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Determining the Opinions of Information Technologies and Software Course Teachers on the Use of Games

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ABSTRACT

During the Information Technologies and Software (ICT) course, in which applications carried out on the computer are utilized in general, teachers try to accomplish the achievements of the course by methods such as demonstration, practice, and lecture. In this process, games or physical activities are not used very often. The purpose of this research is to determine the views of ICT teachers who receive drama education on the use of the games that they learned during the education. Prior to the study, which was devised with a qualitative research design, a drama study was conducted with a group of 24 information technology teachers, and after the study, the teachers utilized the games that they learned in drama education to teach the lesson subjects in the classroom. Finally, 14 participants who used the games in the classroom answered the questions in the online form sent to them. The qualitative data obtained were analyzed by content analysis method. The findings attained from the study disclosed that ICT teachers used the games that they learned in drama education in their lessons, the games made the lesson more interesting, enjoyable, curious and entertaining, by the way they learned better and understood the subjects with games, so the students learned complex subjects more easily thanks to the games, and they acquired the real life abilities with the games. And also they have different features, they are a part of the class with the inclusive properties of the games.

INTRODUCTION

According to the standards set by the International Society for Technology in Education (2016), today's students are expected to have different skills. The skills that students should have are generally using technology effectively, knowing their rights and responsibilities while using online platforms and treating people with respect in these environments, creating creative products by using digital tools, constructing knowledge and using computational thinking skills to solve problems encountered in daily life. Other skills expected of students are to use digital platforms, tools and media in accordance with their purposes in daily life, to communicate and express themselves creatively, to use digital tools to expand their perspectives and collaborate with others, and to enrich their learning. Regarding competencies with "learning to use technology" in digital competence (ISTE, 1998) turned into "using technology for learning purposes" (ISTE, 2007), and eventually "learning by transforming with technology" (2016). That is, expectations in the early times positioned technology as a goal or a subject, technology became a tool over time, and an understanding based on the development of students was reached.

One of the main components that enable students to acquire the aforementioned skills or competencies is the ICT course, which generally aims to develop students' computer science skills. ICT is a course in which not only the use of computers or other hardware as a tool, but also various real-life skills such as problem solving, questioning and presenting evidence are gained. It is aimed to build many skills, most notably the computational thinking skills and abstraction, which are intended to be taught within the scope of ICT course, in conformity with social life (Kert, 2018). Different methods and techniques are used in the teaching of ICT course contents. Besides methods and techniques such as narration, brainstorming, and problem solving, methods or techniques that deal with real-life problems such as creative drama, 6-hats thinking, case study, mind map, fishbone are also used in the Information Technologies and Software Course Teacher's Guide prepared for 5th and 6th grades, which is structured with a rich content on the teaching of computational thinking skills (Gulbahar Guven et al., 2018). The method or techniques in question include the transfer of a whole lesson, as a warm-up activity at the beginning of the lesson, evaluation at the end of the lesson, or in the form of an impersantion based on experience in any part of the lesson.

It is necessary to provide every student has opportunity to benefit from these technologies, gain computational thinking skills and develop himself in the field of computer science in the field of information technologies (Gulbahar Guven & Kalelioglu, 2018). Studies indicate that there is not a classroom equipped with information technologies in every school in Turkey, the conditions in schools are not equal, and students cannot access information technologies with equal opportunities. This situation concerns not only students, but also information technology teachers, who are responsible for explaining the ICT course in accordance with the objectives of the curriculum. Although the readiness of the students, the duration of the lesson, and the teacher's method knowledge are effective in the teaching of the lesson, the most basic determinant in this subject is seen as a classroom equipped with computers and other technologies. At this point, it can be said that the computer is not a basic requirement but a supporting element in teaching computer sciences and gaining computational thinking skills. In this direction, the experiences, knowledge and skills of information technology teachers in using different methods and techniques in learning processes directly affect the teaching of the course.

The general opinion in the society about the ICT course is that students play games, spend time on the internet or browse social media during the course. In this respect, it can be said that the lesson is perceived as a "game-play lesson" (Ercetin & Durak, 2017). However, the point that should be emphasized and underlined is the type of games played or thought to be played and for what purpose they are used. Online or offline games played on the computer can be understood by the expression "games played by students". In the ICT course, students can spend time playing games in a part of the course.

Similarly, ICT course teachers can use games as a reinforcement or reward by allowing students who finish the applications in the lesson early to play games. Apart from these, educational games can be used in order to reach learning goals in accordance with the objectives and purposes of the course and the achievements of the subject. However, the general opinion is that they are used for the first two options.

