

**EÖTVÖS LORÁND UNIVERSITY FACULTY OF EDUCATION AND PSYCHOLOGY
INSTITUTE OF PSYCHOLOGY**

MASTER'S DEGREE THESIS



**STUDENTS' PERSPECTIVE ABOUT USING DIGITAL GAMES FOR KNOWLEDGE &
SKILLS BUILDING: A CASE STUDY WITH MASTER STUDENTS IN EDUCATIONAL
TECHNOLOGY IN HUNGARY**

BUDAPEST 2022

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ABSTRACT

This study, which will go through the list of students' experiences and thoughts on the gaming, summarizes why it is important to use games in daily life and school life. The expectation of research is that gaming is seen in a new light and that you appreciate the various nuances that perceive gaming experiences to be essential for all ages and situations. The goal of game-based learning is to create a new learning system that incorporates gaming possibilities. Overall digital games and effective learning aspects are frequently used to attain this goal, including all types of digital games and video games, which are the subject of this study. As the field of digital games continues to develop, this study seeks to investigate perspectives, thoughts, and experiences from the literature as well as statistics from students who play entertainment games from a pedagogical standpoint. Thirteen educational technology students wrote an essay about their experiences in a game-based learning class, coding and synthesizing the results based on the most often reported criteria in the students' actual and digital lives. The major goal is to investigate the impact of digital games on accomplishing certain learning objectives such as knowledge and skill development. Overall, the findings suggest that games have a good impact on student learning. When games are integrated into the learning process, the researchers identify three learning outcomes: emotional, behavioral, and experiential. As a final phase, the study compiles evidence in support of the use of digital games for the goals of improving problem-solving and teamwork skills. Such proof also paves the way for future study alternatives and directions. Students using video games showed that their problem-solving and collaboration skills increased significantly by experiencing real-life experiences in digital game. Although this shows that video games are an effective method for building knowledge and skills, the playing histories and motivations of the students participating in the study presented different results about the outcomes of learning and development.

KEYWORDS

Game-based learning, digital games, problem-solving, collaboration, educational technology, learning outcomes, game efficiency

CHAPTER 1 INTRODUCTION

Along with technological developments, digital games and learning with games have also found their way into information and communication technologies. With the easy accessibility of digital games, it has been presented as a modern, innovative and effective learning method. In addition to learning information, it has attracted attention from educators in terms of being permanent and the continuity of learning digital games being accessible regardless of time and place.

The research first considers the discourses and value of playing the game in the framework of problem-solving and collaboration skills. Digital games require instruction to be used for developing problem-solving and collaboration skills under the game-based learning approach. Designers have to understand what student's real-life skill experiences and digital experiences are while they learn about problem-solving and collaboration skills. The study of cognitive process and the relationship with the application of digital games for specific learning content require of individual's experiences. Games and players' experiences are independent as each individual's learning is differing. But there is common ground for digital games to influence learning because all games are including fun. The study will discover students' perspectives on games' features and at the same time see what kind of intellectual process will require for each of them to be able to develop their problem solving and collaboration skills will be examined at the end of the research. Those outcomes will help designers and educators about how digital game is important for teaching issues such as the improvement of problem-solving and collaboration skill and for designers in the future, at the same time how to meet the demand of skill acquisition and progress of enjoying elements as joy is important for motivational demand and skill acquisition require behavioral responses and intellectual support. The relationship between digital games and the practice of the skill, as well as for identifying factors influencing the educational technology student through game-based learning is important. As Mysirlaki and Paraskeva and Akilli, (2007) conclude that as a result, there are lecturers, instructional designers, and researchers have proposed video games as a learning and teaching medium. Higher education students who experienced playing games during class around the world have a limited number of students. Therefore, students who studied digital game-based learning and their perception and attitude toward the use of digital game-based learning in potential learning on the acquisition of problem-solving and collaboration are important.

By a large margin of researchers, digital games are the most effective social interaction skill tool which engaged with teams in the digital environment in the field of game story and game level. Eck, (2006) mentions that play is according to researchers, is a primary socialization and learning mechanism shared by all human cultures and many animal species.

1.2 Research Significance

When the related literature is examined; Many features of digital games through serious games and educational games have been the subject of research and learning with games has been mentioned. This study aims to examine general beliefs and experiences in video games that can be used for educational/skill development purposes and that can simultaneously improve the skills of players with adventure and entertainment elements in real life and the simulation game world. It is tried to obtain information with students' perspectives about the features of the game, which is necessary for a gamification-based education, and to gain experience in the students' problem solving and collaboration-based simultaneous development in newly designed games. It is believed that the game experience of the students will include views that will help to look from two sides, both in terms of being students who have taken the game-learning course and in terms of their teaching identities as educational science graduate students. In the games developed, it will be important to have a game evaluation analysis with the relationship with the player, one of the elements of the game. The research aims to examine the effects of 21st-century skills on digital games from their experiences in the world and in the game, rather than being a motivation tool for students, and to determine the opinions of students who play games about entertainment games.

1.3 Research Problem

The integration of daily life digital games into learning has not received much attention in the development of instructional technologies that today's students desire. Karl Royle (2008) says that despite the best intentions of instructors and the games industry, attempts to integrate games into the curriculum have often failed. Such efforts have failed either because educational games fail to interest the intended audience or because truly engaging games fail to deliver adequate instructional value. For example, interest in digital gaming the design of educational games, and the use of serious games have been the subject of research for learning with games for some time, but the use of different types of games for the purpose of learning and

experiencing specially to strengthen problem-solving and collaboration through students' experiences, is rarely mentioned.

Serious games and gamification have been the research subjects of learning with games. Most of the feedback given to the game developers has been evaluated as limited for a certain subject over the games designed and implemented for education. The skill development of the games was included as a potential outcome, but it was not considered in terms of its contribution to the skill development training process at a certain time.

Some studies show that games have elements for improving skills, but it doesn't mention how digital games can be used and why and how it's important to be used for building skill development with usage of entertainment games hasn't gotten much attention. Digital games have specific/sufficient elements which will be helpful to use digital games for teaching problem solving and collaboration skills. Students' perspectives carry big importance for further attention on games' features and player's interaction with games. The accurate answer will be trying to be found out by educational technology student experience and beliefs while playing games what kind of skills or knowledge it helped them to improve their collaboration and problem-solving skill will get main attention. While investigating these, it will be tried to determine how much they learn in real life and how much they apply to their experiences in digital life, and it will be pointed out that the effects of the game in many areas rather than the sedentary lifestyle, especially it will focus on why their use in learning with games is important.

1.4 Research Purpose

The purpose of this study was to determine the effectiveness of various genres of digital games as instructional techniques and attributes on education. This study compared the differences in students' perspectives following game-based learning. Findings from comparisons between the instructional techniques of reasons of play, thoughts of play, prior knowledge, skills development based on problem-solving and collaboration. Students' narrations will be used to report findings on whether students believe that digital games can be used for knowledge and skill-building better under game-based learning classes.

Although game-based learning has been studied extensively in serious and educational games context, research on the advantages and disadvantages of games in the scope of problem-solving and collaboration with real-life experiences are still limited in scope.

The purpose of this study was to look into educational technology students' perceptions of the potential benefits, or lack of digital games usage in the context of learning and skill development. The aim of this study is to examine the students' viewpoints on the function of digital games according to problem-solving and collaboration skills who will have a master's degree in educational technology, which are spreading rapidly in the age of rapidly developing technology. , exploring whether students believe that playing games can be a crucial part of learning(game-based learning) and experiencing problem solving&collabroration, and finding out what effect game playing perceptions cause will contribute to the use of future games in learning and production.

The purpose of the study can be found by the following questions will help to understand why qualitative research narrative essay task instrument is important to be used for games experiences.

-How digital games can use for supporting learning and problem solving and collaboration skill development in the framework of game-based learning.

-What kind of interventions are shaping game experiences in the framework of learning and experiencing in real and simulated life.

1.5 Research Questions

This study has a main research question on playing games experiences examined according to knowledge and experiences.

R1. What are the students' reasons for playing digital games?

R2. What do students think about the advantages and disadvantages of playing digital games?

R3. What do students think about the prior knowledge and skills they need to use playing digital games?

R4. What features of digital games make students perceive gaming as a tool to develop problem-solving and collaboration skills?

R5. What do students experience about using the skills and knowledge, especially problem solving and collaboration that they have learned in a game in real life?

CHAPTER 2 LITERATURE REVIEW

1.1 Previous Research

In the previous studies conducted in the field of learning with games from different aspects with considerations on the theoretical, practical, and technical aspects of using digital games for learning. (Whitton: 2009 p.1) it is seen that the effects of digital games on variables such as students' attitudes, motivation, and success are investigated.

When the literature is examined, learning with digital games attention to educational theories. At the same time, research has been done to release the potential for motivation and behavior change. Given the prevalence of digital game players, it is widely assumed that various types of games will positively affect individuals' motivation in the environment, these practices will produce positive results. The educational role of the game in life and the use of games in education have historically shown rapid and different development in parallel with technology. Fabricatore, (2000) stated that play-based learning to the digital game-based learning has importance for multidimensional participation in learning it has taken attention. The fact that digital game-based learning is a necessary complement to pedagogy has been recognized by educators. For example, when Gross and Salinger, (1989) talked about the need for play and the emergence of play in their book, he talked about 3 different types of play and expressed the game identities formed by love, fighting, and imitation. While these educational aspects of the game are classified as classification, the game has been accepted as an educational tool from Plato until today. Hunnicutt, (2009) mentioned plato description of the role of man in life as a game. Hiding and seeking active life, and discovery of the individual are all one. He stated that he explained the stages of the game as a whole of them. According to the widely accepted view, the illiterate of the future is not illiterate; There will be people who don't know how to learn. This is the style of learning and the way one relates to the world, which is so impressively demonstrated by Babayiğit and Avanoğlu. Decision-making/creating way, perception way varies according to the way of evaluation (Jung). The first way to look at the relationship of the game with education is to know one's own learning style, and the second way is to provide the appropriate learning environment and characteristic features of the game. Janakiraman (2021) explain about digital game-based learning (DGBL) environments can engage learners by allowing them to try out new behaviors during their playing experiences which influences learning.

As previous research declared the idea that learning with games provides many advantages in education have emerged, and game designs and gamification have come to the fore through many different game types. Examples are from several studies regarding skill improvements and digital game playing elaborated under circumstances such as if students are working together to create games in a joint environment. Regarding skill development, researchers tried to find out if the changes are lifelong and durable. Laakso et al., (2021) said that games have positive effects on both in-school and out-of-school activities of students while they create games, they are working collaborating with. Learning by doing is the ground of game-based learning. Learning outcomes specified with digital games and the game-based learning area are mostly about serious games and educational games which are created for specific learning contexts. All other digital game studies have been focused on literature, computational thinking, and math teaching. Finding outcomes is expected to be helpful for teachers and future game designers in designing effective teaching tool games. There is a list of studies mentioned about some learning dimensions with games. Millions of students are unable to attend school or university because of school closures. With the closure of schools, a new education system is taking shape all over the world; countries have contributed to learning with various solutions, and games have gained prominence in order to associate games with more educational aspects. It is seen that many researchers have made different definitions of learning with digital games. Lai et al., (2018) acknowledge that digital games can stimulate cognitive development. At the same time, Silveria and Silva (2020) say that reusing and adapting games provide component base developments. In addition to the fact that digital games appear to have component-based development and cognitive developments, according to Freitas et al., (2013) mention that Leadership skills can be improved by digital games in both virtual and physical environments. Digital games can be used to practice leadership skills in-game environments, allowing learners to safely improve their skills while also improving their social interactions in real life. It is seen that the definitions made emphasize that video games are not only dependent on space and time for educational purposes, but also have a developer quality outside of school, and many injured aspects of games are mentioned. It is critical to comprehend the impact of games and game elements on learning and motivation.

According to Grund, (2015) note that digital games are facilitating learning and motivation.

The challenge and competition tasks in the game dynamics contribute as skill development metaphors used in digital games in social skill

development. Zheng, (2021) proved that digital games are social skill developments tools. When we look at the use of serious games in the field of education, it is seen that they are widely used in learning science lessons.

Levine (2013) mentioned that games have robust achievement in literacy, science, technology, and math. In another study of games, potential learning ability is according to Shliakhovchuk (2020) games have facilitated the development of intercultural skills. Life became more globalized. People are forced to be more active than before. The fact that gamers can reach many different people at the same time, not only in physical environments but also in simulations, reveals that games are effective in developing intercultural skills.

