Mind Games with the Views of Classroom Teachers

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Article Info	Abstract
	This study aimed to determine the views of classroom teachers about mind games in Turkey and a survey model was used. The research was carried out with the phenomenological design from qualitative research methods. Thirty-one primary school teachers were selected by the criterion sampling method which is one of the purposeful sampling methods. In order to collect the data, the opinion form prepared by the researcher was completed by classroom teachers. The documents obtained were analyzed with the content analysis method. It was seen in the study that teachers usually play mind games with students in the Free Activities course, mainly for 2 hours per week, strategy games were played most, memory games were the least played games, and mind games contributed to communication, creativity, problem solving, mathematical and logical thinking, and academic skills. In addition, classroom teachers experienced some problems related to classroom management, to physical conditions and student characteristics while playing mind games. In line with the results, it is suggested that the multi-dimensional development of students be supported by playing mind games at every grade level.

Introduction

The ability to actively use thinking skills to produce information defines people envisioned by the modern knowledge and digital society. These qualities required by the age are cultivated in educational institutions. The type of people that are desired according to education programs are those who can use the theoretical knowledge they learn in school in their daily lives, solve interpersonal and daily problems, and those who have lifelong learning skills. The presence of all these skills in individuals is made possible by effective teaching and learning environments. It is possible to talk about many affective factors such as curiosity, excitement and motivation to make the learning environment effective and learning permanent (Ministry of National Education [MNE], 2017a). Especially in children at preschool and primary school age, it is possible to effectively use these affective features in the teaching process with games. It is possible to help children discover their intelligence levels and potential, develop their problem-solving skills, produce creative and unique solutions to problems, develop fast and accurate decision-making skills, be solution-oriented, develop their reasoning skills and develop collaborative working skills through games (MNE, 2013).

A game is a fun process that is achieved by competing within the framework of certain rules and expected outcomes with a specific purpose and concept where children are excited and willing to join which supports

emotional, mental, and social development (Fernie, 1988; Schell, 2014; Westby, 2000). A game is basically an activity that meets the psychological needs of the child, as well as supporting their physical and mental development. While they can also be individual, most games are played in groups. The main reason why a game is considered as one of the most important tools in the education of a child is that it produces outcomes related to personality and behavioral development in a fun way without the need for fiction and enables the child to participate actively.

Traditional (organic) games, computer games (digital games) and mind games are included in the literature as powerful educational tools that support learning and studies in this field are gradually increasing (Kirriemuir & McFarlane, 2004). Nowadays, the positive and negative effects of digital games on children are mentioned in television programs, social media, and scientific meetings and studies are intensifying in this field. It is known that today's teenagers socialize in a digital world that spans video games to online communication networks and from mobile phones to television. Different environmental conditions and different cultural environments are known to differentiate individual mind structures and their ways of thinking (Prensky, 2001). For this reason, the students' changing structure, needs and expectations are seen as one of the dominos that activate digital transformation in educational environments, and makes it imperative to consider digital games as a new category while talking about the game concept.

In this period, the age of first playing digital games falls to an average of 5-6 years and digital games are indispensable for children. It is known that digital games develop students' creativity (Hsiao, Chang, Lin & Hu, 2014), problem-solving skills (Yang, 2012), learning motivation (Hainey, Connolly, Boyle, Wilson & Razak, 2016; Yang, 2012), academic success (Eow & Baki, 2009), collaboration, communication and socialization skills (Hainey, Connolly, Boyle, Wilson & Razak, 2016; Yiğit-Açıkgöz & Yalman, 2018), cognitive (Barlett et al., 2009; Butcher, 2008; Kosmas, Ioannou & Zaphiris, 2019) and affective skills (Hainey, Connolly, Boyle, Wilson & Razak, 2016). In addition to these positive effects, digital games also have many negative effects on students. It is stated that digital games force children to stay still at the computer and this lack of physical activity triggers many unhealthy conditions from obesity to depression (Turan & Çalışkan, 2015). Some studies suggest that digital games decrease children's motivation to participate in physical activities (Tekkurşun-Demir & Cicioğlu, 2019). Therefore, it is possible to say that playing games while motionless on computers, tablets, and phones decrease children's desire to move. It is argued that the negative effects of digital games can be directed towards development of children's problem solving, multitasking, intelligence, logic and strategy skills instead of violence, sexuality and swearing by redesigning the games (Çakmak, 2016). Game mechanics, defined as the player's activities during the game, include aiming, hitting, ordering, and attacking - actions that evoke anger and violence (Jarvinen, 2009). Children who perform these activities in games exhibit behaviors such as using slang words, violence and trading power with money (Çakmak, 2016). These behaviors are perceived as normal, since they are performed in a computer environment. However, the ever-younger ages of children playing games on computers carry serious risks for these children who have developmental difficulties in distinguishing reality from fiction. In addition, children who learn and normalize behaviors in the game through observation have increased potential to perform these negative behaviors in daily life. Research suggests that children playing digital games have difficulties in distinguishing between fiction and reality, and