It can be said that the games are used in two different ways for educational purposes in the ICT course. The first of these is the use of digitally playing games with the help of computers, also known as game-based teaching. These applications, which include the planning in which the students play the games on the computer or design the games in the computer environment, are carried out on the computer. In recent years, it has been seen that game structures or game-reminiscent components are used in programming teaching, especially with the use of applications based on visual programming (Scratch, Blokly, Code.org, etc.). Applications, also known as visual or block programming, and especially used to develop secondary school students' skills such as problem solving, reasoning, associating with real life, questioning and presenting evidence, allow students to learn programming with a visual and object-based interface rather than hard-to-learn codes (Akpinar & Altun, 2014; Kalelioglu & Gulbahar, 2014; Atmatzidou & Demetriadis, 2016; Yecan et al., 2017).

The second option, which is also the subject of this research, teachers' attitudes and behaviors differ in the use of games and physical activities that students play without a computer. It is seen that in the lessons that take place in a classroom with information technologies, teachers generally perform practical activities on the computer and use methods or techniques such as narration, question-answer, demonstration and show. The use of games and physical activities varies depending on the teacher's preferences and experience in the field within the situations where students have limited opportunities to communicate both with the course teacher and with other students. Life-based methods or techniques are not often preferred by teachers in a lesson where everything goes well, in a technologically comfortable classroom, in a school where internet connection, interactive whiteboard or other technologies can be accessed, games or physical activities. Although ICT course teachers do not draw on physical activities and games very often in these comfortable conditions, different environments other than computer programs are needed in the process of making sense of complex concepts in the programming process by students or creating algorithms and flow diagrams (Bell et al., 2009). Although programming is attractive to people in terms of skills, it may not be easy for students to learn the structures of programming languages, write code blocks or master the functions of the programs in question (Goncu et al., 2020). In programming teaching based on computational thinking skills, educational games are used for the purposes of students being individuals who produce technology, providing permanent learning, and drawing attention to the subject (Donmez Usta & Turan Guntepe, 2019). In this process, which can also be defined as computer-free computer science, information technology teachers can reach the achievements of the course by using games, physical activities or various materials (Goncu et al., 2020).

In order to eliminate the inequality in accessing information technologies mentioned by Gulbahar Guven and Kalelioglu (2017), games and physical activities can be used in conformity with the objectives of the ICT course curriculum and the achievements of the course. With the use of games in the ICT course, various learning opportunities on computational thinking and computer science can be created and different skills can be gained in the classrooms where there are students who cannot benefit from technology. It can contribute to students to act effectively, to think about problems, to develop their skills such as questioning, problem solving and presenting evidence in classrooms where computer education is provided or in schools where there is no problem in accessing information technologies. In this sense, the contribution of the games to the ICT course includes the fact that students in schools that have technical infrastructure problems can reach the targeted gains without a computer, and that students learn effectively in computer classes.

The games played in the ICTcourse contribute to the development of many skills and the students to acquire the targeted behaviors. Students, who determine different strategies to win the games, observe the behavior of their friends in the game and cooperate with other players so as to reach a goal. With the games in the ICT course, students can adapt to society more easily and improve their speaking and listening skills (Winston & Tandy, 2009). Students, who figure out new ways with the games in the ICT course, also try to reach their goals by asking questions about the roles and situations in the game, making comments or giving examples of the situations mentioned (Karaosmanoglu & Adiguzel, 2017). In this context, the use of games in ICT course has 21st century benefits such as creativity and renewal, critical and independent thinking, problem solving, communication and cooperation, flexibility and harmony, leadership and responsibility. It can be said that it contributes to the development of their skills. Games played for different cognitive, affective or kinetic skills also support the

development of students, help them adapt to society more easily, and improve speaking and listening skills (Karaosmanoglu & Adiguzel, 2017). Although the ICT lesson teacher plays the games in accordance with the objectives of the lesson, it is observed that the skills in question develop in the students. For example, the ICT course teacher who transforms the fruit basket game into a topic that deals with network components can contribute to the development of flexibility and adaptability skills in students. Similarly, the lesson teacher, who associates the game known as freze-fire with the problems encountered in technological tools and needs to be solved, can enable the students to develop skills such as problem solving, creativity and responsibility.

The main purpose of education and training is to transfer the designed curriculum to students effectively. In this process, although the methods or techniques used by the teachers are determined by course materials such as curricula, teacher's guidebooks, student books, all that has been said is a recommandation. The main thing is that the information technology teachers dominate the proposed methods or techniques, how they will use the existing materials in accordance with the achievements of the courses or what they will do as an alternative. In this context, the use of games in the learning processes of ICT course teachers will contribute both to the lesson to be more effective, to the transfer of the topics covered in a more fun and interesting way, and to the participation of the students in the lesson by communicating. In the ICT course, games can be used in processes where a method or technique is used, or they can be used alone in accordance with the purposes of a course. The games determined in accordance with the learning outcomes of the course can turn into an effective tool and a collaborative learning object in the hands of ICT teachers.