Freitas (2017) found about effective learning within human-computer interactions and learning enhancements are related. Another notable aspect of video games is that they are used to develop various skills. Qian and Clark, (2016) already mentioned that games are concerned with the positive effects of critical thinking, creativity, collaboration, communication and information, media, and technology skills. Also, Romero, (2014) mentioned that serious games are potential fostering skill developments instruments such as development in collaboration, ICT literacy, social and cultural skills, creativity, critical thinking, and problem-solving.

According to previous studies, digital games provide more learning ability than previously thought, develop higher-level thinking skills, and contribute to student motivation to activate individual learning by supporting learning environments. Characteristic of entertainment games in the context of learning found that entertainment games are important for 3 facts which are gains in learning. First, through games, skills development through games, learning as a curriculum-based approach to learning, learning as cognitive, and learning as behavioral permanent changes through games. According to Dondlinger, (2007) Educational games are those that follow the skill and format in which players practice repetitive skills or rehearse memorized facts. Dondlinger, (2007) Even if the game does not have a teaching purpose, it supports the fact that it is instructive. It is useful to know the features of the game to use the game effectively. Knowing the functions of game dynamics and mechanics is important to know what effects the game has on the player. Individual behavioral change is one of the primary goals of education. Game dynamic and mechanics influences individuals' changing behaviors. Game dynamics and mechanics are shaping the process of design and context of games' creation. Digital

games are started to use not only in schools but also in training, for educational and business purposes. One of the game's dynamics is expression. Self-expression is one of the game dynamic Bunchball (2010) defined game dynamics are achievement, competition, feedback badge, and self-expression. At the same time, Brulleon defines game mechanics are level, points, leaderboard, challenge, gift, and charitable as existing game design Shapiro, (2014) mentions that digital games' mechanics are the most important features of learning. If the game has challenges and fun, then it is appropriate to be used for learning. The efficiency of games and functions on players and game-based learning approach and integration with educational digital games were discussed in previous research. Collaboration and motivation have taken big attention with game-based learning. Game elements tried to be defined for specific lesson plans while teaching during game-based learning. Teaching strategies for game-based learning are examined from the teacher's point of view. Students' perspectives tried to be considered while they create games or when they have played the same game and put final outputs. Similarly, Sutton-Smith (1997) express the reasons for play in various type. Those reasons allow participants of games to make playing games is reasonable. Sutton-Smith, (1997) expresses the reasons of play in various types such as the reason of development, reason of fate, reason of power express and identical connections of players also dreams full reason and spending joyful time and the result of experiencing is mentioned reasons. All these reasons are determined based on the player's choices within gaming experiences.

Games are with their own dynamics and mechanics are the embodiment of skill development. Jamet and Erhel (2013) explain that digital Game-Based Learning (DGBL) is a competitive activity that sets educational goals to encourage learners to acquire knowledge. The function is to promote learning or cognitive skill development, or they may take the form of simulations that allow learners to practice their skills. Instruction must determine before students play games. According to Jamet and Erhel (2013) infer the instruction in games is not specified instruction then the game can be misleading for the only purpose of playing rather than learning. Individuals' attitudes shaped in daily life with playing digital games have shown a significant interest based on the subject in personal experiences, which had only happened in an experiential environment, according to the reasons for playing games. Furthermore, game-based learning effectiveness demonstrated that games provide a constructive learning environment by engaging students in and out of gameplay that required the use of elements. The efficiency of games and functions on players and game-

based learning approach and integration with educational digital games were discussed in previous research. Collaboration and motivation have taken big attention with game-based learning. Game elements tried to be defined for specific lesson plans while teaching during game-based learning. Teaching strategies for game-based learning are examined from the teacher's point of view. Students' perspectives tried to be considered while they create games or when they have played the same game and put final outputs. They mostly look for creating educational games. Training purposes and learning aim were their main research. Entertainment games haven't gotten so much attention as being the acquisition of skills and learning. Digital games are a popular research field for teaching and learning and in game-based learning how learning occurs is vital to question the answer is when the learning environment is settled. Mulyati (2021) mentions that "many online games, including those on mobile devices, now include an "online "association element, making online gaming a social activity. Pivec and Dziabenko, (2004) stated game-based learning is (Kolb et al. 71) refers to the study process as "doing, reflecting, comprehending, and applying" in a game. There is a lot of research conducted by scholars regarding educational attainment such as the integration of gamification methods while they are teaching. Game designers pay attention to some common objectives while creating games. Rouse (2005) All functions, and form of gameplay is determined by game design. While designing games what students paid attention to is important. Previous researchers experienced that student designed their own games according to specific lessons.

There is not sufficient research that has furnished useful insights for comprehensive game elements functions based on student's perspective analyses and effects on a player from developing skill perspective as cognitive&emotional responses need further research. Which students improved problem-solving and collaboration by their experience and which game designers consider acquisition of problem solving&collabroration while designers create the game, they must find out what is student perception of playing digital games. Is there any determination which game features made student's skill development such as collaboration and problem-solving? Sefton-Green (2004) says in her research that anyone interested in how children learn with digital technology today, however, must look beyond institutional contexts to explore the consequences of children's informal day-to-day use of computers, mobile phones, and digital television, and other devices. All previous research showed that video games contain different abilities to understand the structure of learning and generating knowledge in educational settings. The one-way education system provides the effect of learning at the speed provided by technology

and requires the help of technology and the interpretation of digital games for technological tools it got attention day by day as digital transformation is already started. All findings show that games are new digital learning material as tools for teaching.

Game design and gamification ideas started to be challenging after releasing that everyone is having a computer, phone, or any kind of digital device which they can perform their playing experiences. Research area in the 21st-century papers handled research regarding design elements and players' type and game typologies was indicated in previous research of gamification for learning concepts. It still didn't determine what is a common aimed instrument in-game design process with reality on daily life situations. The digital world and real world still have so much distance between integrating and moving the same experiences in different platforms. Digital games we tried to be shown in a lot of research as a learning key tool and that's why games get attention and great interest for educators. In the field of digital games, game-based learning or which games contain what kind of values that are already possessed is demanded question. How can we evaluate games' potential use of developing 21st-century skills?

Based on previous research mentioned concerns above can be solved with two hypotheses that have already been done around game-based learning. Toda et al. (2019) But general research on digital games analysis with examples for game developers do not contain the deep understanding of skills and development required in the 21st century. In addition, this analysis will provide potential practical implications for approaching the digital games field from game designers' eyes and parents' perspectives. This research will help current and future guidelines for both groups.

Much of the learning experience in many games – especially those not specifically developed for educational purposes – occurs outside of the game's confines. The potential use of games with their own game identities requires research to observe the functions of game features in designated areas. This academic paper will break down those areas and those functions and research will try to bring out what entertainment games tell us according to the concept of inherent learning in real-world situations. Gee, J. P. (2005) interpret digital games' connection with the real-life situation as a crucial attachment to distinguish the meanings attributed to the games and to read the game literature, and to gain a different perspective of pursuing actions, problems, and solutions. Which article posed entertainment games

develop 21st skill development and what games can teach us? This main question is important to be answered before analyzing chosen games.

Gee, (2003) contends that successful computer and video games can teach schools, businesses, families, and academic scholars a lot about learning. Previous research show that entertainment games have been examined according to learning principles. But it has been insufficient to reveal the importance of these instructive qualities with which the game's elements are related with the 21st-century skill' context. How are those elements show up as tools for learning 21st-century skills? The autonomous learning value of video games outside of school has revealed the necessity of presenting games in a way that receives positive feedback from playing games in life. Video games' value of learning outside of school needs to be determined to receive positive feedback of game plays in real life. According to the findings obtained from this study, it will be able to give information about the factors that the game provides the results that the students have a positive effect on their learning. Different perspectives of video games for problem-solving and collaboration skills are summarized.

2.1. Learning with Digital Games

This chapter has reviewed connected and ongoing literature. In this section, information about game-based learning, problem-solving and collaboration skill developments, examples of how digital games' factors affect an individual's gaming experiences' , playing games' positive and negative effects, and the concept of learning by doing lifestyle are presented. Studies that involve students in game-based learning experiences are summarized. The general view of the digital games features has been summarized, and a brief overview of the advantages and effects of the game has been given. Then, the last studies on the elements, functions, and reasons for the games are summarized in detail. Different perceptions and views on the use of digital games for learning and skill development are presented. Studies describing game learning and video games are included as a summary of the literature reviewed.

The increased use of technological tools and the widespread use of digital tools have led to the use of digital games in learning-teaching environments, as well as in many other areas. Johnson and Adams and Cummins (2012) mention how the attention to gaming and learning is started. It is started when Gee (2003) announced the digital games' impact on cognitive development in 2003, there has been a focus on

learning and gaming with digital games. Digital games have some features that are compatible with purposeful work and social interaction, and they are likely to achieve success and talent, problem-solving, collaboration with others, and socializing in the digital game an interesting series of stories; and other features were also effective in these developments. qualifications may be repeated for educational content, but the game and game-based learning viewed space achieved in learning. During the examination, the situation of motivation and experiences with playing digital games by higher education students revealed that there are need for enhancements integration of digital games in the learning environment particularly in three areas, students' reasons of playing the digital games, the collaborative learning environment, and problem-solving skills progress. The digital game features impacts players from different aspects. TÜDOF (2012) announced that games are improving hand-eye coordination, reducing negative emotions such as stress and nervousness, socializing people of millions of different religions, languages race at the same time in one simulated environment. Also, it is important that how players learn. Mysirlaki and Paraskeva, (2007) mentioned that the impact of digital games on individual learning is explained by socio-cognitive learning theory, which focuses on observing and modeling behaviors and explains why people learn by imitation. (Mysirlaki and Paraskeva, 2007, p.4) Looking beyond digital games from a social-cognitive learning theory perspective is that it can prove that games may influence learning in two ways, by their own socializing processes as an observer and by affecting experiences imitations during games within result as skill development on learner' inner experiences. On the plus side, digital games are the best way of learning because they include intellectual elements such as problem-solving development, easy motivation, and socialization which means that digital games require a cognitive process. While there are these 2 intellectual influence points for learning by games it still needs an instructional guide to occur learning even those 2-way mentioned are interventions of games that makes individuals think and act differently. As game-based learning is required instruction that is a key element while games as a teaching tool. Games are individual cannot be counted as a learning tool unless players are aware of how to classify the knowledge before and during play. Wouters et al., (2013) stated that players in learning environments require instructional support to engage in cognitive processes such as selecting and organizing new information. There is widespread belief about games. (Wouters and Oostendrop, (2013), p.412). Some researchers Granic and Robel and Engel (2013) said that "video games provide players with immersive and engaging social, cognitive, and emotional involvement. (Granic

and Robel and Engel, 2013, p.66). To learn to take place, different qualifications need to be completed. Individual thoughts are important for actions. Games are easy actions and hold hidden teaching tools. In the last few decades, digital games didn't get attention in continuing learning with it until all individuals had to engage with computers. New digital life created a new social environment. Playing games became for socializing tool and activity. Most countries in the world are getting relieved from their life with in-game links. Gee and Halferson and Shaffer and Squire, (2015) explained playing games that entails the formation of a set of effective social activities. Gee and Halferson and Shaffer and Squire, (2015), p.4). Although digital games are one of the social activities, technology requires that social activities be integrated into online settings. The ability of video games is not only limited to using the player's characteristic of obtaining collaboration more efficiently, and it demonstrates how digital games can contain small activities within chunks that promote learning. As it is argued that playing is a social lively movement. It is also a natural activity for human beings as it results in socializing Eck, (2006) mentions that play according to researchers, is a primary socialization and learning mechanism shared by all human cultures and many animal species. Mayer and Clark (2008) mentioned that instructional specialists believe that frequent behavioral responses are required for effective learning. Skills are important tools for behavioral responses. If the game requires before and in the game that helps students to learn effectively. Eck, (2006) stated that lions learn to hunt through imitation and play, rather than through direct instruction. Clearly, the games employ the game principle as a teaching strategy. If game play is designed for learning that makes games under game-based learning for reach to the specific aim of learning. People learn by living and experiencing. Because of the potential of newly developed skills with games during socializing is living and exploring together form that necessarily has the feature to take its place by various types of computer games in the necessary skills... Teng, (2008) brought a comparison between real life and digital life and he found that the ambition of humankind is the same in both environments. Teng, (2008) thought that even though frustrations in online games and real-life differ, the actions required for success in both have many features in common: various skills to be mastered, capabilities to be upgraded ("leveled-up"), team objectives to be met, career paths to follow (game character development), tedious routine work to be done, enormous knowledge to be learned, and difficult tasks to be completed (solving quests). These activities can advance job achievement both in the game world and in the real world. The game has more meaning than entertainment purposes. Game elements shape the purposes and

context of the game if the game is eligible to use for any specific purposes. According to Shapiro Jordan (2014), Digital games were shaped according to the mechanical definition which is what game designers refer to as the sum of the game's rules and structures. The game's components are defined by the mechanical structure. It is the result of a player's actions on the basic structure that makes up the game's compositions.

