

Tartu University
Faculty of Social Sciences

Narva College
Study Program “Languages and Multilingualism at School”

Erik Kreivald

**Impact of using Minecraft: Educational Edition on
middle-school students’ motivation in English
language studying**

Course paper

Supervisor: Noora Mahmassani, English Language Fellow, MA TESOL

Narva 2022

Olen koostanud töö iseseisvalt. Teiste autorite tööd, põhimõttelised seisukohad, kirjandusallikad ja muud pärinevad andmed mis olid kasutatud töö koostamisel on viidatud.

Erik Kreivald

Allkirjastatud digitaalselt, 14.05.2023

PREFACE

Mass media often speak of video games in a negative key, making them a cause of all the problems modern children have, starting with less successful learning, ending with cases of bullying and even school-shooting, all the strike usually goes on videogames, stating that they make children dumber and more aggressive. However, video games can not only cause negative effect, but also help children in learning.

Videogames are the youngest form of art nowadays. Many grownup people don't understand videogames as a modern form of serious art, but just as a stupid way to waste time. This type of attitude towards videogames may come from the early age of video games. The first videogame ever was created in the year 1958 and was a ping-pong simulator. Video games evolved pretty quickly, and just by year 1970, Atari created first arcade video game Pong. Creation of Pong started the era of arcade video games. Arcade video games were usually standing in specific rooms where you had to pay coins to play a game with a high difficulty and no plot or ending. The most popular arcade video game is, perhaps, the Pac-Man, game where you had to eat dots and stay away from four ghosts who are hunting you, while you control some yellow creature. This game had no particular ending; it would end by just breaking after reaching some specific level. Modern video games have bigger and more developed worlds, plots and scripts written by professionals who often come from movie industry, deeper gameplay, better graphics and characters. Numerous video games are created with intricate designs and incorporate profound concepts and themes that contribute to their appeal. Given the significance of video games in contemporary culture and the potential benefits they offer as educational tools, it is pertinent to investigate their efficacy in enhancing learning outcomes. This study aims to provide empirical evidence to demonstrate the value of video games as an educational instrument and challenge the prevalent assumption that they are purely recreational in nature.

The present study is aimed at attempting to find out, if lessons that are prepared specifically for Minecraft: Educational Edition and then presented and used on English language lessons will be more effective and make children that studied prepared topic on Minecraft:

Educational Edition show better results than children that would be studying the same exact topic in a traditional way.

The research problem is that modern educational system is not the most effective it could be, and people do not use all the instruments they are to make studying more effective and motivate students even more. The present study proposes to utilize Minecraft: Educational Edition as a means of delivering English language instruction and examine the effectiveness of this technology-enhanced approach for educational purposes. By demonstrating the potential of digital media and technology as a tool for pedagogy through practical application, this research aims to contribute to the growing body of literature on technology-integrated education and offer insights into innovative teaching methodologies.

This research aims to investigate the impact of using Minecraft: Educational Edition on middle-school students' motivation in studying the English language. Specifically, the study seeks to determine the extent to which Minecraft: Educational Edition influences students' motivation compared to traditional classroom instruction. Moreover, the research aims to identify the specific aspects of Minecraft: Educational Edition that contribute to enhancing students' motivation in studying English. The study will also examine the relationship between prior experience with video games and the effectiveness of Minecraft: Educational Edition in promoting motivation in English language learning among middle-school students. Lastly, the research will explore how individual differences, such as gender and academic performance, influence the impact of Minecraft: Educational Edition on middle-school students' motivation in English language studying. The findings of this study will contribute to the growing body of literature on the use of technology in education and provide insights into innovative teaching methodologies.

To further elaborate, the proposed study aims to contribute to the ongoing discourse on the role of technology in education. With the increasing prevalence of technology in various aspects of modern life, there has been a growing interest in exploring its potential application in educational settings. Specifically, the use of video games, such as Minecraft: Educational

Edition, has garnered attention as a possible tool for enhancing student motivation and engagement.