accordingly, they reflect examples of negative behavior from games in their daily lives (Yiğit-Açıkgöz & Yalman, 2018). The presence of images or texts with sexual content in some advertisements on online gaming sites used by children poses a risk (Bayzan & Özbilen, 2012).

Due to the negative effects of digital games on children, there is a view in the literature that traditional (organic) games are healthier (Turan & Çalışkan, 2015). In this regard, mind games are often preferred in the present conditions in Turkey and the Ministry of National Education recommends the use of mind games in educational environments. In order to provide permanent learning in educational environments and to develop a positive attitude towards learning, learning tools that make the student active in the process, learn by having fun, and that increase curiosity and excitement are needed. Mind games are seen as one of these effective tools (Dempsey, Haynes, Lucassen, & Casey, 2002). Mind games are divided into six categories as "reasoning and processing games, verbal games, geometric-mechanical games, memory games, strategy games and intelligence questions" (MNE, 2017b). Studies were carried out about the introduction of mind games into educational programs in our country. The mind games course was included in the syllabus for secondary school and Imam Hatip secondary schools (5th, 6th, 7th and 8th Grades) as an elective course and has been implemented since the 2013-2014 academic year (MNE, 2013). Mind games were suggested to teachers as a tool to improve students' mental skills and accordingly, teachers were given a mind games teaching course by the General Directorate of Lifelong Learning in the Ministry of National Education's (Kula, 2020). In primary schools, mind games are frequently included in Free Activity courses.

It is possible to talk about the effects of mind games on children in cognitive, affective and social areas. When considered cognitively, mind games were revealed to improve students' thinking skills (Bottino & Ott, 2006; Kula, 2020), mathematical skills (Bottino, Ferlino, Ott & Tavella, 2007; Erdoğan, Eryılmaz-Çevirgen & Atasay, 2017; Saygı & Alkaş-Ulusoy, 2019; Ulusoy, Saygı & Umay, 2017), mathematical reasoning skills (Reiter, Thornton & Vennebush, 2014; Yöndemli & Doğan-Taş, 2018), problem solving and reasoning skills (Bottino & Ott, 2006; Kurbal, 2015; Şahin, 2019), critical thinking skills (Dewar, 2012; Savaş, 2019), creative thinking skill (Ott & Pozzi, 2012), spatial skills (Zeybek & Saygı, 2018; Yang & Chen, 2010), attention and visual perception (Altun, 2017), and strategy use (Best, 1990). Mind games also improve geometric thinking level (Dokumacı-Sütçü, 2018; Siew & Abdullah, 2012) and mental skill level (intensifying attention, strategic thinking, analysis, establishing the part-whole relationship, visual perception and benefiting from clues) (Marangoz & Demirtaş, 2017). Research suggests that mind games develop high-level thinking skills, which are emphasized as the most important feature of the human profile targeted for development through today's education system.

In addition to the contribution of mind games to the cognitive field, there are studies that mention some of the affective and social effects. There is a decrease in aggressive behavior of children who play mind games (Gençay et al., 2019). This decrease in aggressive behavior is thought to be related to increased problem-solving skills through mind games (Lochman, 1994). Some studies suggest that mind games contribute to children's communication skills (Zhu, 2012) and also support values education (Sadıkoğlu, 2017).

The inclusion of many studies that mention the contributions of mind games to students is the reason for the

completion of this study related to the primary school stage, which is considered to be a critical period for the identification, recognition and development of many skills. Determining the views of primary school teachers about mind games is thought to be effective in developing mind game practices carried out in the schools. In addition, it is predicted that teachers' views about mind games will contribute to program development experts and policy makers.

The aim of this study was to determine the views of classroom teachers about mind games. For this purpose, answers to the following sub-problems were sought:

1. How many course hours per week do their students play mind games?
2. Which mind games do classroom teachers play with their students?
3. How do teachers evaluate the reflections of mind games in students?
4. What are the difficulties experienced in the classroom environment while playing mind games?