Studies on the use of games in information technologies and software courses are not frequently encountered in the literature. It can be said that the research will contribute to the teachers in terms of transferring the contents of the ICT course and to the students in terms of using it in the course process and providing a permanent, applied and enjoyable learning experience. Another important and original aspect of the research is that it contributes to researchers who want to research on the use of games in ICT course in terms of its results. It is thought that the research will open a different window to the studies to be carried out on the effects of games and physical activities adapted to the acquisitions, and the studies to be carried out on the transfer of the subject and achievements of the ICT course, apart from the studies in which the effect of a certain method and approach on the lessons is discussed.

Purpose

The aim of the research is to determine the views of ICT teachers who receive drama education on the use of the games and physical activities they learned during the education. For this purpose, answers to the following questions were sought.

1. What are the opinions of the participants on the use of games and physical activities in the ICT course?

2. What are the participant views on the contribution of the games and physical activities used in the ICT course to the students?

METHOD

Research pattern

The research, which was designed with an interpretative qualitative research design, focused on the use of games and physical activities by the ICT course teachers. In the interpretative qualitative research using interviews, observations or document analysis, the teachers answered the questions with the form prepared in the online environment, and it was tried to determine how the games played in the ICT lesson were interpreted (Merriam, 2009). The used method helped the teachers to disclose their perspectives on the use of games and contribute to giving examples regarding the realization of the goals and objectives of the lesson. Throughout the research, it was tried to think profoundly about the use of games in the ICT lesson, to create patterns of meaning and to make the subject in question understandable. According to Merriam (2002), the interpretative qualitative research design guides researchers in answering questions such as how people interpret their experiences, what meanings they attribute to their experiences, and how this experience contributes to building their world. In this research, ICT course teachers have delved into how to use games and physical activities in the course process and have developed an alternative thing that they can use during the ICT course.

Data Collection and Analysis

In the drama study conducted prior to the research, how the games and physical activities will be used in the ICT course and adapted as for which subjects and acquisitions were discussed in a comprehensive way. After the drama application, the ICT teachers who participated in the research were asked to use the methods and techniques, games and physical activities they learned in drama education in their classes in accordance with the subjects and achievements they covered. An online form was prepared in order to determine how the participants used the games and physical activities they learned during the drama process in ICT lessons. In compliance with the purpose of the research, questions were asked in the online form about how the ICT lesson teachers benefit from games and physical activities, how they relate to the subject and achievements, and how they contribute to the ICT lesson and students. The questions in the online form were put into final form by taking expert opinion. The prepared

online form was sent to the ICT course teachers participating in the research and expected to answer the questions in the form. It was observed that 14 participants answered the questions in the online form and shared their views on the games and activities they learned during the drama process. While answering the questions in the online form, the participants made explanations, gave examples and made comments on how they used the games and physical activities that they learned in the drama education in the ICT course. The answers of the participants were analyzed by content analysis, categories were created in keeping with the determined themes, and the statements of the participants were interpreted by quoting directly in accordance with the categories. Figures were used to make the emerging themes and categories more intelligible.

Research Group

24 information technology teachers participated in the drama study conducted piror to the research, and 14 participants replied the questions in the online form. At this point, it can be said that the research group consists of 14 information technology teachers. The average experience period of the research group consisting of 5 women and 9 men in information technologies teaching is 11 years, and the average number of students in the classes they attend is 23. Twelve participants stated that they took an information technology course in secondary school and two participants in high school. The teachers in the research group stated that they did not receive training on drama education or the use of games in ICT lessons before the research, and they thought that it was not easy to utilize such applications in ICT lessons.

Implementation of the Drama Program

Before the research, a 40-hour drama study was conducted by the researcher, who is experienced in the field of creative drama, with a group of 24 information technology teachers in 2018. The title of Drama Techniques in Education study, impersonation activities, physical activities and games used for different purposes in the field of creative drama were determined and adapted to the objectives and achievements of the ICTcourse. The drama application, which includes topics such as greeting, communication, harmony, trust, role playing, and improvisation, has been designed in relation to the content of the ICT course, and examples of the use of games and physical activities in the ICT lesson are presented. Many games and activities were applied in the drama study, how the games could be used in the lesson process was discussed with the participants, and it was observed that the participants gave examples suitable for different topics and achievements. Some of the games and physical activities used in drama work can be expressed as ashura, freeze-fire, duel, one-two-three, Sun! landlord-tenant, imaginary journey, communication network, blind car, minefield, parasite, find your home. The games or physical activities mentioned were used in accordance with the subject and achievements within the scope of the preparation-warm-up, impersanation and evaluation phase structure of the creative drama.