The focus of the study on middle-school students is particularly relevant given the importance of this developmental stage in shaping attitudes towards learning and academic achievement. Additionally, the study's emphasis on English language learning is significant, given the increasing importance of English as a global language and the need for effective language instruction.

Through the research questions proposed, the study will provide a comprehensive examination of the impact of Minecraft: Educational Edition on middle-school students' motivation in studying English. By comparing the use of Minecraft: Educational Edition to traditional classroom instruction, the study will provide insights into the relative effectiveness of these two approaches. Additionally, by examining the specific aspects of Minecraft: Educational Edition that contribute to enhancing motivation, the study will provide practical recommendations for educators interested in using this technology in their teaching.

Furthermore, the study's examination of the relationship between prior experience with video games and the effectiveness of Minecraft: Educational Edition in promoting motivation will provide insights into the suitability of this technology for different student populations. Lastly, the study's exploration of individual differences, such as gender and academic performance, will provide a nuanced understanding of the factors that influence the impact of Minecraft: Educational Edition on motivation.

PREFACE.....	2
<i>Contents</i>	
INTRODUCTION.....	6
CHAPTER I WHAT IS MINECRAFT: EDUCATIONAL EDITION AND WORK PROCESS.....	9
1.1 History of Minecraft: Educational Edition.....	9
1.2 How it works.....	11
Chapter II Topic for the lesson in Minecraft: Educational Edition and practice.....	15
2.1 Topic and its choice.....	15
2.2 Test Group.....	16
2.3 Practice.....	19
2.4 Analysis of practice results.....	26
Conclusion.....	35
Resümee.....	38
References.....	41
Appendix.....	44

INTRODUCTION

Even now, people do not realize how popular the videogames are. Lebow (2021) says that in the year 2021 the amount of gamers worldwide was around 2.96 billion people. The grow of videogame popularity does not stop there; Lebow (2021) predicts that by the year 2024 the amount of gamers will rise to astonishing 3.32 billion people. Among all the existing games, one that seems to be special, is a Minecraft. Judging by the info provided from article written by Yaden (2022) Minecraft is the world's 2nd all-time best-selling videogame with over than 238 million copies sold, losing to Tetris with over than 425 millions of copies sold. Such high sales were possible for Minecraft due to it being released on multiple different gaming consoles, personal computers and mobile telephones.

Minecraft is an incredibly popular game with impressive sales numbers, but the question remains as to what makes it so appealing. One of the key reasons is its broad demographic appeal. Unlike many other popular games, which are designed specifically for either adults or children, Minecraft is suitable for all ages. It is surprising to note that the typical Minecraft player is a 24-year-old male, however, the game remains most popular among younger age groups. Despite being officially rated for children aged seven and above, Minecraft has attracted players as young as three years old.

In fact, up to 54% of boys aged between three and twelve engage with the game, while only 46% of girls in the same age bracket play Minecraft. This gender disparity is even more pronounced among children aged six to eight, where 68% of boys play Minecraft, as opposed to only 32% of girls. This suggests that Minecraft has predominantly captured the attention of male players, as they constitute its primary user demographic.(M. Woodward, 2023)

Moreover, Minecraft has several features that have contributed to its immense popularity. The freedom to create and modify virtual environments has been a fundamental aspect of the game since its inception. The block-building system, which allows players to place and remove blocks to create structures, provides limitless possibilities for imaginative expression.

The ability to modify the terrain, which includes digging tunnels, creating mountains, or carving rivers, is another exciting feature that has appealed to a broad range of players.

Furthermore, Minecraft encourages players to experiment with various materials and tools to enhance their creations further. For instance, players can utilize redstone circuits to build automated systems or use different types of blocks to add texture and depth to their structures. These features have made Minecraft a popular platform for creative expression and experimentation, particularly among younger audiences.

Another key factor behind Minecraft's success is the influence of social media influencers. Popular YouTube gamers like PewDiePie, SkyDoesMinecraft, and Stampy have played a significant role in promoting the game, leading to millions of views and widespread awareness.