Method

Research Design

In this study, which aimed to determine the views of classroom teachers about mind games, a survey model was used. The study was carried out with the phenomenology design, which is one of the qualitative research methods. Phenomenology studies are concerned with describing the basic structure or essence of an experience (Merriam, 2013). Studies with phenomenology design contribute to better recognition and understanding of a case with experiences, explanations and examples. Phenomenology studies are handled in two different ways: descriptive and interpretive phenomenology. While descriptive phenomenology studies aim to describe people's perceptions and experiences about a case, the focus is on the hidden meanings in everyday formations in interpretive phenomenology studies (Ersoy, 2016). In this study, attempts were made to define the views, experiences and observations of classroom teachers in the process of playing mind games; thus, the descriptive phenomenology design was used.

Study Group

The study group for the research consisted of thirty-one classroom teachers in Turkey. The criterion sampling method, which is one of the purposeful sampling methods, was used to determine the study group. In the criterion sampling method, the study group is formed by determining the criteria that are considered to be important for the aim of the study (Patton, 1990). Since this study aimed to determine the views of classroom teachers about mind games, the criterion in determining the study group was that participants worked in the field of classroom teaching and played mind games with their students. With these criteria, 31 classroom teachers, 18 (58%) female and 13 (42%) male, participated in the study. Four (13%) of these classroom teachers had seniority between 1 and 5 years, 5 (16%) between 6 and 10 years, 8 (26%) between 11 and 15 years, 4 (13%) between 16 and 20 years and 9 (29%) over 20 years. Therefore, teachers from all seniority levels from new to retirement stage participated in the study. Classroom teachers participating in the study actively taught at every level from 1st grade to 4th grade. Ages of the teachers varied from 23 to 54 years.

Data Collection and Analysis

In order to collect data in the study, the opinion form prepared by the researcher was used. While creating the opinion form, literature related to games, game types and mind games was scanned and a draft form consisting of open-ended questions was prepared. In order to ensure the content validity of the draft form, views were received from 2 primary school teachers who were actively working in the field and did not participate in the research, 2 field experts working in the field of classroom teaching and 2 experts working in the field of educational sciences. In addition, views of a language expert were received to ensure that the draft form was understandable in terms of language and meaning. Although the number of questions on the form did not change from 7, some revisions were made for the statements. The first part of the form consisted of questions to gather information about the classroom teachers in the study group. In the second part, there were open-ended questions aiming to determine the views and observations of classroom teachers about mind games.

The data were obtained in writing in the 2019-2020 academic year. During the data collection, necessary explanations were made to the participants and information was given about the study. Collection of data varied between 10-15 minutes. All participants in the research were voluntarily involved in the process. Written documents obtained by collecting data were analyzed with the content analysis method. In the content analysis method, themes and sub-themes are sourced in the data set. In other words, codes emerged from the expressions of the participants and the common meaning sets formed by the codes were combined in the sub-themes and themes (Zhang & Wildemuth, 2009). Classroom teachers participating in the study were coded as "p1, p2,… p31" according to "participant" and the document order.

Validity and Reliability of the Study

Scientific research focuses on producing valid and reliable information within the framework of ethical principles. Being able to trust the research results is especially important for professionals in the field of application. The reliability of the research is related to the care and attention during the processes from design to implementation, from analysis to interpretation (Merriam, 2013). The concepts of credibility, transferability, reliability and verifiability used in qualitative research methods are handled with concepts such as validity, reliability and objectivity in quantitative research.

In this study, the sampling method, data collection and data analysis process adopted in determining the study group were described in detail in order to ensure transferability (Belet-Boyacı, Güner & Babadağ, 2017). Thus, readers were provided with a detailed idea of how the research was designed and conducted. In order to ensure the consistency of the research, another researcher was asked to code the data, then the two researchers came together and discussed the coding, sub-themes and themes they obtained. Until consensus was achieved, revisions were made in coding and expressing themes. Another measure taken to ensure consistency was expert views used in the preparation process of the data collection tools (Yıldırım & Şimşek, 2008). The draft opinion form prepared by the researcher was corrected by field experts, practitioners and linguists. The form was given its final shape in accordance with their views.

Results

The findings related to the sub-problems created in line with the purpose of the research are included under separate headings.

Mind Games Play Times

The course hours per week allocated to mind games by the classroom teachers participating in the study are given in Table 1.