Thoughts of players are feedback for redesigning games to cope with developments in playing games. Numerous theoretical frameworks have furnished useful insights for comprehension of game elements' functions and effects on a player from a developing skill perspective. Rouse, (2005) says regarding the importance of the element of the game that they all function and the form of gameplay is determined by game design. If there is an expected specific outcome, then the role of design elements will lead to the game's outputs. Also, Jamet and Erhel (2013) assert that if the instruction in games is not specified and described then the game can be misleading in the context of only the purpose of playing rather than learning. Players might have negative assumptions about digital games or positive outcomes regarding game instruments and the connection of instruction. In the relevant topic that digital gaming does not serve only one purpose. however, it was noted for students' digital games were a useful tool if the trainer provided guidance on playing the game. When games can be used under pedagogical aims called game-based learning approach. There is popularity regarding game-based learning. There are many reasons and purposes behind game-based learning's popularity. One of them as Connolly and Boyle and Arthur and Hainey, (2012) state in their paper initially, interest was focused on how COTS (commercial-off-the-shelf) games, which are primarily intended for entertainment, could be used in learning, but at the same time, the interest grew in games-based learning (GBL), which is the design of games with pedagogical goals. Games are all for fun but if there is an individual's learning experience with games then that makes the game known for its own teaching characteristic. The second reason for the popularity of game-based learning is that the game-based learning approach is a student-centered method that helps the student to learn at their own speed while they enjoy. They experience different skills as outcomes of the game and when purposes of playing form with problem-solving and collaboration skills that make the game meaningful. Games don't have a borders usage field of it that's why the discovery of using games in education got much attention. as Gee, (2003) asked one critical question for deep learning and good education is how to obtain producer-like learning and knowledge while remaining reflective and critical. All of these assertions are self-evident. As a result, it is

fascinating that they are frequently ignored in schools. Many times, in school, children are expected to read texts with little or no knowledge of the social practices in which those texts are used. contend that successful computer and video games can teach schools, businesses, families, and academic scholars a lot about learning. Rapid changes in technology also changed the way of learning from the student's perspective. New life requires more practice in real life compared to trying to put meaning by text. The game-based learning approach gave me the new ability of teaching while practicing. Games for practicing collaboration skills have been mentioned in many institutions and get accepted as mandatory skills for achieving. Games are the embodiment of skill development. Jamet and Erhel (2013) said that digital Game-Based Learning (DGBL) is a competitive activity that sets educational goals to encourage learners to acquire knowledge. The function is to promote learning or cognitive skill development, or they may take the form of simulations that allow learners to practice their skills. Digital games' social environment is requiring more practice regarding specific skills such as problem-solving and collaboration. Globalization requires everyone to integrate with technology and improve some main skills. Koçak, and Göksu, (2020) counted common skills critical thinking, collaboration, communication, innovation, and productivity is common skills for (P21), (ATC21s), (P21), (QCAA), ISTE criteria which are those different frameworks analyzed and classified between 21st-century skills. Also problem-solving is recognized within P21 ATC21S ISTE assessment of skill development's framework. Collaboration requires moving together with the team at the same time keeping individual responsibilities to process cooperation within the collaboration

To increase the motivation of the students and to design the learning processes and materials as interesting and entertaining, the integration of entertainment games into the lessons was among the topics that attracted the game learning approach. Stevens and Champion, (1994) said that individuals who want to achieve teamwork abilities such as collaboration and problem-solving skills are important skills. In the real world' experiences influence simulated world experiences too. There is an intertwined relationship between skills and the use of skills. In addition to the skills required by the game world, having the same skills in real life will enable learning while playing games, so the game learning method is realized. The skills required to provide this experience vary according to the game elements, and the person's own skills. Matijević and Topolovčan (2019) mentioned that "throughout the game, the player must keep an eye out for obstacles to reach his or her goal. To achieve to solve the problem, the player must have well-developed motor skills as well as kinesthetic

intelligence for problem-solving. Digital games are boosting the motivation of players. Noraddin and Kian, (2015) stated that motivating students to learn by creating a collaborative environment and using digital games as a new method of instruction. Instruction is not simple when integrating digital games into learning concepts but there is one common ground bring that even game element and a person's own skill is required the reason for playing the game have a big effect on being able to know about digital games can be the instructive tool by reasoning. Individuals play games under some circumstances. The player is an active variable for happening action. Huizinga (1944) expressed that in the form and function of play, it is a self-contained entity. Playing is independent. The game is only dependent if the player is present with his or her own decision, which makes the game dependent. All of them need to be examined separately, but most importantly, the interaction and awareness of the player's experience with the elements in the game are important. Ultimately, students will yield a form of the game for problem solving and collaboration.

2.2 Game-Based Learning

When the literature is examined, digital learning combined with computer gameplay provides numerous benefits to educational applications. Digital games as a learning tool could be defined as game-based learning. It is seen that different assumptions and descriptions have been made by many researchers with learning with games. Digital games are a popular research field for teaching and learning and designing for the purpose of game-based learning. Game-based learning accrues when the learning environment is settled. The learning environment must be designed with games and those attention need to revise in some points. Two key factors have been the research area in digital games as digital games started to be thought of as learning tools and e new streams on game designs and the place of the player's experiences help in the design process stand out by meanings produced by games and players

A game-based learning approach is a key tool for maintenance elements that will be helping to improve those developments; cognitive, emotional, and behavioral developments. To be able to define those improvements it is important to look at design elements from a learning perspective under the theory of game-based learning. All those developments are important in the age of growth and have to be fulfilled with needed age with a designed learning structure. Designing structure for the development of those developments has

big importance in life. Although not all developments of mankind are the same there is the availability of improvement in the upcoming years with provided games. Digital tools such as games that enable self-assessment should be used to support self-sustaining learning. A child who does not play cannot generate ideas and cannot learn is the core point of discovering the learning functions of games. Digital games' connection with learning is that during the development of learning, the ongoing development of teaching and learning, started with technological reform took its place as digital games are informal learning methods. It showed that a new learning value of games can be noticed in the online learning environment where students spend their time for education and leisure, as well as their integration with technology. The experiences that set out in the emotions and thoughts necessary for the realization of learning conveyed the concrete example of learning as behavior. Games have an active role in learning because they are conducive to many trials and feedback. By trial and error, the features of digital games, providing feedback allows the player to improve my skills. The observations and experiences of the players, which can offer new perspectives to the games, determine new roadmaps. To give an example that there is a lot of research conducted by scholars regarding educational attainment such as the integration of gamification methods while they are teaching. Game designers pay attention to some common objectives while creating games. Salen and Zimmerman (2004) defined game design basics that include being familiar with design, systems, and interactivity, as well as player choice, action, and result. Context of rulemaking and rule-breaking, complexity and emergence, game experience, game representation, and social game interaction are among the topics that must be mentioned, and understanding the meanings produced by games are core design functions. The game design had a tied connection with game-based learning. Until players produce meaning on digital games, digital games' functions cannot be clearly understood. GBL studies will bring clear insight into the player's procurement process. GBL is one of the famous topics for advocating game's advantages for new century student-centered teaching method. Game design has not gotten attention and hasn't been probed as much as other fields of game studies.

2.3 Characteristics of Digital Games

Engaging with games is starting to be discovered with the design and development process. From game dynamics to mechanics, from elements to internal factors such as personality types, from learning environments to external factors such as time and age, it has an impact on the individual's game playing experience. To examine experiences

in games it is important that which kind of interventions are in-game affect players' consumption. All digital games' experiences are unique for each player. All factors those are digital elements, typology, and genres are intertwined experiences. One of the basic examples is as Välimäki et al. (2018) mentioned that gameplay is made up of player experiences. This is a gaming system. As an example of that dynamic is in the game in which player performance makes up gameplay activity. Player actions make up gameplay practices such as braking and changing gears, which are game mechanics. Players' experience on winning shows effective engagement with digital game dynamics and mechanics. Becker, (2007) stated that digital games feedback mechanisms inform players whether they are successfully proceeding towards completing the objectives. Some mechanisms of feedback include scores, heads-up displays, and verbal feedback. Those feedbacks help players to engage with digital games more effective way of learning.

2.3.1 Digital Game Elements

Digital games' elements include different components Tracy, (2019) mentions that formal elements of games are not only players. objective, actions, rules, conflict, boundaries, the outcome is also formal elements. Also, dramatic elements are the games are challenging, play, premise/character/story.

2.3.2 Player's Typology

Descriptions about digital games players' typology help characteristic effect of the player on gaming. Defining the player types and determining which of the players' personality traits correspond to the player types are important for the user's conclusion from the game. Bartle (2003) emphasized that gamers are grouped into 4 categories. Those categories are listed. Achievers Socializers Explorers Killers. Belonging of any group of it still must be thought within elements, genres, typologies all in all together. Digital games and players' styles of gaming differ from players' typology. There are many aspects that define the game as in the player's style. Reviewing micro research on games is important to reveal the aspects of the game. Tondello et al. (2017) stated that preferred game elements include strategic resource management, puzzles, artistic movement, sports and cards, role-playing, virtual goods, simulation, action, and progression. All in all, it effects to player's style. Preferred game playing styles include abstract interaction, multiplayer, solo play, and competitive community, and a lighthearted game.

2.3.3 Digital Games' Genres

Digital games genres are one of the other influences on the result of experiences during gaming trials. Tracy, (2019) denies that characteristics of games are various and grown-up. Adventure games place a premium on exploration, gathering, and puzzle-solving. Casual games are distinguished by the fact that they can be enjoyed by both men and women, young and old. This means they avoid twitch play, violence, and complex play to appeal to the broadest audience possible. Listed genres have attention. Produce of meanings with educational games combine learning and entertainment. Sports games are recreations of popular sports such as tennis, soccer, baseball, and soccer. The fact that you're racing and in control is what all racing games have in common. Simulation/building games, whether it's a company or a city, tend to emphasize resource management as well as building things. Experimental games are frequently self-funded and creatively explore new areas. Kids games are specifically designed for children aged 2 to 12. Action games emphasize reaction time and hand-eye coordination and can have an educational component. Character creation and growth are central to role-playing games. Also, strategy games emphasize tactics and planning, as well as unit and resource management.

2.4 Digital Games and Collaboration

When compared to a classroom with a non-inclusive and single-functional learning environment only, students in a classroom where digital games are unified into the classroom settings show a considerable improvement in their various skills, such as their attitudes and behaviors toward collaboration and problem-solving. The power of play is not only a constructive tool that helps students gain different experiences, but it also causes differences of opinion by pushing them to argue and provoke one another. Koçak and Göksu (2020) brought in their research that collaboration and cooperation in the same meaning. When there are people who aim to reach a common aim and work together to achieve that goal and motivate each other. Studies have confirmed that the time spent with digital games, which is a tool that takes place in informal learning environments, creates a social environment and the game is an effective skill development tool for students to develop their collaborative skills. Gale et al. (2011) advocate that the game element that conveys the cooperation of the students with the game can only be through its story. Individuals can now interact with their closest peers in a faster and more efficient manner thanks to technological advancements. The cooperative life has sought to use game player characteristics in the development of

specific video game instruments for further development in other skills. Gale et al. (2011) in many game marketing industries, the characteristics of players have been examined and it has been discovered that players advance their learning with digital games. That showed that game features and players' experiences are important for it. From dynamic to a mechanic, players to elements all are in interacted variables for game-based learning. Individuals are exposed to collaborative environments for both work and social life. It is critical to develop methods for increasing and reinforcing social cooperation. That's why cooperation has a significant impact on students' social lives. Gee (2007) described those players are both creators and consumers; they are 'authors' and 'editors'. Even at the most basic level, players also do design games through their actions and decisions. These decisions are the main characteristic of collaborativeness. Matijević & Topolovčan told that well-created digital games encourage collaborative learning with students at home or school through well-designed games that's the making sense of collaborativeness sign in digital games. Also, Johnson et al. (2010) said that games have the great potential to increase collaboration and interaction while playing. Also, collaboration happens, and it depends on moments and environments are interventions.