Overall, the combination of these factors has helped make Minecraft a game that appeals to a wide range of people, and its popularity has continued to grow steadily over the years. As such, it is not surprising that Minecraft has also emerged as a powerful tool for education, including its use in language learning as demonstrated by our research.

However, Minecraft is suitable not only for good way of entertainment or a way to create and art objects, it also gives you an opportunity to learn using Minecraft: Educational Edition. Karsenti, Bugmann and Gros (2017) mention in their study that after giving 118 students a task to complete 10 levels with increased complexity, they found that children „developed several competencies across a wide variety of fields “(p. 27). Also, Karsenti, Bugmann and Gros (2017) identified 25 beneficial ways to use Minecraft in pedagogics, but they also mention that to make the gaming work on pedagogical purpose, lessons and tasks must be structuralized very carefully.

There are already many different research papers (Bertolini, R., & Nissim, S. (2002), Antar, R. (2019), Karsenti, T., Bugmann, J, and Gros, P. P. (2017).) that aim on studying positive

aspects of gaming. A variety of studies indicate that video games enhance job performance, particularly for jobs requiring high eye-hand coordination, attention, a strong working memory, and quick decision-making. A correlational study demonstrated, for example, that video gamers were better at flying and landing aerial drones than non-gamers and were essentially on par with pilots who were trained in the skill (McKinley et al., 2011). Furthermore, a correlational study showed young, inexperienced surgeons who played video games regularly outperformed the most experienced doctors in their field (Rosser et al., 2007). The researchers found that novice surgeons who used video games to prepare for laparoscopic surgery performed better than a control group of surgeons without this experience (Schlickum et al., 2009).

Motivation is a critical factor in the English language learning process, as it is a significant driver of success and achievement in this field. According to Vahedi and Orojlou (2011, page 3), motivation is defined as "integrative motivation is a key component in assisting the learner to develop some level of proficiency in the language" and is crucial for successful language learning. Motivation plays a crucial role in English language learning as it drives learners to pursue their goals and persist in the face of obstacles and challenges.

Research has consistently shown that motivated learners achieve greater success in language learning than those who lack motivation (Dörnyei, 2005). In fact, studies have indicated that motivation is a stronger predictor of success in language learning than intelligence or aptitude (Gardner, 1985). Therefore, it is clear that motivation is a crucial factor that contributes significantly to success in English language learning.

Motivation is a crucial factor in the English language learning process. It drives learners to pursue their goals, persist in the face of challenges, and sustain their engagement over the long term. Without motivation, language learners are likely to struggle to achieve success in their language learning goals. Therefore, educators and practitioners must recognize the importance of motivation in language learning and work to foster it in their students.

1. What is Minecraft: Educational Edition and work process.

1.1 History of Minecraft and Minecraft: Educational Edition.

Minecraft is a digital sandbox game that has become one of the most popular video games in the world. It was developed and published by the Swedish game developer Markus Persson in 2011. Since then, it has been acquired by Microsoft and has continued to grow in popularity with millions of active players around the globe.

The game allows players to explore a virtual world made up of 3D blocks, which can be mined, crafted, and used to create structures and tools. The game is set in a procedurally generated world, meaning that each game is unique, and players can continue to explore and create indefinitely.

Minecraft is a game that promotes creativity, problem-solving, and exploration. It has been used in educational settings to teach a wide range of subjects, from computer science and engineering to art and history.

The game has also undergone significant changes and updates since its initial release, including the addition of new gameplay features and modifications, such as Minecraft: Education Edition. This version of the game is specifically designed for use in the classroom, and it includes a range of features and tools to facilitate learning.

The success of Minecraft can be attributed to several factors, including its simplicity, accessibility, and versatility. The game's minimalist graphics and straightforward gameplay make it easy for players of all ages and skill levels to understand and enjoy. Additionally, the game's open-ended nature allows for endless possibilities and opportunities for exploration and creativity.