Table 1. Course Hours per Week Allocated to Mind Games

Average course hours per week	Participants	n
2 hours	p1, p2, p4, p5, p6, p7, p8, p9, p10, p11, p12, p13, p16, p19, p26, p29	16
1 hour	p3, p15, p17, p20, p23, p24, p27, p28, p30, p31	10
3 hours	p18, p22	2
1-2 hours	p25	1
2-5 hours	p21	1
6 hours	p14	1

Table 1 suggests that the majority of classroom teachers play mind games with their students during 2-course hours per week on average. Teachers generally stated that they played mind games with their students in the Free Activity courses. In addition, some teachers spent 1 hour, 1-2 hours, 2-5 hours or 6 hours per week for playing mind games.

Preferred Mind Games

Themes, sub-themes and codes related to mind games played by the classroom teachers participating in the research are given in Table 2. Table 2 suggests that games that classroom teachers play with their students are grouped in five sub-themes according to frequency as strategy, geometric-mechanical, reasoning and processing, verbal and memory games. In the sub-themes in Table 2, the types of mind games are included in the Turkish Ministry of National Education documents (MNE, 2017b).

It is noteworthy that many different kinds of mind games are played. Teachers frequently used strategy games in their classrooms. Among these games, chess, mangala, corridor, reversi, abalone and pentago were the most frequently played games. Geometric-mechanical mind games were also among the frequently preferred games. Quick cups, tangram and jenga games were played frequently. While sudoku was played in the category of reasoning and processing games, games such as yes/no, name/place/animal/thing, fenbu and sosbu were

preferred as verbal games. The classroom teachers included memory games the least played sub-theme of mind games and they preferred Q bitz.

Table 2. Mind Games Classroom Teachers Play with Their Students

Theme	Sub-Theme	Codes	f
MindGames	Strategy Games	Chess	18
		Mangala	17
		Corridor	14
		Reversi (othello)	11
		Abalone (suma)	9
		Pentago	5
		Checkers	3
		Hedef5	2
		Paradux	2
		Go	2
		Skippity	1
		Rider	1
	Geometric-Mechanical Games	Quick Cups	8
		Tangram	4
		Jenga	3
		Tetris	1
		Puzzle	1
		Hide and seek	1
	Reasoning and Processing Games	Sudoku	5
	Verbal Games	Yes/No	1
		Name, place, animal, thing	1
		Fenbu	1
		Sosbu	1
	Memory Games	Q bitz	1

Reflections of Mind Games on Students

The views of classroom teachers participating in the research about the reflections of mind games on students are grouped under 4 themes as "communication, creativity, problem solving and academic skills". Findings regarding each of these themes are included in separate headings.

Reflections of Mind Games on Students' Communication Skills

The themes, sub-themes and codes related to the reflection of the mind games on the communication skills of the students are given in Table 3.

Table 3. Reflections of Mind Games in Students' Communication Skills

Theme	Sub-Theme	Codes	f
Communication	Positive	Happiness, excitement	8
		Better communication	7
		Dialogue	5
		Curiosity	3
		Respect	3
		Listening	2
		Solving problems by speaking	2
		Sharing emotions	1
		Calmness	1
	Negative	Speaking without permission	1
		Violating the rules	1

Table 3 suggests that mind games frequently contribute positively to students' communication skills. It was stated that students are happier, more excited and more curious in this positive communication environment. For example, p4 coded classroom teacher stated; "*It is observed that they are more pleasant, excited, eager and more active*". Generally, teachers stated that their students' communication skills improved. For example, p22 coded classroom teacher said, "*It makes the student comfortable to know that he will play games in that course. Communication is strengthened among the groups while playing the game*" suggesting that the students started to communicate better with each other. Teachers stated that students who did not communicate much under normal conditions interacted more while playing mind games. P2 coded teacher expressed this view as follows: "*In this game environment, the opponents are exchanged so they communicate with different friends.*" It was stated that in this communication environment where they played mind games, the students were respectful to each other and they also showed respect while waiting for each other during the game. The students listened to each other and the teacher's instructions better. They tended to solve their problems by speaking rather than fighting when they did not agree while playing mind games. There were also views that students shared more emotions during the game process and that they were generally calmer. In addition to this, two negative views in the communication dimension in the classroom environment were that the students spoke without permission and violated some rules.

