", "transferring what they learned to families" and "using them in solving daily problems". They stated that the students gained the skills such as analysis and analysis ", "evaluation" and "creation / synthesis de in the courses with traditional game supported STEM course designs.

As a result of this research, it has been stated that traditional game supported STEM course designs adapted to social studies course prevent teachers' lessons from being boring, effective and permanent learning is provided by catching kinesthetic learning from learning styles, and students develop from social, physical and cognitive aspects.

This research was carried out by adapting traditional game supported STEM course designs to social studies course. Based on this, the following suggestions can be developed:

- The realization level of course gains can be investigated by adapting traditional game supported STEM course designs to basic courses.
- The realization level of course gains can be supported by quantitative researches by adapting traditional game supported STEM course designs to basic courses.
- World games supported STEM course designs can be adapted to basic courses and the level of realization of course achievements can be investigated comparatively with qualitative and quantitative researches.
- Students' views on traditional game-supported STEM course designs can be explored.
- Parents' views about traditional game supported STEM course designs can be searched.

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