Due to the nature of the ICT course, the use of computers occupies an important place in the transfer of the subject and achievements of the course. It has been observed that some of the ICT course teachers who apply games and physical activities do not have an information technology classroom, some of their classes do not have sufficient technical infrastructure, and some of them have a technically sufficient classroom. In this case, it can be said that the teachers consider the technological competencies of the class while planning the ICT lesson. It has been observed that teachers use games and physical activities at the beginning of the lesson in order to prepare for the lesson, subject or achievements, during the lesson for students to say certain concepts, to repeat some statements in the ICT lesson, or for evaluation at the end of the lesson to measure whether the lesson's achievements have been achieved. In this process, it can be stated that the activities are carried out in a suitable area in the computer classroom, not at the computer.

Required permissions were obtained from the relevant institutions regarding the drama practice carried out before the research. In order to apply the online form and to use the participant's statements in the research report, a consent form was prepared and the participants were informed about the research process.

FINDINGS AND COMMENTS

ICT course teachers who participated in the drama study, in which impersanation activities, games and physical activities were employed within a program, applied the methods and techniques, games and physical activities that they acquired after the study in their classes, and answered the questions asked about these practices. Reflecting the experiences of the participants in the classroom, “What kind of effects do you think the use of games and physical activities in ICT lessons have?” The categories reflecting the content analysis of their answers to the question can be seen in Figure-1:

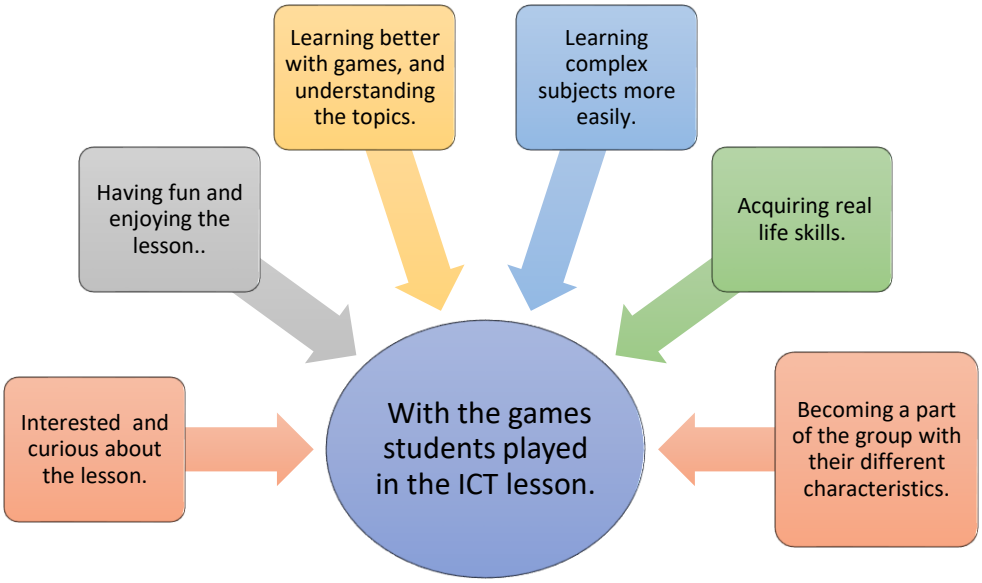


Figure 1. Findings on the effects of games and physical activities on students

It is seen that the participants use the games and physical activities that they learned in the drama education for different purposes in the ICT course. It has been observed that games are occasionally used at the beginning of the lesson for the purpose of warming the students to the topic covered and thinking about the achievements of the lesson, and sometimes for facilitating the explanation of complex subjects. Based on Figure-1, the categories created for the use of games in the ICT course, related participant statements and comments are presented under headings.

Being interested, willing and curious about the ICT course

Due to the nature of the game, it requires competition. When the students are observed while playing, it is seen that almost all of them are willing to participate in the game. It is seen that the students who are reluctant during the lectures participate actively during the game play (Genc, 2014). It can be said that the will in question is generally not caused by the structure of the game, its type or the other players participating in the game, and the most important feature that invites students to the game is the element of competition, which includes winning or losing (Huizinga, 2010). Some researchers, who revealed that some students are indifferent to the lesson in the ICT course, state that there are problems in participation in the lesson. On the basis of this reluctance, gender (Ozgenel et al., 2018), the fact that the course contents are not handled with effective methods and techniques, the theoretical teaching of the course, the needs and expectations of the students are not met or the classroom not having the necessary technological opportunities, the negative attitudes of the administration, other teachers or students towards the course. (Sahna & Basbay, 2013; Aydin & Horzum, 2016; BTE, 2017; Ercetin & Durak, 2017). Particularly, the limited opportunities in public schools make it difficult to attract students' interest in class participation (BTE, 2017). Apart from the aforementioned variables, it can be said that the inability of students from economically low-income families to access technology or the prejudice that men are more prone to technology causes some students to be indifferent to the course.