Reflections of Mind Games on Students' Creativity Skills

The themes, sub-themes and codes regarding the reflections of the mind games in the students' creativity skills are given in Table 4. Table 4 suggests that classroom teachers think that mind games contributed positively to the creativity skills of the students. The creativity skills of the students improved in the sub-themes of flexibility, fluency, elaboration and re-description. It was stated that students gained different perspectives and developed different solutions while playing mind games. Students learned to think fast while playing mind games and thus they became more practical. This enabled students to generate more ideas. For example, p5 coded classroom teacher said, "*I think it enables them to see and develop their skills in this direction, since*

every step takes place with their own thoughts. As they are very eager to play the game, they can produce more ideas" suggesting that the students started to produce more ideas thanks to mind games. P22 coded teacher said: "*It increases creativity skills because we play strategy games, they have to think differently and stage their thoughts. This shows in the activities we do in other courses*" suggesting that the students staged their thoughts while playing mind games.

Table 4. Reflections of Mind Games in Students' Creativity Skills

Theme	Sub-Theme	Codes	f
	Positive effect	Contributing to creativity	15
	Flexibility	Different perceptions	6
		Different solutions	5
Creativity	Fluency	Quick thinking	4
		Being practical	3
		Producing more ideas	1
	Elaboration	Staging the thoughts	1
	Re-description	Productivity	1

Reflections of Mind Games on Students' Problem-Solving Skills

The themes, sub-themes and codes related to the reflection of mind games on the problem-solving skills of the students are given in Table 5.

Table 5. Reflections of Mind Games on Students' Problem-Solving Skills

Theme	Sub-Theme	Codes	f
		Different solutions	7
		Coping with the sense of competition	6
		Communication	4
	Positive	Empathy	4
		Being solution oriented	2
Problem-Solving		Tolerance	2
		Decision making	1
		Logic	1
		Following the rules	1
		Patience	1
	Partly positive	Partial positive effect	2

Table 5 suggests that classroom teachers consider mind games provide positive and partially positive contributions to students' problem-solving skills. The teachers participating in the research thought that when students encountered problem situations, they could produce different solutions as a reflection of mind games. For example, p22 coded teacher talked about the effects of playing mind games on the students' ability to find

and develop different solutions by saying; "*It is necessary to think about the next move of the opponent in chess and mangala and make a move accordingly. This allows students to get an idea of how to behave in a few situations. We see that they produce easier solutions and try to find different ones during the problem-solving process*". Students faced situations such as success, failure, winning and defeat while playing mind games. Teachers stated that playing mind games made it easier for students to cope with the emotions involved in these situations. P19 coded teacher expressed this by saying "*They learned to share victory and accept defeat*". It was remarkable to see the development of students' affective skills such as communication, empathy, tolerance and patience which are effective in solving interpersonal problems. There were also views that mind games were only partially reflected in students' problem-solving skills.

Reflections of Mind Games in Students' Academic Skills

The themes, sub-themes and codes related to the reflection of the mind games played in the academic skills of the students are given in Table 6.

Table 6. Reflections of mind games in students' academic skills

Theme	Sub-Theme	Codes	f
Academic Skills	Positive	Academic success	11
		Mathematical and logical skill	5
		Self confidence	3
		Thinking skills	2
		Attention	2
		Planned work	1
		Versatile thinking	1
		Positive attitude towards school	1
		Persistence	1
	No Effect	No influence on academic skill	1

Table 6 suggests that teachers mostly agreed about the positive effects of mind games on students' academic skills. In addition, it was also expressed that mind games have no effect on academic skills. Classroom teachers often emphasized that mind games increased students' academic success. Supporting this view, p3 coded teacher said "*I think it is effective in academic success, I think the reflection on the course is positive*", p9 coded teacher said "*... increases their success in the courses*" and p26 coded teacher said "*I have been getting good positive results in terms of success*". There were also views that mind games supported the mathematical and logical development of the students. For example, p16 coded teacher said "*an improvement is observed in strategy development skills especially in mathematics course*" and p8 coded teacher said "*mathematics and logical skills are developing*". It was also stated that mind games had positive effects on academic skills by increasing students' self-confidence. P22 coded teacher said, "*Those who are particularly shy and not active in the courses get rid of their shyness as they play games. They overcome the fear of making mistakes. Because even the friends who they think are the best in the class can lose or they can win the games themselves, so, they develop a*

positive attitude towards themselves, which in turn contributes to academic success". When other aspects of mind games reflected on academic skills were reviewed, students learn to improve their thinking skills, increase their attention, learn to work in a planned manner, improve versatile thinking, develop a positive attitude towards the school and learn to not give up easily in the face of difficulties.

Difficulties in the Classroom Environment While Playing Mind Games

The themes, sub-themes and codes regarding the difficulties experienced in the classroom environment while playing mind games are given in Table 7.