2.5 Digital Games and Problem-Solving

One theory that is crucial to analyze about digital games as the digital tool is the behaviorist theory. Burton and Moore and Magliaro (2004) mentioned that selectable behaviorism's three fundamental assumptions are directly applicable to instructional technology. The role of the learner, the nature of learning, and the generality of learning processes and instructional techniques are all covered by these assumptions. Education has been forced to integrate technology in a new way because of the digital age. The purpose of using technology in the classroom such as digital games is important for student learning outcomes. Every student has different learning characteristics, and the student has the main role as a learner. Koçak and Göksu, (2020) mentioned that individuals encounter many difficulties in their daily lives. Problem-solving skill can be defined as the ability to cope with the difficulties and problems faced by individuals. Milan and Topolovčan (2019) mentioned that because video games are essentially simulations of the real world, learning through games can function as simulated learning and practice. Throughout the game, the player must keep an eye out for obstacles to reach his or her goal. To achieve this, the player must have well-developed motor skills as well as kinesthetic intelligence for problem-solving. The learner's

character and the way of learning play the main role in choosing learning purposes during teaching. A necessity on nature of learning and development skills take to process and need to engage with digital games to motivate students and to determine methods of teaching. Determining effective material for the method of teaching with digital games needs to include strategies for students' collaborative works and problem-solving improvements. Entertainment games are effective interactive tools for emerging expected skills' outcomes. Kickmeier-Rust and Albert, (2012) refer that digital games' functions are not only provided problem-solving skills, and provides communication skills, social skills, and other skills that are known for modern success in the 21st century. Many of the 21st century's digital games genre is multiplayer types of games those games provide teamwork collaboration and communication. Students can learn at the same time at the same place if they work jointly for expected goal. Digital games functions such as visual and drawing options can reinforce students' collaboration during the learning process. Perceiving visual senses will help to conduct knowledge in working memory for the long term. Gee (2005) said it is an important competence to understand the connection of digital games with a real-life situation, to distinguish the meanings attributed to the games, to be able to read the game literature and to gain different perspectives on actions, problems, and solutions, and persuasion.

CHAPTER 3 METHOD

The study's method is defined in this section. The context of the study includes information on the study's general design research questions, participants and sampling, the context of the study, data collection instruments, data collection procedures, data analysis, the role of the researcher, research quality, limitations, this study took a one of qualitative research approach such as thematic analysis. Collecting all data at one time will be with narrative essay task and analysis of data based on thematic analysis since it is the most appropriate method. This method is appropriate to find out the opinions and attitudes of a certain group of people about a particular area or issue and the result of data doesn't need to create a new theory unlike, the main purpose is to interpret many results from collected qualitative data and elaborate digital games' functions from student's view.

3.1 Research Design

The research design was designed a type of descriptive research. Descriptive research was chosen because the research needs higher specificity and specific aspects of the subject. A descriptive study is

one in which facts are gathered and suitably evaluated. This type of study, for example, focuses on specific characteristics of the issue under examination and has a higher specificity. Its goal is to collect descriptive data and information to develop more comprehensive investigations. (Sri.P.K Varghese, (2017), p.22.) It introduces the qualitative study analysis of students' digital game playing experiences and game-based learning relation within. Collected data include students' beliefs, experiences, and attitudes widely in learning and skill development.

Qualitative analysis' one approach is thematic analysis. Thematic analysis means that as Braun and Clarke mentioned thematic analysis approach is developing themes from qualitative data (Braun & Clarke, 2006, pp.87) They argue about thematic analysis is the most suitable analysis for case studies. They are the popular social constructivist who have mentioned that relevant themes don't emerge from collected data the researcher is the one who constructs collected data and classifies under themes.

Thematic analysis will help categorize digital games in the 3 different areas those digital games can be used as learning tools, can be used digital games as collaborative tools, or digital games as a problem-solving tool. Data is processed according to the qualitative method. The thematic research quantitative research method, allowing to the interpretation of the findings in wider categories is among the most important features of this research model. The definition of "qualitative research" implies that it is a type of research whose findings are not obtained through statistical operations or quantitative tools (Strauss & Corbin, 1998, pp.39). Also, Elçi and Devran (2014) mentioned that narrative essay tasks are usually used in social science studies, but the recent years' educational researchers also started to use the narrative approach. Qualitative study used a narrative essay task because of understanding feelings regarding digital games in a learning context. In this research to interpret participants' pedagogical, curricular, and individual learner needs and relations with experiences narrative research will be helpful.

3.2 Participants

The educational technology program under the educational science Ma program includes a game-based learning course as the mandatory subject during the 2nd year of MA students.

Educational Technology master's degree 2nd year students in total 13 students joined the research. The participants were chosen based on

two criteria they are Edtech MA international students and the students who took 2021/22/1 EDUM-ET-109 game-based learning courses were familiar with playing digital games concepts in general. As part of the course, all students were enforced to play the games during their studies. The participant has enrolled in the game-based learning course of study at the university and during 1 semester they had the experience of playing digital games. 4 Indonesian, 2 Russian, 1 Turkish, 1 American, 1 Mongolian, 1 Kosovar, 1 Ukrainian, 1 Chinese, students are enrolled the GBL course. Those students studied game-based learning courses during the 2021-2022 autumn semester. Bereczki, (2021) shared syllabus. The course aim is mentioned in the canvas platform This course is intended to help educate students to gain a better understanding of the potential role of games and gaming in learning in the digital age. Students will investigate trends in various game designs, cultures, and genres in the context of both educational and commercial games, as well as examine the educational value of these games with a focus on pedagogical, curricular, and individual learner needs. Criteria, as mentioned before that was who studied game-based learning course, is eligible for joining the narrative essay task research. All participants played digital games on different devices during the semester of the game-based learning course. Variables-related questions were asked in the background part. Such as question about previous studies was given in background information. Background information will give interventions of effect on learning experiences in the research according to their playing habit and their perspective of learning and teaching way of differing' reasons.

3.2.1 Demographic Data

Overall background information of participants represented. As seen in the table, the sample consists of 13 students. Of these students, 10 are female and 3 are male. Participants were selected from 13 students who volunteered to participate in the study, among the 2nd year postgraduate students who studied game-based learning course. Participants are, on average, 27 years old. The names of the students were not shared in any part of the thesis. Students were coded as N1, N2, N3,, N13, and participant statements were included in the findings section with these codes. The number of each description component of the participants referred to in the text is given in parentheses. (Narrator 1= N1)

Table 1
Background Information of participants

Participants	Age	Gender	Educational background	Mother tongue
Narrator1 (n1)	26	Female	Bachelor of education in chemistry	Javanese and Indonesian
Narrator 2 (n2)	29	Female	English education	Indonesian
Narrator 3 (n3)	28	Female	Chemistry education	Indonesian
Narrator 4 (4)	23	Female	Educational science	Russian
Narrator 5 (n5)	25	Female	English language teaching	Mongolian
Narrator 6 (n6)	24	Female	Education	Arabic
Narrator 7 (n7)	23	Female	History	Russian
Narrator 8 (n8)	23	Male	Philosophy	Albanian
Narrator 9 (n9)	26	Male	Chemistry education	Javanese
Narrator 10 (n10)	24	Female	Mathematics education	Turkish
Narrator 11 (n11)	23	Female	Math education	Ukrainian, Russian
Narrator 12 (n12)	35	Male	Education	English
Narrator 13 (n13)	26	Female	Childhood education	Chinese

3.3 Instruments

Online questionnaire as narrative essay task is prepared see Appendix 1. This study used a narrative essay task as a chosen research method because it is an effective way to learn about the opinions and attitudes of a specific group of people about a specific topic or issue. Some of narrative essay task questions generated from a review study from the authors. Noraddin and Kian, (2015), pp. 148-149) Reusing questionnaire items from previous studies, according to Kitchenham and Pfleeger (2002) stated that can be advantageous because the existing instrument has already been evaluated for validity and reliability. (Noraddin and Kian (2015) pp.150)

Research' Instruments' which has situated and designed with narrative essay task instrument featured with 3 stages. Instruments include 3 parts: 1st is the consent form which participants accept to join research anonymously. Second is background information such as age, gender, previous studies, and mother tongue, and asked some preliminary information about digital game playing frequents, devices, types that will help to examine variables and their own intentions and effects. 3rd part is an essay writing question in which students must write about game-playing experiences during game-based learning class. 3rd part is important because students were asked about their perceptions of playing digital games for learning/developing skills and whether they believed that playing games in a learning context, problem-solving, and collaboration skill development has meaning will be analyzed. Narrative essay task designed to explore educational technology students' experiences and perceptions of digital game functions, including discussion of the usage of digital games in the context of skill development. On students with a narrative essay, the task will be examined in order to explore student perceptions of the relevance of skill development by games and highlight the game instructional features that students say what makes the learning might occur and improve problem-solving and collaborate skills in games and out of games environment. Also, they can contribute if games can create a learning environment in and out by developing skills. The narrative essay task is prepared to listen to the story of their game-based learning course experiences. Narrative essay tasks help to understand individuals' experiences. Narrative type data collection includes personal experiences, reflections, and beliefs as they will be told based on theirs. In this research questions tried to understand skill development during their playing experiences. The narrative study was able to be applied to the big group.

3.4 Procedure

Ethical permission reference number 2022/156 has been taken from the University. Participants are informed and invitation poster sent in March 2022 13 Edtech student from master's degree second year who joined game-based learning course and asked 1 open ended question.

Ethical permission from each participant was taken in the beginning of narrative survey. The sample of the form can be found in Appendix 1. Criterias are determined based on

- Who attended game-based learning course for 2021/2022 autumn semester.
- Who is master's degree second year educational science students

That all information collected during the research process 20th march data will be handled strictly confidentially. Data collected in online settings during beginning of semester official online study regulation. Instruments prepared in google form to collect data from students in online settings. All analyses carried by the researcher was stored in a password protected folder can only be access by researcher.

3.5 Data Analysis Method

The data in this example is an excerpt from a series of one focus group with 13 graduate student volunteers. The full study included one focus group that lasted approximately 20 minutes for each student to complete the narrative essay task. These were then verbatim transcribed and started coding on MAXQDA software. MAXQDA is a premier qualitative and mixed methodologies data analysis program. The study looked at how students' reasons, perceptions, and motivations changed when they played digital games. Discussions centered on how students perceive gaming and how they use gaming to develop problem-solving and collaboration skills.

The Eötvös Lorand University Ethics Committee approved the study is ethical (reference number 2022/156).

3.6 Coding

How is data coded?

Thematic analysis is recognizing patterns and themes. Clarke&Braun,(2006)said within the explicit or superficial meanings of the data. semantic themes analyses categorize which are based on what participant said/written and explained in. (pp.84). Beyond of participants' discourse, there is no additional search in the latent degree. Clarke and Braun (2006) Inductive analysis is defined as the act of coding data without attempting to fit it into a pre-existing coding framework or the researcher's analytical biases. This type of thematic analysis is data-driven in this way

Table 2
Theme Analysis Table Braun&Clarke (2006)

	Thematic Analysis Steps	Guideline
1	Collected Data's Notes	To conduct a theme analysis, oral data will be transcribed.
2	Initial Codes from Notes	Familiarize with data and create a list of initial ideas about what's in the data and what's interesting about it. Existing of initial codes according to related arguments in research
3	Searching for Categories	On a separate sheet of paper, write down the name (and a brief description) of each code, and then play with them by accumulating them into themes.
4	Check Themes	Two seemingly separate categories can form a single theme. If the theme is not a consistent pattern, you rework your theme, create a new theme, find a new theme.
5	Themes Descriptions	Sub-themes are essentially themes within a theme. Giving structure and to see if you can describe the scope and content of each theme in a few sentences.
6	Transcribe and Write Report	The end analysis is to communicate the intricate tale of your data in a way that convinces about research' quality and validity of your analysis, which requires a set of completely worked-out themes. Data extracts must provide a clear, cohesive, logical, non-repetitive, and fascinating description of the story the data tell—both within and between themes.

CHAPTER 4 RESULT

This section details the result of the study. It presented the reasons for learning with games and digital game experiences in physical and digital learning in skill development through the results of the participants. The factors affecting the game experience, the analysis of experiences and situations for problem-solving and improving cooperation, the collected data, the creation of the code table, and the data analysis used in the study are included in this section.

How digital games can use for supporting learning and problem solving and collaboration skill development in the framework of game-based learning?

1. Students' thought of playing digital games based in and out of game-based learning course
2. Student' experiences of playing digital games based on in and out of game-based learning course

The theme of this study is tried to examine if video games, both also included serious and educational games, are useful in experiencing skills and using knowledge on in and out of virtual world situations.

According to the findings of the quantitative research, the answers including the experiences and thoughts of educational technology students about playing games are mostly positive. They stated that skill and knowledge emerge in the experience of playing games. Remark on research questions was given in this section. This result was built on the foundation of the following research questions and explained. This thematical research result explores the students' opinions, beliefs, and perceptions on the use and ease of use of digital games in education. It advances the theoretical underpinnings on video games and puts forward a qualitative study.