K3. It is 100% effective in warming up to class. Involving students in an activity increases their interest in the lesson and prompts them to think. The attention that can not normally be collected with straight narration is gathered abruptly.

K4. I think the games are definitely effective. It is a method in which the gains are learned by adding games to the applications that the children may not have tried in any way.

K8. They are definitely more willing to learn the course topics. Even students with very low achievement levels try to take the words or instructions we give to be included in the game.

In this context, K3, who stated that he could not attract the attention of the students with methods such as narration and question-answer while teaching the subjects of the ICT course, stated that the games increased the curiosity and prompted the students to think. K4, on the other hand, said that the course contents, which students were quite reluctant to do, started to draw their attention thanks to the handling of games. Similarly, K8, who stated that the students were more willing to learn the lesson topics with the games, stated that the students who had low success in the lesson and were unwilling to participate in the lesson due to the mentioned features of the game took part in the lesson. ICT course teachers stated that the students became curious and eager about the games played. The statements of the teachers disclose that the students focus on the lesson more easily with the games, and it prompts

them to think, except for the highlighted cases. At the same time, it was seen that the games contributed to the students in trying the applications that they had trouble in trying before, and in listening effectively to the instructions and information conveyed by the teachers.

Having fun and enjoyment in ICT course

One of the problems faced by ICT course teachers is that students are indifferent to the topics covered in the course. Communication between teachers and students is limited in ICT lessons where communication and interaction are very low (Karaosmanoglu & Adıguzel, 2017; BTE, 2017). The main purpose of education is not to make students have fun, enjoy or feel good, but to make them have positive emotions and be more willing to the lesson.

K2. Students not only learn but also have fun. “Is there a game today too?” they ask, which makes me happy.

K10. The students enjoyed the games very much and learned more permanently. They were excited about teaching with a different method.

K2, one of the teachers who used games in the ICT class, said that the students learned by having fun and that the students were happy by playing games in the lessons. K10, on the other hand, stated that the students' playing games, unlike the previous lessons, excited them and they learned by having fun.

K13. I find it enjoyable and aspirational because it puts an end to the stationary listener position.

K14. The game makes children very comfortable and happy, which makes the teacher's job much easier.

According to K13, the reason why students are so eager is that they act differently from STI lessons in which they sit on their desks or in their chairs and put an end to their sedentary forms. K14, on the other hand, emphasized that games make the teacher's job easier, and that children become happier and more relaxed with games. It is seen that STI course teachers generally use games that serve as a tool and an assistant in the learning processes, not only in a way that the students will have fun and enjoyment, but also in accordance with the subject and achievements of the course. K2 said that the students who come to the lesson with the expectation of playing games learn while having fun, while K10 said that they learn more permanently with the games they play with pleasure. It can be said that the idea of "teaching a lesson with a different method" as expressed by K10 is effective in students' learning of the course subjects and their willingness towards the course. It can be stated that the difference in the teaching of the course is the games that are determined in accordance with the learning objectives and that make the students more active.

Learning with games in ICT course

It can be said that games are very effective tools in terms of establishing analogies. Students who take on different tasks and responsibilities while playing a game have fun in the game, enjoy the game and get excited. However, beyond all this, in the game played in accordance with the goals, objectives and achievements of the course, students unwittingly learn the terms, concepts or relationships between concepts in the course. At this point, as K1 stated, it can be said that the students learn the subjects with the effect of the games and understand them better. Students trying to make a certain character move in the computer environment better understood the logic of moving in the minefield game.

K1. They learned more permanently with games and better understood the logic of acting according to the computer in the minefield game.

K8, on the other hand, stated that he started to apply the games and physical activities he learned as soon as the drama education was over, and he applied the topic he discussed with the network structure and features with a ball made from paper. K8 did something he hadn't done before and explained the topic of Network Components using games. The exam performance of the students was high even though they did not take notes in the notebook.

K8. I started to implement the activities as soon as I returned to school from drama education. In the first lesson, I started with the activity where the students made a paper ball and sent files to each other, and I realized how much fun the children had. In the next lesson, I covered the topic of network components with the game in the book. I deliberately did not write it in the notebook. When I asked about that subject in the exam, the rate of giving the correct answer was one hundred percent; I saw that I did not receive any negative feedback such as "we did not deal with this subject" or "we did not write this subject in the notebook".

Learning complex topics easier

The sayings of the teachers participating in the research showed that the students learned basic programming subjects such as algorithms and flowcharts more readily with the effect of the games they played during the lesson, and they perceived better the subjects that they had difficulty or did not understand before. The participants stated that the games facilitate the understanding of complex subjects and embody the terms or expressions used. For example, K6 stated that games embody difficult to understand subjects, similarly, K14 stated that subjects such as algorithms that can remain abstract or visual programming applications such as Scratch are easier to learn.