Table 7. Difficulties in the Classroom Environment

Theme	Sub-Theme	Codes	f
Difficulties in the Classroom Environment	Classroom Management	Noise	13
		Discipline problems	8
		Excess class size	3
	Physical Conditions	Class environment unsuitable for the game	10
		Insufficient number of games	7
	Student Characteristics	Indifferent and unwilling students	4
		Ambition and competition	3

Table 7 suggests that the difficulties experienced by teachers while playing mind games are gathered in the sub-themes of classroom management, physical conditions and student characteristics. It is noteworthy that the most frequently expressed difficulty was noise in the classroom environment. The teachers stated that the noise was caused by the excitement of the students. The teachers stated that they had some disciplinary problems while playing mind games. For example, p25 coded teacher said *"the students who we call naughty that do not follow the classroom rules can meddle with their friends in these courses or want to finish without waiting for their turn, as soon as possible"* pointing to the violation of the rules. Examples of disciplinary problems that students experience were having discussions during the games, stretching the rules, and interfering with the games of other friends when they had finished.The teachers stated that they had difficulty in classroom management in such situations. In addition, the excess class size is another difficulty that teachers expressed. In terms of physical conditions, it is often stated that classroom environments are not enough for students to play mind games in groups. Games with this style can be played more efficiently in larger, comfortable and spacious environments. Another important finding is that mind games were evaluated as insufficient in numbers compared to the number of students. This situation required students to play in order, waiting for each other. The teachers who participated in the research stated that they also had some difficulties due to the individual characteristics of the students. Teachers also stated that it was difficult when there were indifferent students who were not willing to play in the classroom. In addition, it was mentioned that ambitious students with excessive sense of competition can also cause problems during the games. For example, p23 coded teacher mentioned the difficulties created by this situation saying "*sometimes they can hurt their friends without empathizing during the excitement of winning the game*".

Discussion

In this study, which aimed to determine the views of classroom teachers about mind games, it was concluded that teachers play mind games with their students in Free Activity courses, mostly for 2 course hours per week. Free activity courses aim to create fun learning environments that focus on improving students' higher-order thinking skills, contributing to the affective domain such as empathy, solidarity, and self-confidence (MNE, 2010). It is thought that the aim of the course overlaps with the behaviors and skills that mind games are thought to provide for students and this leads to playing mind games in Free Activity courses.

In this study, it was concluded that the games played by the classroom teachers were in the categories of strategy, geometric-mechanical, reasoning and processing, verbal and memory games, the most common to least common. In other words, the classroom teachers participating in the study mostly played strategy games with their students. Memory games were preferred the least. Chess, Mangala, Corridor and Reversi (othello) games stood out as the most preferred games. Each game played affects different developmental areas of children. In the later stages of life, the prerequisite for meeting with individuals who are strong in terms of knowledge, skills and personality is to raise children who are satisfied with their gaming needs (Stanley, 2003). Exploration-oriented games that reinforce the curiosity of the children are known to improve the analytical thinking skills, trial-and-error type games develop the ability of children to guess, and building games develop structural thinking skills (Sutton-Smith, 1967). In this context, knowing that different types of games develop different skills of children makes it necessary to include all types of games in learning environments.

The place of chess among the most preferred games is due to the fact that it is an accessible and known game. The moves to be played during chess are first imagined in the mind with the positions of the pieces. Based on this imagining, the best possible move is decided and performed. The imagining of a move that is planned develops the ability for creative thinking, choosing between moves supports decision-making skills, and trying to overcome problem situations also develops problem-solving skills (Köksal, 2006; Sadık, 2006). Chess is thought to be directly related to daily life. In this context, it has the potential to provide students with many skills that they can use in daily life. The game of chess teaches students to make plans in line with certain goals and to act in line with these plans to achieve the goal. It also adds to their ability to solve problems that may arise outside their plans due to the opponent's moves. It is known that students who play chess tend to solve problems with a planned approach compared to students who do not (Erhan, Hazar & Tekin, 2009).