Themes 1: Students' thought of playing digital games based in and out of game-based learning course

4.1. Motivation and reason to play

The motivation of playing games from a students' view expressed with the mandatory subject game-based learning within their master's program. I have found a discrepancy among the participant's narrations, while some found that playing games is physically

unhealthy, some thought that playing games was beneficial in terms of mental health, e.g., we can see in their answers that playing games helping them to reduce stress.

“My motivation to play games derives from the idea of escaping a bit from the reality where I don't have stress and I don't think for my daily problems or issues (N8)

“Basically, playing digital games is a true escape from reality or a solution to real-life problems. That's why I love playing digital games to immerse myself in adventures and gateways” (N5)

“In my view playing games not only killing the time, but also enhance your mood and reduced your stress level” (N3)

In addition, I have found motivation aspect appears in the participating student's narration, we can see those below narrations according to 2 views. Students maintained that motivation is which found in playing games are on the purpose of the class's homework. Some students mentioned that they found motivation based on learning outcomes and fun concepts.

“My motivation for playing games is based on fun and enjoyment.” (N10)

“I did not used to be interested in video games and I was not motivated to learn about any of them because I believed those games would not give me any advantages. (N2)

“Actually, my motivation to play digital game mainly for homework task because I believe playing games for the whole day is not a healthy lifestyle that I prefer walking outside” (N13)

“Motivation: For the person who is not too interested in and familiar with playing video games, the visual appearance of the game has stolen my attention since the first time (N1)

“My motivation to play digital games was mostly based in the assigned tasks within the game-based learning course, I don't usually play digital games, otherwise, with the exception of occasional puzzle-based games like sudoku or language learning games, like Duolingo”

(N12)

N8, N1 and N11 all agreed that digital learning games are only motivational aids because they are enjoyable to play, a fun way to spend leisure time, and they are intriguing.

Narrator 2 mentioned that all game genres have effect on motivating learning for what to learn and how to learn.

“The first video game I played was a sandbox game where I had to build a village and at that time, I realized I was not interested in that kind of games. So, I changed the genre to a role play game. It is called Gone Home. I found it interesting because there was a storyline, and it was very mysterious.” (N2)

In the narrations I could identify thoughts about the different game genres effect on motivation. This is an interesting result, because in the motivations of the players in video games, they were more interested in the visual and sensory area of the game.

I found in the narrator 5’s narration that games have adventure features help players to escape from problems in real life

“Basically, playing digital games is a true escape from reality or a solution to real-life problems. That’s why I love playing digital games to immerse myself in adventures and gateways. However, there are pros and cons, for instance, I have developed some skills like computing or problem-solving through some games.” (N5)

Narrator 10 stated that their interest increased while playing games in the lesson.

“As I played the game, my reflexes improved, and I started to enjoy it more. While playing some action games on my phone right now, I feel like a more experienced person who knows what to do. In addition, we played educational historical games in the lesson, and thanks to those games, the stages of integrating the games into the lesson began to make more sense. I believe that games of that quality will contribute to students' learning while having fun.” (N10)

They stated that the motivation of the participants who have played video games is the entertainment feature of the game. Those

who took the learning by game course reported that the games were fun and their positive attitudes.

4.2. Opinions about playing games

I found in findings about the opinions of playing games differentiate from students to student about need of prior knowledge and skill is dependent on different variables. While some found that playing games require prior knowledge or skill, others some found the game is not a tool that requires knowledge and skill, but rather that there is motivation and desire.

In consideration of RQ2 which try to find out about students' prior knowledge effects on playing experience: There were considerable differences of need of prior knowledge and no need prior knowledge between MA students. Some students thoughts N12,N13, thought that there is no need prior knowledge to play game and Playing game need of willingness to learn and practice. N11 and N8 thought there is need prior knowledge and familiarity with game help to complete all tasks.”

“For Monument Valley, I don't think we need prior skills or knowledge but limited in children's age” (N13)

“Obviously we need prior skill to playing games, for instance basic computer skills and reading literacy.” (N3)

“To play these games, you don't need any prior knowledge, just a willingness to learn, practice or think critically.” (N12)

“I don't think that you can actually finish any mission or something like that without prior knowledge so, yes I have always needed prior knowledge to play games.” (N8)

When the general views about playing digital games were analyzed descriptively, the students who participated in the research said that playing Minecraft, Fortnite which is boundless and open to discovery of it encouraged students to develop their creativity (N8), and Sims said that the game helped them learn English living life story while playing (N10). In the answers given by the participants to the questions about the games, it was seen that the type of the game and

the characteristics of the game enabled them to express positive views on learning.

The result show that learning by considering the games have influence by its own as if players can use those skills in real life. According to the interventions of games, there were substantial similarities in students that games are basic-easy play make students to see games for advantages (N1). Many students approved those games improve their collaboration and cooperation (N2, N8). During the game-based learning course, students agreed that digital games allow them to communicate actively with their peers. They were supposed to share their experiences and knowledge with their peers. This game exercise successfully resulted in a cohesive classroom where students value one another's opinions.

4.3. Advantages & Disadvantages of Digital Games

In the case of advantages and disadvantages, some students were sure that gaming has a lot of advantages some other students shared their own experiences in the term of disadvantages.

The following narrations are the response to RQ1 which is searching about reasons and advantages & disadvantages of the game. Thoughts of playing games between MA students differentiated. Students N8, N11, N2 mentioned the reasons for playing games as advantages games, being patient, being in contact in a social environment and not needing to go to a certain place to play games as advantages. Disadvantages of playing games are listed, aggressiveness (N11) headaches (N4), advertisement, addiction, peer, pressure (N8), neglecting of socializing, school, exercises, hobbies, repetitive stress (I8), health problems (N13, N8), time consuming (N8, N11), usage of counsellors. (N12)

“I think that there are many advantages of playing digital games, such as: digital games are socially interactive environments, communicating online seems safer and easier for gamers and young people, social communication and group cohesion.” (N8)

“I have experienced disadvantages of players’ digital games that I play a game until midnight.” (N13)

“Obviously, there are many advantages of playing digital games such as you can communicate with your friends online, you can interact with new people while playing, you don’t need to go anywhere

to start playing a game. But I see more disadvantages such as being time-consuming, which can trigger and cause addiction, one can become aggressive if there is no access to the games.” (N11)

“As far as advantages or disadvantages of digital games, the only advantage I have gained is that playing games distracts me from the futility of life and the meaningless of existence.” (N12)

“In my view playing games not only killing the time, but also enhance your mood and reduced your stress level” (N3)

“At some point, playing GRIS let me experience relaxing yet emotional moments. Most of the time, it is more about recreation enjoying the artwork and amazing visual in the game. The gameplay is quite short. Although I haven’t finished it, many reviews said, it can be done in 5-6 hours with continuous play” (N1)

“Also, except educational uses, the benefits from digital game playing can be also applied in hospital areas or children who are suffering from diseases and people are in blue days to relive and revive their feelings and mood.” (N5)

“I learned how to be patient and thorough while playing that game.” (N2)

Also, reasons of play categorized under what motivate student to play game switch the categorization title “Motivation to play”: “Participant mention that Games are joyful with own visual effects and music’s.” (N1), “Games are good motivators for helping to make meaning into life for existence.” (N12) “Simple navigation and puzzle mind activities motivate to play.” (N1)

“Motivation: For the person who is not too interested in and familiar with playing video games, the visual appearance of the game has stolen my attention since the first time.” (N1)

The results display that the influence of being social, free environment plays has an impact on why people choose play games. Most of participant players believe that games are joyful tools for decreasing stress level and escaping from real life problems. There are few participants believe that digital games which has exploration and

customization can be useful as a learning tool (N9, N1 and N12). One participant declined that game play experience teach about respect each other. On the other hand, one participant N12 and N3 mentioned that they didn't learn anything from games.

Themes 2: Student' experiences of playing digital games based on in and out of game-based learning course

4.4. Skill Development

The acquisition of skills by playing games from students characterized under different skill acquisition. Students mainly mentioned in the framework of own experiences with prior skill and according to type of game. Different answers were depend on different variables.

According to RQ3 which is searching about student's thoughts about features of games and relation of skills is looking for learning how to solve problems and collaborate with digital games is how digital games develop changes on experiencing skills. Experiencing problem solving and collaboration skill with game features are listed from some students that there are helpful tools to collaborate such as chat boxes or gift features. All seven students stated that there is a mutual relationship between games and skills. The features of the game, exploration, design, and correspondence are mentioned about how this mutual relationship is it.

“The games I played, didn't require me to have specific prior skills, but instead, I had to have general knowledge, critical thinking, and logical reasoning skills to successfully complete missions. By playing VR game Beat Syber I improved my reaction skills and the ability to hear the music properly.” (N11)

“I think that creativity has developed while I was playing different games and maybe motor skills too. I think that games that are open and do not give you too many limitations helped me boost my creativity like Minecraft, Fortnite (creative mode) etc.” (N8)

“I would like to emphasize the importance of playing games from my perspective and experience. It's helpful and useful in our life in terms of dealing with different situations and finding solutions for different kinds of problems, enhancing our creativity and thinking skills. (N6)

“I didn’t feel the improvement some skills, thus it was not useful for me.” (N4)

“Skill learned: I am not really sure, but this game might be useful to practice problem solving skill and self-control.” (N1)

Narrator 5 footnoted those games are improving creative thinking skills.

“Regarding problem solving tasks, I was sure to apply my real-life skills to tackle the problems in games and I have developed my creative thinking skills more during game playing and I have learnt certain skills through features of games, particularly, role-playing opportunities seem to be applied to reality.” (N5)

I found in the narrator 5 thought that the experiences while playing the game improved the creative thinking skills narrator used to solve problems in real life, as well as its creative thinking skills and problem-solving skills in solving the problems in the game. “I was confident that I would use my real-life skills to overcome the problems in the games and developed my creative thinking”

“I think that there are many advantages of playing digital games, such as: digital games are socially interactive environments, communicating online seems safer and easier for gamers and young people, social communication and group cohesion I think are the strongest motivators of young children for game playing, online gaming can be educational, learning new words, or other languages, it can help with problem-solving skills.” (N8)

“I have developed some skills like computing or problem solving through some games. Though, some games were inappropriate for sensitive people like me as too much exposure to blood, brutality or horrifying effects, etc.” (N7)

“Game also enable you to enhance your English skill through reading the story, enhance your collaboration with other player through its chatting or giving gifts features etc.” (N3)

“I think that games that are open and do not give you too many limitations helped me boost my creativity like Minecraft, Fortnite (creative mode) etc.” (N8)

“Features helped me to learn: The feature to explore and some additional features gained during the character development.” (N1)

“I played Terraria, an adventure-sandbox game that allows player(s) to explore, customize, and create their own world.” (N9)

“Playing digital games is a true escape from reality or a solution to real-life problems.” (N5)

“I think are the strongest motivators of young children for game playing, online gaming can be educational, learning new words, or other languages, it can help with problem-solving skills.” (N8)

“When I was a child, I used to play car racing games like; Need for Speed as well as fighting games (war, ...) such as Counter Strike, after that I discovered that driving the car became easier for me and those racing games helped me a lot to do so, and I felt I am able to discover solutions for every problem.” (N6)

“Regarding problem solving tasks, I was sure to apply my real-life skills to tackle the problems in games and I have developed my creative thinking skills more during game playing and I have learnt certain skills through features of games, particularly, role-playing opportunities seem to be applied to reality.” (N5)

The students’ perspectives display that the influence of specific artistic and creature features has an impact on features help to develop skills and knowledge.

Narrator 8 stated that digital games have interactive environments which improve its own social communication and teamwork.

“I think that there are many advantages of playing digital games, such as: digital games are socially interactive environments, communicating online seems safer and easier for gamers and young people, social communication and group cohesion” (N8)

4.5 Learning & Not Learning

The below findings obtained from the students' opinions about learning through games are defined as follows as an outcome: The problems identified from the students' views on learning through games are defined as follows:

“I think are the strongest motivators of young children for game playing, online gaming can be educational, learning new words, or other languages, it can help with problem-solving skills.” (N8)

“Digital games helped me to learn English.” (N7)

“We played educational historical games in the lesson, and thanks to those games, the stages of integrating the games into the lesson began to make more sense. I believe that games of that quality will contribute to students' learning while having fun” (N10)

“The tools available in Terraria allow the player(s) to build various electronic devices using traditional methods, and thus the game presents an opportunity to learn about real-life circuits and see them in action within the game. This type of hands-on learning enhances the educational experience.” (N9)

“Features helped me to learn: The feature to explore and some additional features gained during the character development.” (N1)

“I truly learned color matching, architecture, and found theories behind the games.” (N13)

“I don't think I learned anything from playing other video games, and if it has developed any skills, it might have improved my patience or my IT abilities, because some of the controls and menus require some basic IT knowledge.” (N12)

N2, N3, N5, N6, N7, N8, N10, N13 said that as effective digital technologies in education, it is necessary to both learn and have sufficient skills with digital games as well as learning with digital games. They claimed that such digital games might aid with engagement, success, group cohesion, problem-solving, coordination, cooperation, creativity, computing and communication, IT abilities, and reading and writing while playing games. Students, on the other

hand, had mixed feelings about digital games as learning tools, and only sought to cooperate because it was required for class assignments.