K2. The topics became more memorable with the games we played while explaining the algorithm and pc parts.

K6. I think that games are effective particularly in secondary school for children to embody the subject.

K14. Algorithm and Scratch can remain abstract for 5th grade. Drama techniques are really very effective to keep it simple.

Get real life skills with games

The use of games in the ICT course allowed students to review their life skills, acquire new skills, or improve their existing skills. It can be said that the students acquired the following skills during the games they played:

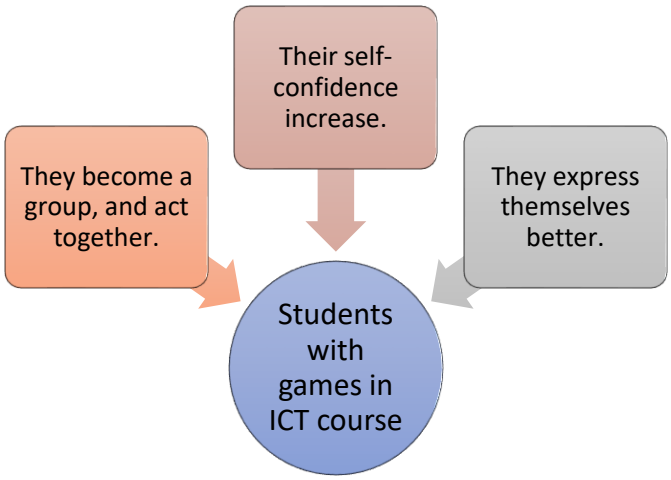


Figure 2. Real-life skills with games in ICT course

Most of the games played in the drama process require being a group. Being a group allows students to act with both large groups (all participants) and small groups (at least two participants). Acting together is important not only for the games played during the drama process, but also for reaching the goals and objectives of a lesson, so as to achieve a task, a goal, and a purpose. For example, it can be said that the ICT teacher's teaching about a subject and reaching the achievements do not depend only on his own performance. In order to achieve the aforementioned goals, it is necessary to cooperate and act together with students, school staff, parents or administrators. From this point of view, it is important for students to act together in the games, at least in terms of starting and continuing the game, in terms of enjoying the game. Similarly, it can be said that the students act together in the games they play in the ICT course, and they are a group in order to achieve the same goal. K7, while describing this situation as “being able to accomplish a task”, stated that group work is required to act together and this is through open, clear and sincere communication. What K7 says is crucial here. K7 gave the criteria of being a group without being aware of it. According to K7, students must first be a sincere, open and clear communicator to be a part of a group. It can be said that this is one of the conditions of both being a group and being a part of the group. Likewise, what K1 said is that students learned to work together with the positive contribution of games.

K1. Yes, they learned to follow the rules, to work together, to be a group.

K7. They saw that in order to achieve a job, it is necessary to work as a group and that they need to be in clear, open and intimate communication in order to understand each other well.

It can be said that the games and physical activities used in ICT classes are very effective helpers in overcoming these situations for students who have trouble in expressing themselves, who are not self-confident or who lack self-confidence. It is seen that the games that contain communication and interaction during the ICT course convince the students to act together in a harmonious manner. Games adapted to ICT course outcomes not only bring students closer to the goals and objectives of the course, but also enable them to produce a product with their peers. It is known that one of the most effective factors that develop self-confidence in learning processes is students' feeling of value. At the same time, introducing a product or contributing to the development of the product in question stands out as one of the situations that improves self-confidence. At this point, it should be stated that the product mentioned does not have to be a concrete design, that playing a game with the group, acting in accordance with the rules of the game, not getting caught by the it, ensuring the continuation of the game with groupmates means developing a product or contributing to the development of the product. The product here, in other words, can be defined as the game itself, which is started with the group, progresses with question marks, in which the it tries to find strategies to solve the questions.

K4. Thanks to the games, even the most silent and shy student in the class can express himself very easily after a certain time. All students take part in the lesson enthusiastically and willingly.

K11. Along with the games, the communication among themselves became healthier. Common feelings and thoughts such as empathizing with each other, respecting ideas, being able to cooperate and work in harmony have developed. I can say that they have developed in terms of self-expression, shyness, bashfulness, and self-confidence.