Mangala ranks second among the most played games in the study. Mangala, an ethnographic game that reveals the world view of Turkish societies in social, cultural, belief and state, family life and military fields, is a game that requires using strategy, reasoning and problem-solving skills. In this game, it is necessary to overcome the encountered difficulties by producing various strategies to achieve a certain goal. It is known that mangala develops thinking skills, memory, and strategic planning skills for the future and characteristics such as following the rules and being patient (Kul, 2018). The fact that the history of this game dates back to the 17th century, that it is played in different forms with nearly a hundred different names among many Turkish peoples such as Kazakh, Kyrgyz, Turkmen and Altai (Küçükyıldız, 2011), and that it is known as the ancestor of chess

are thought to be the reasons for playing mangala in classroom environments. Corridor game, on the other hand, is frequently preferred in educational environments because it is a game that is easily learned and played by students (Kula, 2020). Verbal and memory games are the least preferred types of games in the study. These types of games are thought to be preferred less due to teachers views that they are easier than other games. In a study conducted with pre-service teachers, they evaluated verbal games and memory games as the easiest games among different types of mind games (Ekiçi, Öztürk & Adalar, 2017).

Another result of the research is that classroom teachers stated that mind games improved students' communication skills. Studies show that the social skills of children who play group games are more developed than those who play individual games (Erten & Demir, 2019). Language development and communication skills, which are an important part of cognitive development, are supported and developed in children through games (Carlson & Gingeland, 1961). Similar to real life, the child encounters many situations during the game and can solve these problems by communicating. During a game, a child communicates using many language skills such as self-expression, learning new words, listening, asking questions, sharing feelings and thoughts. This practice is thought to contribute to students' communication skills. There are many study results that show that mind games support students' communication and social skills (Alkan & Mertol, 2017; Devecioğlu & Karadağ, 2014;Kula, 2020).

In the study, there were views about mind games providing positive contributions to students' creativity skills. According to the views of classroom teachers, the creativity skills of the students were improved in the categories of flexibility, fluency, elaboration and re-description. A three-year study by Ott and Pozzi (2012) on digital mind games suggests similar results to this study. It is observed that the students at primary school level playing forty-five basic mind games improved their creative thinking skills, reasoning skills and affective domain after the experimental process. The results of the studies conducted with parents in the literature reveals that parents also have positive views about mind games. Parents state that the creativity and problem-solving skills of their children improved by playing mind games (Alkan & Mertol, 2017).

The teachers participating in the study stated that when students encountered problem situations, they could produce different solutions as a reflection of mind games, they could cope with their feelings about competition, and they could use affective skills such as communication, empathy, tolerance and patience which are effective in solving interpersonal problems. There are research results that show that games can keep preschool and primary school students engaged in classroom facilities, increase their motivation, and scaffold their learning through independence, autonomy and resultant self-esteem (Papanastasiou, Drigas & Skianis, 2017). It is also possible to talk about the emotional and spiritual healing effect of games on children (Bee, 1996). Therefore, games affect children in learning to express themselves more comfortably and to improve their social skills. In the social learning theory developed by Bandura (1986), children can learn faster and easier by observing others. Children who have the opportunity to observe other friends or even their teachers during the game are more open to learning, communication and social skills. Regular games such as mind games increase interaction, and individuals take responsibility for organizing and joining the social group due to the need to act in accordance with the rules (Nicolopoulou, 2004). Due to this natural structure of games, children learn to act in accordance

with the rules, to communicate, to be tolerant, to be patient, and to empathize by moving away from centrism. Children learn many concepts, roles, events and experiences related to life during games. It was observed by teachers that students who play mind games taste a sense of success as well as improving their characteristics of coping with defeat (Adalar & Yüksel, 2017). Teachers state that students also develop different perspectives by playing mind games and learn to empathize, as well as developing their own strategies for solving problems, and learning different strategies from their friends (Kurbal, 2015).

Another result of the research was the view that mind games increased students' academic success. It is known that students who play mind games increase their school success (Bottino & Ott, 2006; Bottino, Ott, and Tavella, 2013). Demirel (2015), who conducted an experimental research with secondary school students, revealed that mind game activities have positive effects on students' perceived problem-solving skills, perceived strategic thinking skills and academic achievements in Turkish-Mathematics courses. As a result of the positive effects of mind games on students' high-level thinking skills, it is possible to say that their academic achievement increase, because cognitive processes operate as a whole and display a structure that can be transferred to different areas. In another approach, the effects on academic success of the structure of mind games that enables individual and group games can be discussed. It is known that playing games with individuals and groups means that students develop affectively and socially. The related literature suggests that children playing group games are more successful in their courses (Erten & Demir, 2019). Theorists interested in development such as Piaget (1936) and Wallon (1945), associate children's cognitive development with games and therefore with the social environment (Budak, Gençtanırım-Kurt & Kula, 2018). Permanent learning occurs as a result of the active interaction of the child with the environment. It is one of the most natural learning tools in which the child is actively involves and interacts with his environment. Therefore, Piaget talks about a positive relationship between games and cognitive development and explains games in stages based on cognitive development. In the literature both free games and games played with a guide form the basis for developing children's academic skills (Hirsh & Golinkoff, 2008). As a result of this study, classroom teachers thought that mind games increased students' self-confidence and decreased their fear of making mistakes. The results of the study in itself also support this view. It is expected that the students' academic success will improve as their self-confidence increases and fear of making mistakes decreases. As a result of the study, the classroom teachers had views that mind games played with the students supported the mathematical and logical development of the students. Similar to the results of this study, there are studies concluding that mind games develop mathematical skills (Bottino, Ferlino, Ott & Tavella, 2007; Erdoğan, Eryılmaz-Çevirgen & Atasay, 2017; Saygı & Alkaş-Ulusoy, 2019; Ulusoy, Saygı & Umay, 2017) and mathematical reasoning ability (Reiter, Thornton & Vennebush, 2014; Yöndemli & Doğan-Taş, 2018).