Narrator 9 acknowledge that challenge is an important feature of games in the framework of learning aspect.

“Terraria has the same value, applying the core Super Mario Effect in its very game. A player(s) may find it hard to kill their first mob (I died several times because of slime, the weakest monster in the game) but it challenges player(s) to return and beat that monster again and again. The main point in the game is not beating the monster, but to improve to be better and better.” (N9)

Mazes game avoiding enemies helps to think strategically.

Narrator 12 stated that digital games have a positive effect on the achievement on literacy as building success. Previous research literature backup claims that digital games have a positive effect on achievement on literacy as building success.

“The facets which helped me to learn are the repetition of words or phrases, the variety of tasks and the mixture of reading, listening and writing” (N12)

As N12 who reflected on self-own language learning mentioned that repetition which includes in educational digital games help build achievement and during language learning it may be used and related to use during the game-based learning course who joined game-based learning and familiar with game-based approach tend to outperform those who have not joined.

Narrator 4 mentioned that games are not teaching or learning tools. The narrator believed that the place of games in learning is not necessarily negative, but that learning can be considered to occur because pushing personal boundaries lacks interest and motivation.

“Maybe because of I have played very seldom, I didn’t feel the improvement some skills, thus it was not useful for me” (N4)

While most of the narrators understood the instructive side of the game, some narrators said that the games had nothing to do with

learning. For example, one of the students interviewed clearly showed that he is aware that learning by playing digital games is not taking place. It indicated that how often the games are played, and people's interest are the main reasons that affect learning with games.

4.6 Game-Based Learning

The game-based learning lesson, which is included in the curriculum for a semester in a classroom at the university, begins in connection with the subject of the game and the lesson ends with the application of the game and the students learning through presentations or surveys about the subject. Students' opinions on learning with games differ.

The ideas truly started game-based learning on the terms of playing experiences, as the narrators explains:

“When we started the game-based learning, I was a bit nervous and skeptical.” (N2)

“When we started the game-based learning, I was a bit nervous and skeptical. I also did not have enough knowledge about it. However, when we started to practice playing the games, I began to feel that it was not as bad as I thought. Although I still have not enough knowledge about any games available online. I started to search for some when we were supposed to make a report about a game we played. The first video game I played was a sandbox game where I had to build a village and at that time, I realized I was not interested in that kind of games. So, I changed the genre to a role play game.” (N2)

“Indeed, it has been a long time without playing video games until we have a class called Game-based learning. Before, I did not appreciate the importance and advantages of playing games in our life, and how they can affect our way of thinking and problem solving.” (N6)

4.7. Real-Digital Life Experiences

Students perceive that there are improvements in real and digital life skills, which they express in various ways. While some talk about the usability of these skills in real life, some say that they are unaware even if they use the information/skill which they learned or know

previously in the digital game.

In the light of RQ4, there were considerable differences between students' experiences regarding using skills and knowledge in real life and digital life among MA students. Stating that playing some games may influence a sensitive person, they stated that the effect of digital games could be negative in real life, but there were still participants who argued that games influence problem-solving skills.

“I have learnt certain skills through features of games, particularly, role-playing opportunities seem to be applied to reality.” (N5)

“I discovered that driving the car became easier for me and those racing games helped me a lot to do so, and I felt I am able to discover solutions for every problem.” (N6)

“I don't really realize that I apply what I learned specifically from the game in the other areas or activities.” (N1)

“It helps to rest. Games help me to find inspiration for drawings, hanging out with friends.” (N7)

Narrator 6 stated that games have ability to teach skills which is necessary to use in real life.

“When I was a child, I used to play car racing games like; Need for Speed as well as fighting games (war, ...) such as Counter Strike, after that I discovered that driving the car became easier for me and those racing games helped me a lot to do so, and I felt I am able to discover solutions for every problem.” (N6)

As Narrator 6 found it meaningful to play games for real-digital life experiences within game and stated that during the childhood which played racing games helped him to learn faster driving in real life.

Narrator 6 driving game experiences show that it increases learning with playing racing games because the game has familiarity with real-world's materials.

Narrator 2 mentioned that it improved the coordinating ability that shooter games function with reflexes and coordination.

“I did not think I would like it because it involved fighting and shooting but, I liked it a lot. I learned how to coordinate and cooperate with my teammates.” (N2)

“Except educational uses, the benefits from digital game playing can be also applied in hospital areas or children who are suffering from diseases and people are in blue days to relive and revive their feelings and mood.” (N5)

“I learned a lot about games. When I was a child, I used to play car racing games like; Need for Speed as well as fighting games (war, ...) such as Counter Strike, after that I discovered that driving the car became easier for me and those racing games helped me a lot to do so, and I felt I can discover solutions for every problem.” (N6)

“I have learned certain skills through features of games, particularly, role-playing opportunities seem to be applied to reality. The games I enjoyed more were Tetris, Minecraft, Zuma, Mobile Legends, etc.” (N5)

Players' interaction in-game platforms were mentioned in Narrator 8 show that students learn, enjoy and practice with MMORPG games with interactivity with people in real life and digital life. Narrator 8 considers the digital games played to be powerful collaborative games. Providing a safe and interactive environment of the game is one of the features that make the game strong in teamwork.

Data chunked according to theoretical background chapter. Initial codes are created. The codes were prepared by anticipating identifying patterns in the data relevant to the research question. Delahunt and Meguire (2017), also did the same way of coding and coded each segment of data that was relevant to or captured something interesting about research question. The learning and skill development experiences of the students targeted by the research program in the Table 3 below are collected under 9 categories out of 135 codes, motivation, reasons, ideas, advantages and disadvantages, students' thoughts about playing digital games in 4 categories, other 5

categories: learning/not learning, game-based learning, digital-real life experiences and skill development are categorized. Among these categories, 2 themes emerged as thoughts of playing games and experiences of playing games.

The results are organized by key themes, as well as these categories and codes. Documents examined sentences by sentences coded for inductive research. Categories of formed from codes. Themes were created by arranging from ten categories. In total 135 Codes+10 categories+2 themes emerged. The findings obtained from the interviews were classified into a single two themes. These two themes were highly consistent with the research questions of the study.



Table 3.
Narrative Survey Codes Analysis

Main Themes	Themes (Categories)	Sub-Themes (Coding)
Thoughts of Playing Digital Games	(Motivation to Play)	1. Distract from the futility of life
		2. Enjoying the visual and artwork
		3. Immerse in adventures and gateways helps to decrease stress
		4. Visual appearance of the game is notable
		5. Storyline and mysterious made the game interesting
		6. Games are joyful
		7. Simple navigation and puzzle activities are notable features
		8. Help to reduce stress and change mood
		9. Music and art makes the game interesting
		10. Games include a combination of adventure exploration
		11. Explore customize create a world
		12. Willing to play is needed it
	(Reason of Play)	1. Homework is the reason of playing
		2. GBL course required to play
		3. Escape from reality and real problems
		4. Pretty art style and music simple platform playing is interesting
		5. Help o be far away from reality
		6. Free time activity
		7. Only for fun reason
		8. Homework is the reason of playing
	(Opinions About Playing Games)	1. Prior skills needed
		2. Prior knowledge need It
		3. Not interested in playing games
		4. Not familiar with games
5. No need for prior knowledge		
6. No need for skill		
7. Player doesn't have long time experience with playing games so didn't feel development		
8. Games can integrate into some lesson		

Advantages of Digital Games)	1. Interactive social environment
	2. Learned to be patience
	3. Board games can improve communication and more real-life interaction
	4. Interact with new people
	5.No need to go anywhere for playing
	6. Comparisons leaderboard badges help learn
	7. Board games can improve communication and more real-life interaction
	8. Thinking strategy
	9. Ability to hear music
	10. Help, respect each other
	11. Helping to create a strategy
	12. Emotional experiences
	13. Games are important to cope with problems
	14. Motivation for young children to learn to cope with problems
	15. Improve reflexes and enjoy
	16. Self-confidence
	17. Games are limitless and open
	18. Players are free to do and shape the game with no limitations
(Disadvantages of Digital Games)	1.Time consuming activity
	2.Repetitive stress
	3.More playing cause neglect school,exercise hobbies,socializing
	4.Health problems
	5.Aggressiveness
	6.Games must have age limit
	7.Played until midnight
	8.Not healthy life style
	9.Addiction
	10.Gamers are under risk of advertiser of gaming
	11.Peer pressure
	12.Blood, brutality or horrifying effects can affect
	13.Headache appear while playing
	14.Wife connection,usage of controllers cause loose interest

Experiences of Playing Digital Games	(Skill Development)	1.Communication is easy and safe
		2.Group cohesion
		3.Solution to real-life problems
		4.Computing or problem solving skill improvement
		5.Self control and problem solving
		6.Coordinate and cooperate
		7.Achievement strategies tried to be find out by player
		8.Create bond and team aame
		9.Communication and more real-life interaction
		10.Creative thinking skills
		11.Problem solving
		12.During childhood racing games played helped to learn driving in real life
		13.Gift features And chatting box help to cooperate
		14.Minecraft fortnite boost creativity
	Learning/ Not Learning)	1. Learned color matching and architecture
		2. Cognitive development
		3. Character development function help me to learn
		4. Facets help repetition of knowledge
		5.IT abilities
		6. Digital games can be applied to use in hospital
		7.Helped to learn English
		8.Improve language skill
		9.Quality of game's are affecting learning
		10. Learning new language and words
		11. Terreria Is Similar with marioboss and minecraft reproduces almost every static object
	(Game-based Learning)	1.Feel nervous and sceptical in GBL
		2.Bias on GBL and playing games
		3.GBL was unknown after practise play started to interest
		4.Changed perspective positively
		5.Searching about the game due of report hw made me interest more

		6.GBL helped to reengage with games& find interest of game genre
		7.Can be used in teaching
		8.Started to play and interest with adventure game after GBL
		9.GBL course help to release importance of games
		10. Gamified apps are help to learn
		11.Changed belief after GBL lesson
	12.Didn't learn something playing with digital game in GBL	
	Real-Digital Life Experiences)	1.No effect on real life
		2.Inspiration for drawing
		3.Role-playing game can be useful And can be apply for real life
		4.Playing experience helped to drive car in real life
		5.Real life situation in games help to learn during game

Other measurement was narrative texts' results were evaluated by frequency. In Table 4, skills are summarized from participants' narratives. 21st century skills, cognitive skills and other skills are gathered in a single table under three main headings. The skills revealed by thirteen educational technology students also show the effect of digital games on skill development. Based finding on skill experiences that occurred after playing games as follows:

Group of skills	Type of Skills	Number of Participants	Narratives
21st Century Skills	Communication Skill	2	N8,N9
	Collaboration Skill	2	N2,N8
	Creativity Skill	4	N5,N1,N6,N8
Cognitive Skills	Problem-Solving Skill	4	N12,N5,N8,N6
	Reasoning Skill	5	N7,N13,N5,N2,N1
Other Skills	Motor Skills	1	N8
	Soft Skills	1	N10
	Self-Learning Skill	1	N9

CHAPTER 5 DISCUSSION

The general purpose of this research is to explore the effects of different types of digital games of players on learning outcomes such as learning, skill development on students' thoughts, and similar experiences in real life or digital life. In this chapter interpretation and significance of interviews' results and connections to literature reviews will be summarized. This study explained a qualitative analysis of game experiences in real life and virtual life skill development and knowledge acquisition, and the factors and consequences associated with the characteristics of the game in the experiences of the students who took the game learning course. The main findings and implications are discussed in the following sections.

In this section, I plan to present a discussion according to the findings. I plan to present the discussion following the same basic structure as in the findings section. First, in each case, I compare the findings with previous and current studies on game-based learning. Next, I continue to detail the learning-to-skill link of game-based learning, using the framework presented in previous work in the literature review summary.

Everything described here wanted to lead to one important conclusion as analysis. Even though different types of games contain educational elements, the main purpose of education is to investigate the effects of using games in education, although there is no learning with games, and to investigate the contribution of their contribution to education from the perspectives of the players/students who have taken the game-learning course. The research has revealed important findings due to the fact that the experiences of the players that include the development of their skills and abilities by playing different kinds of games and the research made with the students who have taken the learning by the game course are few. The integration of technology into education has been the subject of different research for a long time. Technological infrastructure and rapid entry of technology into life differ by region. The necessity and importance of learning through game lessons, which include the use of digital games in the curriculum, have come to light. Just like the story of people's transportation with a phone and computer, the idea of using games for education is regarded with a prejudiced halal. Researching and discovering the place and importance of the game perspective in education is stimulating for future studies.