Minecraft has become more than just a game. It has become a cultural phenomenon that has influenced popular culture, education, and even the gaming industry itself. The game has

spawned countless spin-offs, merchandise, and a thriving modding community, which allows players to create custom content and mods that extend the game's capabilities beyond its original design.

The game's success has also inspired other developers to create similar games that encourage creativity, exploration, and learning. It has even influenced the development of virtual reality technology, which has the potential to transform the way we play and learn.

Furthermore, Minecraft has proven to be a valuable tool for education. Its use in the classroom has been shown to improve student engagement, motivation, and critical thinking skills (Karsenti, T., Bugmann, J, and Gros, P. P.,2017). Minecraft: Education Edition, in particular, has features that allow teachers to customize lessons and create interactive learning experiences that align with curriculum standards.

In addition, Minecraft has also become a platform for socialization and community-building. The game has an active multiplayer community that allows players to connect and collaborate with each other, regardless of their geographic location. It has become a space for people to come together and share their creativity and ideas.

Overall, Minecraft's impact goes far beyond its status as a popular video game. It has become a symbol of the potential for video games to be used for positive purposes, including education, creativity, and socialization. Its continued success and popularity are a testament to its enduring appeal and relevance in a rapidly changing digital world.

In conclusion, Minecraft's popularity and continued success can be attributed to its innovative design, user-friendly interface, and adaptability to various settings, including education. The game's unique features have revolutionized the gaming industry and have made a significant impact on the way people view video games and their potential for educational purposes.

1.2 Why Minecraft?

Using video games as a part of in-class education is seen as somewhat controversial topic nowadays. Despite various studies that find that approximately 90% of students spend their free time playing video games outside of class (Paglia-Boak, 2012), a lot of experienced teachers have negative opinion on adapting video games to using in a classroom activity, relating them more towards potentially distraction rather than an educational activity (Baek, 2008). Despite the game's enormous popularity and the availability of an educational version called Minecraft: Education Edition, the academic community has only given the game a cursory evaluation from the standpoint of a teaching tool, with no comprehensive academic works to date.

The use of technology in education is becoming increasingly popular as educational institutions seek to provide the best possible education for their students. Recent years have seen a great evolution in the technological world. With more and more people getting into digital media, it is essential for teachers to use the latest tools available in their work to engage students. To engage students in learning, one needs to be innovative and new ideas should be introduced so that students get excited about what they are learning. The use of educational technology has become essential for teachers because of its importance in today's education industry. The technological advances made over the years have impacted every field of life. As technology has become more accessible, it has penetrated into every part of our lives and, as a result, we now expect every device that we use to be as technologically advanced as possible. Schools have also embraced technology as an integral part of their education process and, as a result, they now offer computer science classes, where students learn how to code computers and use them for their work or projects.

Minecraft has become an increasingly popular educational tool over the past few years, and for good reason. The game offers a range of benefits that make it a superior choice among other games for use in educational settings. One of the primary advantages of using Minecraft in education is its versatility. The game can be used to teach a wide range of subjects, including math, science, history, and language arts. Teachers can customize lessons and

activities to align with specific curriculum standards and objectives, making it an ideal tool for individualized learning and differentiated instruction.

Minecraft also promotes creativity and problem-solving skills. Players are encouraged to explore and create, using their imaginations to build structures and solve challenges. This promotes critical thinking and creativity, two essential skills for success in any subject area. (Karsenti, T., Bugmann, J, and Gros, P. P. 2017))

In addition, as one of the students who participated in Karsenti, Bugmann and Gros (2017) research said: “In Minecraft, we’re more together, we’re tighter, and we work much better in teams than on other projects. Based on this quote, we can state that Minecraft promotes collaboration and teamwork. The game has an active multiplayer community, which allows players to connect and work together to achieve common goals. This can help students develop social skills and improve communication, both of which are essential for success in school and beyond. Another advantage of Minecraft is its accessibility. The game can be played on a wide range of devices, including computers, tablets, gaming consoles and smartphones. This makes it easy for students to access the game both in and out of the classroom.