It can be said that there is a connection between students' self-confidence, centredness and self-expression in communication processes. In other words, it can be said that the self-confident student also expresses himself clearly. Or, it can be said that students who express themselves well and do not have problems in communication do not experience self-confidence problems and are self-confident. This is related to the holistic structure of the games played in the drama process, which is a group activity. It can be said that a skill develops simultaneously with all other skills in the learning process. In this respect, the education process is a universal process in terms of the co-development of skills. Similarly, students' self-confidence, self-expression or working in harmony with the group they are in are skills that develop together. For example, assertiveness and the ability to work together, as K5 said, developed simultaneously in students. While expressing themselves, the students became more assertive in the group and learned to work with their friends. K9 and P12 also stated that the students expressed themselves more readily in the games and that their interaction contributed to this situation. K8, on the other hand, compared the effect of the games played in the lesson with the Turkish lesson and stated that they were more effective. He attributes the emergence of this effect to the communication and interaction that takes place in the classroom, the students working in harmony and the sharing made. The skills mentioned by K8 are also among the general purposes of drama literature and games (Adiguzel, 2019). As mentioned above, the games played in accordance with the objectives, aims and achievements of the course implicitly contributed to the students' acquisition of life skills and the formation of group dynamics. It is difficult to say that this contribution is completely independent of the objectives of the course. It can be said that in a classroom where there are students who communicate with each other and act together in interaction, course gains are realized completely.

K5. They became more assertive in expressing themselves and learned to work together.

K8. When it comes to expressing themselves, maybe they do this even more easily than Turkish lessons. I believe that it positively reinforces and develops subjects such as in-class communication, interaction, harmony and sharing.

K9. I have seen that they express themselves much more easily in games.

K12. They can express themselves more easily because they interact with each other.

One of the most important aims of the curriculum is that the acquisitions are not only the skills acquired by the students during the course, but also the students use these skills in their daily lives. The Information Technologies and Software Curriculum (2018), prepared for the 5th and 6th grades, was created within the scope of aiming to use the information and skills learned in the lesson in daily life as well as the use of information technologies in daily life. The student competencies determined by ISTE (2016) have also been developed in this direction. Considering that the school is a development area, a place where knowledge and skills are learned, daily life is an area where the learned skills are practiced, where they turn into behaviors or attitudes, that is, where students come face to face with reality. Instead of a safe, free and comfortable space at school, daily life is an uncertain, less comfortable ground where one is left alone with one's anxieties. The ability of students to walk without slipping on this ground, to maintain healthy relationships, to look at events, problems or relationships impartially and critically, or to solve the problems they encounter, varies depending on the quality of the skills they acquire at the school, which resembles a laboratory environment. It has been observed that the students who play games in the STI course adapt the skills they have gained with the contribution of the games to their daily lives, and use these skills at home, at school, in the classroom, during recess or in free time. The word “adaptation” here means both using the learned information as it is and transforming the acquired information in a way that is suitable for the situation they encounter. It has been observed that the ability to use information technologies, which is one of the aims of the ICT Curriculum (2018), together with the games, in different ways in daily life has improved. At this point, what K3 said is very critical. Students regarded the knowledge and skills they learned in the games as an experience that they could use in their daily lives.

K3. Students realize that when they learn in the game, they are able to stop seeing it as a lesson and adapt it to their daily lives.

K5. When I saw that they played out what we taught in the lesson, I realized once again what a wonderful thing we learned and taught.

Being part of the group

Games with many different features are used for different purposes, whether educational or not. It can be said that the game is perhaps the most well-known concept in the world in terms of every person's experience. When the word game is mentioned, something clear occurs in people's minds: The game is a domain with rules, winners and losers, a different time, place and form of its own, a beginning and an end, free to join or leave (Huizinga, 2010).

Apart from these features of the play, it also has an inclusive quality while teaching a subject in the drama process or in any lesson at school. Inclusiveness is based on the fact that the game is playable by anyone in the environment in which it is acted. The imaginary circle created by the game includes all the participants in the classroom environment, drama workshop, school garden or on the street. The scope of the game includes not only the students or people playing, but also the imaginary circle it creates around it. The pleasure, delight and skills developed by those who play the game are much more than others. However, those who watch the play also travel to the fictional time of the play, walking in an imaginary space with their steps.

In the process of playing the games, there is no discrimination in terms of language, religion, race or gender. The game also involves all students with different characteristics in the classroom. Whether students want it or not, the lure of the game draws them to it. For instance, when a student who is identified as unsuccessful and with low grades sees that a game is played in accordance with any subject, he immediately wants to participate in the game. During the research process, ICT teachers stated that female students are more shy or anxious than boys in the subjects that are based on the teaching of computational thinking skills, which they define as coding, algorithm and programming. For example, K7 stated that female students were afraid of coding and that games eliminated their anxiety. The games drawn on in the drama process, and the handling of the topics based on computational thinking through games made the female students active in the course process and increased their success in the course. Similarly, K4 said that students who view the lesson negatively are more interested in activities, and that male and female students who stay away from each other begin to communicate with games and activities. The words of P4 that each student actively participates in the lesson support K7 and K2.