When the phone came out, many people saw the phone as non-functional. It did not make sense to people to reach people they could reach face-to-face with a vehicle. Acceptance of technological developments has gained a place with great rejections and over time. The place of technology in education was noticed mostly during the pandemic period. Not all innovations develop with acceptance, on the contrary, objections show that this field is still open to developments. Although many students take the game learning course and play games, they still have not discovered many functional aspects of the game. The need for digital games to be included in education varies with the point of view. For example, while a shoe seller wanted to bring shoes to the African market, he thought that people did not need to wear shoes and did not find it necessary, while another salesperson thought that shoes would provide people's needs and comfort, so he opened the shoe market and achieved great sales. The age of technology is developing rapidly, the competencies and responsibilities brought by the age require more integration of technology, and more research reveals the contribution of games to people.

5. 1. Students' Reasons of Playing Game

Integrating video games into teaching mainly focus on the reasons for playing adventure, sandbox, etc. video games, the advantages and disadvantages of digital games, and the use of digital games for teaching and skill development. According to the results, the majority of the participant students stated that they found the reasons for playing video games important because the game motivates them, keeps them away from stress, and entertains them. In addition, it was understood that they value the usability of video games in teaching from their own learning with a games-based learning experience. Although they had no previous interest in playing games, they showed increased interest and willingness after taking the game-based course. In addition to stating that games increase problem-solving, and collaboration also likewise develop reasoning, motor, soft, and self-learning skills. About this issue Felicia (2009) mentioned implicit training benefits in digital gaming. It aids in the development of cognitive, spatial, and motor skills, as well as ICT skills. It is known that it can be used in teaching facts (e.g., recall, memorization, learning, or memorizing), principles (e.g., why and influence relationship), and complex problem solving to increase creativity or provide practical experience with a variety of concepts and rules that are difficult to explain in the real world. Felicia (2009) mentioned that

it is compatible with his words because the effect of the game cannot be ignored not only in cognitive development such as reminder learning but also in the practice of producing solutions in case the problem is encountered in real life. Problem-solving method, which is one of the teaching methods and techniques, frequently takes place in digital games. Problem-solving method has many advantages in learning such as those students are active participants. Since students are active in the teaching-learning process, permanent learning can be achieved. It increases the responsibility of learning in students. Develops students' ability to think independently for problem-solving. It arouses interest and desire for learning. It can enable students to think multi-dimensionally in the decision-making process.

The result show that experiencing real life experience in digital world by considering the games have influence by its own individual' pace. As Gee (2005) stated, it is an important competence to understand the connection of digital games with real life situations, to distinguish the meanings attributed to games, to read the game literature consisting of actions and solutions to problems, and to gain different perspectives on games. It is necessary to focus on students' experiences to distinguish the meanings attributed to digital games.

5.2 Learning with digital games

Another enabler revealed by the results was the awareness gained by the game-based learning course. According to the results, while some of the narrators already have this awareness because they have a certain background with games, some of them have gained by participating in the learning with games course.

In the previous studies claimed by Noraddin and Kian, (2015) learning' instruction within collaborative work as students expressed also that motivation is the prior starting point in the acquisition of knowledge. Playing activity is defined as the reinforcement of social experiences and learning obtained because of cooperation, such as motivation, which is a tool for learning rather than learning. Pritchard (2009), who evaluates learning as the realization process, states that knowledge acquisition, changing, controlled behavior, understanding from different sources, knowledge gained by studying, revealing it as a whole process in reaching information confirmed that the students who noticed the skill development in the game learned that learning took place, even if they were not aware of it. The reinforcers in the digital game, for example, are the fact that the game is segmented and can be played again, that it can be played with multiple people, that it

has different characters and stories, and that it has ways and means to make one observe that the game constitutes the learning process. The author Levin (2013) is confident that playing digital games daily will lead to learning more extensive knowledge in more areas than other types of learning. Digital games playing, digital games have exploded in popularity as a way of both entertaining and educating people. Even though few students think that learning is not every time occur with digital games unless they are not built-in gamification tools and concept of learning. The game still teaches because the game has the freedom to choose solutions individually it reinforces the behavior needed in playing the game. Cemiloglu, et. al. (2021) defined addiction is formed by learning. They learn the sense of pleasure and addictive behavior through classical conditioning by matching activities or environmental cues. Game players stated that the game is a source of motivation. While the use of games can be used as a powerful learning tool, environmental factors are reinforcers in learning. One of these reinforcers, the internal reinforcer reveals the advantage of using the game in the field of teaching. The virtual happiness of the game provides the targeted output. If this internal reinforcer replaces the external reinforcer, dependency occurs. It can be said that the stimulus matched while playing the game needs a guide in the integration of the game into education so that the game does not turn into an addiction. There are two factors in learning with games: Having a certain level of anxiety increases learning, reduces stress, and provides an escape from real-life problems is one of the findings of the research. The sections in the game increase learning by keeping the stress at a certain level with the degree of difficulty. The purpose of playing games is usually to spend time, but another result also showed that it reveals latent learning in many ways, makes it easier for students to cope with difficult situations, and many people play games in stressful environments to distract themselves from other fatigue situations.

It is one of the Mobile-learning opportunities if students are playing digital games. As Cheon et al. (2012), stated, mobile learning is a learning approach that argues that individualized, positioned, collaborative and informal learning is enhanced by mobile devices. Andre et al. (1976) have done different experiments to avoid backward inhibition. They stated that it is difficult to forget the information learned through different strategies. Permanence of the learned knowledge in the use of digital games.

5.3. Prior Knowledge and Skills Usage on Playing Digital Games

Prior knowledge and skills such as problem solving used during playing games. Another factor revealed by the results is that the students stated that they use their problem-solving skills in the game in real life. It has been observed that there is an intertwined relationship between game experiences and real-life experiences, and they apply the skills they learn in real life in digital life. Williams, (2004) note that many online users are not mainly operating, agency and high-profile of alternative. Who has studied game-based learning seems more aware about needed prior skills as player is the alive, decision-maker operator? This discrepancy may indicate that those familiar with games are more innovative in using video games for educational purposes.

It has been found that students' previous skills are important as problem solving is a skill that must be used in the game among the experiences of using their knowledge and skills in real life and in digital life. It has been emphasized that the embodiment of problem solving takes place in games. Technological games facilitate the concretization and exemplification of problems. Games are suitable tools for use in education due to the problem-solving method used in line with teaching principles and method techniques from the side of improvements in the skills usage is required during playing improve learning by solving.

5.4. Relations Between Digital Life Experiences and Real-Life Experiences

Qualitative analysis showed that students think that the skills they experience in the digital game will have an impact in real life and increase the development of skills.

Gee (2005) said that understanding the connection of digital games with real-life situations and being able to distinguish the meanings attributed to games is an important competence. It shows that who play digital games are the who familiarize themselves with the components of car and make easy to learn for them. Milan and Topolovčan (2019)'s words were confirmed by the student' experiences. As video games are essentially simulations of the real world, players have the function of experiencing and learning from real-life experiences. According to the principle of vitality (closeness to life), if the desired behavior will not work in the real life of the student, it will be an incomplete, aimless acquisition. It is important to acquire real life experiences and life skills in games so that the effect of the games can provide long-term learning. The usability of real-life skills is

important in activating permanent learning. Also, It has been emphasized that the students learn permanently and more easily because the games are compatible with the principle of actuality, one of the learning principles, so educators can be used digital games under this concept of learning principle in daily life.

It has been emphasized that since the games are compatible with the reality principle, which is one of the learning principles, it is emphasized that the students learn permanently and more easily, and therefore educators can use digital games in daily life within the scope of this learning principle. This is consistent with previous research that Teng, (2008) mentioned why games might be useful in workplace is that digital games have action required steps enable them to improve their problem-solving skills and continuous task must be followed up help to master players' capabilities in real world and digital world. The results also suggest that there is a reference to the problem solving method teaching method. Also, one of the aims of education is to contribute to the acculturation of the institution. It provides cultural transfer. Role-playing in the digital game replaces the historical heroes of the game and ensures the realization of the cultural transfer.

5.5. Game Features in the Framework of Problem Solving and Collaboration Skill Development

Some students, who met and loved playing games during the lesson, noted that digital games' attention is based on the feature of the storyline and mysterious aspects which make to feel player's experience is interesting. Prensky, (2001), said that "visually rich games facilitate learning and information processing. Responsiveness to stimuli is the main element of the game and core significance for learning with digital games. Specific of games is finding on student's comments show that what type of game has been played is that storytelling feature shows the player like to learn and practice with an adventure game. Eng, Lim and Ekaputra, (2013), defined the sandbox-style game as a "sandbox game where the player must collect objects to create the environment around him at any time. Unlimited capacity represents one's creativity. Unlimited capacity represents one's creativity during playing sandbox games such as Minecraft. It has been determined that the lack of adventure in sandbox games, the lack of visual and auditory factors, and the lack of a story setup affect the interest of the student in the game from student to student. Apart from the adequate features that should be found in the analysis of

games that can be used in education integration, the effect of teaching principles should be taken into consideration.

The students' narratives are compatible with Felicia's (2009) findings on outcomes of genres with their own features of game help and assist teachers about relationship with features of games and benefits in real life. Giving an example of one of the racing games, "Racing Academy XVIII", the author claimed that it was used to increase the familiarity of the students playing this game with engineering concepts. Other features of the game are characters and during the game, some missions such as building and discovering show the player engages with the world by playing RPG games. Tondello et al. (2017) mentioned that the role-playing feature in the preferred game elements has also affected the style and preferences of the player. Considering the feature of role-playing games such as Mobile Legends, students who play adventure games with different characters in the games state that they both have fun and learn. Players who have an individual virtual game experience increase the risk of games in which they may prefer individual play experience rather than spending time with their peers.

Findings with an experience with maze games make it try more and better. Challenge in-game required thinking strategically in the outcome of learning. Shapiro, (2014) game has challenges and fun it is appropriate to be used for learning. The author highlighted game features help to think strategically Maze games have challenges and it requires strategic thinking. Carlo (2000), Strategic thinking, which is linked to the game's rules, is a crucial component for determining what information is required and how to collect it. Much of the information learned while playing the game is only relevant to the game's content. Based on available resources and the need to act. Decisions are followed by actions. Actions necessitate a trial-and-error procedure. The player improves his or her abilities and mastery of the game. Students playing experiences have improved their own strategical thinking through trials and decisions in the actions. Advantages of the games which include challenges are lucky because it focusses on individual success within challenges. Disadvantages of the play experience can avoid players to socialize. Those individual games can have negative aspects that the 21st century require high talent in the teamwork and individual challenge for the win can cause more individual life. Rouse, (2004), stated that when the game will be created, designers look the 3 different aspects: the market, players' perspectives, and the development side. Popularity, fun and

equipment's, person, fun integration. Game experience during GBL class and the scope relatedness with curriculum causing active learning experiences. Considering the student's physiological and psychological characteristics, interests and needs, and abilities is one of the main factors that should be considered in learning with play, in terms of the principle of relevance to the student. Prior knowledge of students differs from student to student. Bloom (1948) mentioned that making games cannot be the same experience in learning for all students. Since the games in the category of educational games adhere to a certain curriculum, young people's interest in learning with games has increased. Compliance with the curriculum in digital games draws attention to the educational aspect of video games rather than their easy and accessible feature. Students who experience playing games are more aware of learning in the games they play outside of school. Their interest and readiness have increased even more. The frequency of playing game also influences feeling development skills and learning. Positive encounters with digital games can be claimed to have a significant impact on students' lives. In addition, this research looked at the impact of video games on students' problem-solving and teamwork skills, as well as their willingness to learn. It was discovered that the kids think strategically to solve difficulties, that they have learned new digital abilities with game themes and computer use, and that they are adept at comprehending the game's rules. This research suggests that in the future, educators will be able to teach their pupils relevant skills and information by incorporating games from everyday life into the classroom. Educators can choose from a variety of digital games to meet their desired learning outcomes.

In conclusion, video games' importance to education as a digital learning resource cannot be overlooked. As a result, educators have demonstrated that the virtual world experiences of digital games are consistent with their real-world experiences, and that game integration is both helpful and cost-effective for digital education. Reading, writing, and math abilities are all vital, but so is digital literacy. This input will aid games in determining which functions may be used to support educational programs and which learning objectives can be met. This study has clearly demonstrated that children can learn the necessary abilities and competencies for the twenty-first century through their everyday games, and its applicability for life has been attempted to be summarized.