This study revealed that the classroom teachers experienced some problems related to classroom management, problems arising from physical conditions and student characteristics in the classroom environment while playing mind games. The biggest difficulty experienced was due to noise. In addition to noise, classroom spaces that were not suitable for playing games as they are confined and were uncomfortable for students which constituted another situation that teachers complained about. Noise is also a negative condition in other research results in which mind games are played (Demirel, 2015). It is possible to come across similar noise-related

results not only as a special case for mind games but also in other studies where students work in groups (Kula & Budak, 2020). In fact, one of the reasons why there is noise in the classroom during group work and playing games may be the flow of students. According to Csikszentmihalyi (1991), this flow state refers to the state of balance in which the individual feels completely in control of their task, in which they can experience the feeling of success thanks to the feedback they receive as a result of the actions they take to complete their task. Motivation is what keeps individuals doing an action. Motivation is provided by flow and entertainment (Csikzentmihalyi, 2014). In another study about the mind games elective course, teachers mentioned material deficiencies, lack of time, training, crowded and heterogeneous classroom environments (Ulusoy, Saygı & Umay, 2017). It is undoubtedly necessary to first adapt the physical conditions to ensure that alternative practices such as mind games are chosen more by teachers.

The fact that the number of mind games (teaching materials) in schools are insufficient compared to the number of students also draws attention to one of the other important problems. When the number of games is low, students have to wait for each other, which increases the noise and behavioral problems in the classroom. In the studies on mind games in the literature, teachers drew attention to similar difficulties. As a result of research conducted with teachers working in different branches regarding the applications of mind games, teachers stated that the lack of materials in schools prevented the course from being carried out actively (Adalar & Yüksel, 2017; Aslan, 2019; Devecioğlu & Karadağ, 2014). Sufficient teaching materials used in the course are very important to fully support students' development (Altun, 2017).

Conclusion

The classroom teachers participating in the study mostly played strategy games during 2-course hours per week with their students. As a result of the research, the most preferred mind game was chess. Mangala, known as the ancestor of chess, was in second place. Classroom teachers expressed their opinion that mind games developed students cognitively, affectively, socially and academically. It was concluded that teachers need support to cope with classroom management problems while playing games. In order to benefit from mind games, physical facilities should be made sufficient. The results obtained from this research show that mind games can have multiple effects on an individual's development. In this context, it is thought that the research will inspire future researchers. These research results obtained from teachers will not only give many ideas to other researchers who research in this field, teachers who play mind games with their students, and parents but also contribute to education programmers and policymakers.

Limitations and Future Research

This research was conducted with a qualitative method aiming to obtain detailed information about mind games. Due to the nature of qualitative research, the study group consisted of a small number of teachers. This can be considered a limitation. Experimental design studies aiming to measure the effects of mind games with large audiences will yield more generalizable results. The present study was conducted in Turkey. It is recommended to carry out similar studies in different parts of the world and compare the results.

Teachers can learn information about mind games from guidebooks, online sources, from each other or from courses they take. In order to increase the knowledge and competence of teachers in this field, it is recommended to develop more written and visual source materials, and to add video content related to the implementation and rules of mind games on state-supported online education platforms (e.g., EBA).In order to make mind games more practical and accessible, it is recommended to expand in-service training, to organize competitions at national level and to encourage the practice at all levels from pre-school to higher education. Game rooms should be designed in a space where mind games can be played in schools so that students are comfortable enough to move around, and with equipment that allows games to be played in groups.

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