K2. They liked to be whole as a class. They also had fun with competitive games from time to time. Active participation of each student in the lesson was ensured. Of course, these are not things that happen in every lesson, obviously. If the subject covered in the lesson is suitable, it is enjoyable to have fun as a class.

K4. Along with the games, some of the students who view the lesson adversely show interest in the activities. Their communication is increasing. In the fifth and sixth grades of secondary school, boys and girls normally stayed away from each other.

K7. Students who were afraid of coding, especially female students, saw that they could be very successful thanks to games. They were more successful in the learning process.

At this point, it can be said that the game creates a learning ground based on equality of opportunity among students. It has been observed that students who cannot show themselves very well in methods or techniques based on improving cognitive skills such as narration, question-answer, and brainstorming and expressing themselves, have difficulty in speaking by raising their fingers, conceal themselves or have problems in attending the lesson, attend the lessons in which games are played. According to K4, the participation of the students, who are overlooked in normal times or who do not make as much effort to attend the lesson as other students, and which is defined as inclusion, increased with the games, although an individualized education program is designed for them, but these programs are not implemented much. These students started to participate more willingly and actively in games and physical activities.

K4. Drama activities mostly have a positive effect. He especially develops intensive communication skills. Even combining students participate in the event very willingly and actively.

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

The results of the research reveal that the games used by the participants in the ICT course make the course more enjoyable and fun, the students learn better with the games and understand complex subjects, and the students gain real-life skills thanks to the games played. It can be said that the results of the research carried out for the teaching of the ICT course presented as a solution proposal to studies that reveal such problems as in the students' reluctance towards the course, the fact that the course subjects are not taught with appropriate methods and techniques, the theoretical teaching of the course (Sahna & Basbay, 2013; Ercetin & Durak, 2017; BTE, 2017), the needs of the students are not taken into consideration, and the classroom does not have the necessary technological facilities (Aydin & Horzum, 2016; BTE, 2017). Studies conducted in the literature show that students learn through games, having fun, and actively learning (Bal Incebacak et al., 2017; Karaosmanoglu & Adiguzel, 2017; Sahin & Arslan Namli, 2018), and that it supports the results of the research in terms of revealing that they have studied, researched and experimented as a teacher (Sarioglu & Kartal, 2016) and that students have acquired real life skills (Sahin & Arslan Namli, 2018). At the same time, students also became more interested and curious about the lesson with the games, they learned the complex subjects more easily with the games, and they felt that they were a part of the class with the games they played.

The findings show that the students gain different skills in the ICT course in which the games are played, and they start to use these skills in their daily lives. The games played in the ICT course contributed to the students' self-confidence and being self-confidence. Students expressed themselves better with voice, verbal, gestures and mimics or body language during the process of playing games, and they were able to convey their feelings and

thoughts to their friends or teachers in a more qualified manner. At the same time, the students formed a group in which all the students were in and no one was left out in the games they played together and acted as a group. It can be said that the games played in the ICT lesson, learned and applied by the teachers during the drama process have an effect on the development of these skills.

In ICT classes, where face-to-face communication is limited, students usually spend the course individually or in pairs looking at a computer screen. It can be said that students and teachers cannot do activities based on communication and interaction, and cannot play games during the ICT course, which is computer-based, application-oriented and has a flow of information from teacher to student. The results of the research uncover that positive results are obtained in the classrooms where the mentioned games or activities are carried out, the course topics are conveyed more effectively with the support of the games, and the students participate in the lesson more willingly. The findings show that teachers can use games or physical activities to achieve the learning outcomes of the course in cases where there are certain restrictions or obstacles in the ICT course. Games and physical activities are employed in situations where the equipment or the number of computers in the classrooms is insufficient and the number of students is crowded (Yesiltepe & Erdogan, 2013; Karakus et al., 2015), making abstract concepts more intelligible, processing theoretical subjects or expressing complex expressions. It can be used as an effective tool by ICT course teachers in the processing of subjects that students have difficulty in understanding (Karakus et al., 2015; Aydin & Horzum, 2016).

When the literature survey is examined, studies on the use of games and physical activities in ICT lessons are not frequently encountered. In this context, studies can be conducted to determine the use of games in ICT lessons and the opinions of teachers and students for the use of games. The participants stated that the games were very effective in learning the subjects that were complex for the students and remained abstract in the narrative. In the light of the findings and results obtained in the research, studies can be carried out on the subjects of creating algorithms and programming that focus on developing computational thinking skills, which are covered in the ICT course. Studies can be designed to determine the effect of games on the sub-dimensions of computational thinking developed by Kalelioglu and Gulbahar Guven (2015) during the ICT course. Games can be compared with different methods and techniques by performing studies to determine the effect of games in teaching different subjects in the ICT course.

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