Future Research

This research opens a variety of avenues for future research that could aid in better understanding the influence of various digital games on teaching and learning. The following are a few study subjects that could be considered follow-up studies for this project:

1. Narrator codes have revealed that individual games are influenced by a variety of multifactor elements and reasons. This study can be reproduced with a larger sample size, allowing for increased generalizability of the framework's advantages and disadvantages. To use different types of games in learning with games in the future and to strengthen problem-solving and cooperation, it is important to determine the educational and skill-building features of entertainment games.

2. This study revealed that, in terms of previous educational experiences and learning styles, experience varies from person to person. The participants' learning experiences were associated with their previous education in the game items they favored in this study. It is possible to develop a single measurement inventory at that may be compared to the experiences of the same education background participants.

3. As educational technology students' backgrounds with playing digital games are different, some students' acquaintance with the game took place in the learning by game-based learning class. A new classification can be made by looking at the more frequent game playing and habits of the students. It was seen that most of the participants had learning and experience and had a positive view of playing games. To determine how playing all kinds of games more than once will affect their exposed thoughts, the new syllabus can be created and repeated, which can encourage students to play.

Limitations

When the studies are examined, it is stated that the students have different game backgrounds, and the change in their perceptions of the digital game is one of the study's limitations. Students have studied game-based learning for 12 weeks is another limitation of the study in the analyzing experiences of students with games. Students' narration gave limited features of gaming experiences. Also, 13 students is another limitation to analyses and compare more wider about digital games' experiences.

CHAPTER 6 CONCLUSION

The research has shown that this educational technology class has an understanding that the researched game has a significant contribution to some aspects of using digital games in the game-learning course supporting the contribution of the game to education. This research suggests that different types of digital games (war games, racing games, adventure games) can lead to positive learning outcomes for students in the framework of real-life experiences.

It is aimed and expressed that the digital games have attribution to education within the educational and skillful values of all kinds of digital games have certain/sufficient elements and that they develop problem-solving and cooperation within the framework of students' experiences. The overall assessment was made, the independent assessment of the results of different students revealed various areas of game-based learning that needed more comprehensiveness, and the new game-based learning guideline highlighted the need for digital education in educational institutions. This was tagged accompanied by a review of better and more functional games to use games in the teaching curriculum. The integration of digital games into learning in daily life has not received much attention in the development of instructional technologies that today's students desire. This additional study, which shows that games have sufficient teaching value, drew attention to the educational aspect of games and predicted that all types of games should take place as an active teaching tool in learning with the components of experience, motivation, and knowledge.

The research concludes by commenting on which games' features that contribute to the perception of value in playing and the relationship between collaboration and problem solving with digital games and discussing alternative game-based learning approaches that can give insight for game designers that enable skill development with video games experiences while playing the game.

In the conclusion, studies will help us to find out that in other words, would they be for or against the belief idea of playing digital games for problem-solving skill improvement and how do educational students differ in their views about digital games' potential by such variables as age, gender, academic discipline, and others sets of independent variables? Generally, over the world, this fundamental issue has not been researched adequately and so this study was carried out to explore it through a student's playing experiences.

When the research findings are examined, the thoughts of the participants about learning something while playing games are different. Students have opinions about games' potential learning tool's function are differentiated according to students' previous knowledge and experiences. They think that games sometimes make feel productive as they request collaboration during a game or sometimes only educational games in teaching can bring learning and that might increase students' attitudes and motivation towards the lesson in a positive way. So many students are not sure if the entertainment games are potential learning tools unless there is no other intervention to help them with instruction of what to learn. Prot (2014) stated that "Addiction and aggressiveness feelings have been debated within the focus on the negative effect of playing digital games." (p.110)

Educational theories and experiences of digital gaming fall into one of these categories: cognitive, behaviorist and constructivist. (Felicia: 2009 p.9) The research mostly measured the impact of student experiences in the practical field and contributed to the impact of the games on the players. The place of video games in learning, which is for the motivation and experiences in learning as multidimensional, has been emphasized again. explaining the character structure of the class, learning objectives, and examining the player types before taking the learning by game lesson, shaping the learning by game curriculum according to the class. Experienced students uncovered the impact of digital games on achieving specific learning goals, such as knowledge and skill development. It has been emphasized that digital games are an important resource to meet the need in real life, due to the educational use of games in the game-based learning course. The scope of digital games and the situations of learning with games has become a challenge since learning in humans can differ in many stages and some of the learning methods are insufficient to measure the readiness of the student.

By completing this research, I learned what kind of potential video games is own. Every digital game that is suitable for use in education must have certain criteria in the context of the content of the education. More importantly, students' motivation while playing games is more effective than motivation strategies in learning. The game does not provide motivation as a reward tool, on the contrary, it acts as a reward reinforcer as a motivation tool. In the game experiences of the students, it was stated that learning with games had a more permanent effect on learning, as stated by behavioral theorists. Subjects that are

difficult to remember, education that is effective with culture, experiences in real and digital life, where the student can add something from himself with the use of different games. It is likely that prejudices against technology and digital gaming will change, and new technology-oriented curricula will be created. In addition to educational games, it is believed that continuing studies on the educational value of video games will open a new horizon in the new education system integrated with digital pedagogy and technology. The fact that many 21st-century skills can be gained through games will help video games not only educationally, but also in working life and lifelong sustainable learning.

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Appendix 1: Questionnaire For The Narrative Essay Task

Dear Participant,

You are to participate in a research coordinated by Fatma Nur Barcın (supervised by Dr. Attila Rausch). The aim of this study is to understand motivations and experiences of master's students on playing digital games during the semester of the digital game-based learning course.

I would like to ensure you that your responses will be treated with confidentiality and will not be disclosed to a third party. Please note that the CONFIDENTIALITY of your responses is meticulously assured. Participation is utterly voluntary. It is possible to suspend participation so that it should not be tiresome. It is also possible to terminate participation at any time and to decline from answering questions without having to give reasons for this. Monetary compensation is not due for participation.

During the study the participant will be requested to write 250-300 hundred words and answer some questions, which will last for about 20 minutes. The results of this study will later be used in publications and will also be presented at scientific conferences. If requested, written or verbal information will be provided on these events. Data will be collected anonymously during the study and no other personal data will be obtained either.

All information collected during the research process will be handled strictly confidentially. Data obtained during the research is stored as a coded information in a secured computer and paper-based material (e.g., questionnaires) is kept in a locked chest also in a coded format. The individual codes are provided by the assistant in charge, and these are accessible and known only to her/him. Data of the research are analyzed statistically during which no personal identification is possible. If you have any questions about our research you may contact the supervisor, Dr. Attila Rausch (rausch.attila@ppk.elte.hu) or Fatma Nur Barcın (ftmmnrr@student.elte.hu) in e-mail.

By proceeding you agree that data collected on your person - which cannot be identified as those belonging to your person - may be used for research purposes and that these will be accessible to other researchers. I reserve the right to terminate my participation at any time in which case the data belonging to my person should be erased. I declare that I am over 18 years of age. I have received full detailed information concerning the conditions of my participation of the study. I agree with these conditions, and I am willing to participate.

Thank you for your cooperation.

Consent

I declare that I am over 18 years of age. I have received full detailed information concerning the conditions of my participation of the study. I agree with these conditions, and I am willing to participate.

O yes O no

I.Part

BACKGROUND INFORMATION

-What is your age?

-What is your gender?

Male O Female O

What was your previous studies?

-What is your mother tongue?

During the semester of the game-based learning course what kind of digital games did you play?

Multiple answers are allowed

<i>Experimental Games</i>	
<i>Casual Games</i>	
<i>Children's Games</i>	
<i>Educational Games</i>	

<i>Adventure Games</i>	
<i>Flight and Other Simulations</i>	
<i>Simulation/Building Games</i>	
<i>Racing/Driving Games</i>	
<i>Sports Games</i>	
<i>Role-Playing Games</i>	
<i>Strategy Games</i>	
<i>Action Games</i>	

During the semester of the game-based learning course how frequently did you play digital games on the following platforms?

	I only played in the game-based learning class and for its homework	I played more times additionally in my spare time	I don't have this device/I don't use these devices to play games
Mobile phone			
Tablet			
PC/Laptop			
Game console			

Final Part

Write a paragraph of 250*300 words about your motivation and experiences playing digital games during the semester of the digital game-based learning course of your MA program! Please include your answers to the following questions in your text.

-What is your motivation to play digital games? -
Have you ever experienced any advantages or disadvantages of playing digital games?
-Have you ever needed some prior skills or knowledge to solve tasks or missions within a digital game? Have you ever been felt that you have learned something or some of your skills have developed while playing digital games if yes what was that? And what features of digital games helped you to learn? Did you ever apply what you have learned in a digital game in other areas? -Please include the name of the games which you are referring to.

Appendix 2: Content Letter

Ethical Permission

Dear Participant,

You are to participate in a research coordinated by Fatma Nur Barcın (supervised by Dr. Attila Rausch). The aim of this study is to understand motivations and experiences of master's students on playing digital games during the semester of the digital game-based learning course.

I would like to ensure you that your responses will be treated with confidentiality and will not be disclosed to a third party. Please note that the CONFIDENTIALITY of your responses is meticulously assured. Participation is utterly voluntary. It is possible to suspend participation so that it should not be tiresome. It is also possible to terminate participation at any time and to decline from answering questions without having to give reasons for this. Monetary compensation is not due for participation.

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information will be provided on these events. Data will be collected anonymously during the study and no other personal data will be obtained either.

All information collected during the research process will be handled strictly confidentially. Data obtained during the research is stored as a coded information in a secured computer and paper-based material (e.g., questionnaires) is kept in a locked chest also in a coded format. The individual codes are provided by the assistant in charge, and these are accessible and known only to her/him. Data of the research are analyzed statistically during which no personal identification is possible. If you have any questions about our research you may contact the supervisor, Dr. Attila Rausch (rausch.attila@ppk.elte.hu) or Fatma Nur Barcin (ftmmnrr@student.elte.hu) in e-mail.

By proceeding you agree that data collected on your person - which cannot be identified as those belonging to your person - may be used for research purposes and that these will be accessible to other researchers. I reserve the right to terminate my participation at any time in which case the data belonging to my person should be erased. I declare that I am over 18 years of age. I have received full detailed information concerning the conditions of my participation of the study. I agree with these conditions, and I am willing to participate.

Thank you for your cooperation.

Consent

I declare that I am over 18 years of age. I have received full detailed information concerning the conditions of my participation of the study. I agree with these conditions, and I am willing to participate.

yes no

I.Part

BACKGROUND INFORMATION

-What is your age?

-What is your gender?

Male Female

What was your previous studies?

-What is your mother tongue?

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Multiple answers are allowed

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<i>Educational Games</i>	
<i>Adventure Games</i>	
<i>Flight and Other Simulations</i>	
<i>Simulation/Building Games</i>	
<i>Racing/Driving Games</i>	
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- Have you ever experienced any advantages or disadvantages of playing digital games?
- Have ever needed some prior skills or knowledge to solve tasks or missions within a digital game?
- Have you ever been felt that you have learned something or some of your skills have developed

while playing digital games if yes what was that? And what features of digital games helped you to learn?

- Did you ever apply what you have learned in a digital game in other areas?
- Please include the name of the games which you are referring to.

Invitation

To collect data from students during one of the class the poster will be shared with classmates.

Also, the link and poster will be shared in online platform with MA students.

Instrument link

(<https://forms.gle/i2hi3qYneqQ2xvRA9>)

Written version and text version is below.

Written:

Dear MA student,

We are conducting narrative essay task as part of a research for my thesis to increase our understanding of how playing digital games is perceived and experienced by who attended game-based learning course during their study. As an educational science master' students you are in an ideal position to give us valuable firsthand information from your own perspective.

The essay takes around 20 minutes and is very informal. Your responses to the questions will be kept confidential. Each interview will be assigned a number code to help ensure that personal identifiers are not revealed during the analysis and write up of findings.

There is no compensation for participating in this study. However, your participation will be a valuable addition to our research and findings could lead to greater understanding among digital games and the game-based learning field.

Poster:



Call For Research Participants

I'm Fatma Nur Barcin a master's student at Eötvös Lorand Universty. I'm looking for participant for research on playing digital games experiences

Criteria
who was student of game-based learning course during studies.
If you are above 18 years old you can join



Please note that the confidentiality of your responses is meticulously anonymously assured.

Participating Involves
Answering and writing 250-300 word essay(approx:20 min)

In order to participate you can click the link and
If you have any question you can contact me via my mail ftmmnrr@student.elte.hu