Minecraft is also highly engaging and motivating for students. Its open-ended nature and infinite possibilities for exploration and creation make it a highly enjoyable game that students are eager to play. This can help increase student engagement and motivation, which can lead to improved academic performance and success. In recent years, scholars from other countries have also examined the advantages of using massive multiplayer online games for educational purposes and have explored the potential of incorporating online games into the classroom (Gros, 2007; Childress & Braswell, 2006; Hou, 2012). These scholars attempted to implement different gaming strategies in the classroom and observed significant success in motivating students to learn and engage in continuous learning while playing specially designed online games.

Minecraft offers a unique and immersive learning experience. By combining traditional teaching methods with digital game-based learning, students are able to learn in a more interactive and engaging way. This can help students better retain information and develop a deeper understanding of the concepts being taught.

Minecraft is often compared to other games as an educational tool, with many educators advocating for its use over other games. One reason for this is its open-ended nature, which allows for a high degree of creativity and customization in the learning experience. As one report by educators' notes, "Unlike other games, which are focused on specific learning outcomes or objectives, Minecraft can be used to teach almost anything" (Ketelhut, Dede, Clarke, & Nelson, 2015).

Another advantage of Minecraft is its ability to promote critical thinking and problem-solving skills. The study by Iowa State University demonstrated that the creativity of participants was not solely influenced by the type of game played, but also by the way the game was played. "Minecraft" was identified as an excellent example of a game with a high degree of player freedom and few rules, which encourages creative expression. The group of participants who were allowed to play "Minecraft" without any instruction scored significantly higher on the creativity task than those who were instructed to be creative while playing, those who played a racing car game, and those who watched TV. The results of the study suggest that being told to be creative may limit the options available to players, resulting in a less creative experience. The researchers also suggested that the players who received instructions may have used all their creative energy while playing the game, leaving nothing left for the creativity task. The findings highlight the importance of player autonomy in fostering creativity and suggest that "Minecraft" and other similar games can serve as a useful tool for promoting creative expression.

In contrast, other games may not offer the same level of open-endedness or creativity. For example, some games may be too focused on specific learning objectives, limiting the potential for customization or student-led learning. Additionally, some games may not offer

the same degree of socialization or collaboration as Minecraft, which can limit their effectiveness as educational tools.

Overall, while other games may have their own unique advantages and benefits as educational tools, Minecraft stands out for its versatility, creativity, and ability to promote critical thinking and collaboration.

What factors contribute to the efficacy of games as educational tools, and what role does Minecraft play in this landscape? In order to assess the potential of Minecraft as an effective educational tool, it is necessary to identify the key elements that underlie the effectiveness of educational techniques.. Previous papers by Malone and Lepper (1987) and Ciampa (2013) established six key factors of effective learning systems: challenge, control, curiosity, recognition, cooperation, and competition.

In essence, these researches found that a learning system must be challenging enough to provide the student with a sense of control and intrigue. It must also allow for a sense of pride and recognition, encouraging cooperation with other students and providing an opportunity for competition. An important feature of most video games today is creating challenging activities that are enjoyable and fun without being frustrating. This feature is essential to maintaining the students' optimal zone for learning and keeping them engaged.

Minecraft provides the extrinsic satisfaction of personal recognition by allowing students to showcase their creations to others and keep their personal projects on a persistent server created by the school. Students can also engage in self-directed learning and access the Minecraft server outside of class hours. The game's exploration feature stimulates students' curiosity, which is compounded by the addition of thousands of free modifications available for the game.

One of the main features of Minecraft is the ability to set up and run a massive multiplayer server that allows for a large number of accounts to join and play together. This presents an opportunity for teachers, schools, and school boards to create a server that can be used by

various students online simultaneously. This turns the game into a type of MMORPG, allowing for cooperative learning and producing higher self-efficacy, confidence, and motivation to complete tasks.

2. Topic for the lesson in Minecraft: Educational Edition and practice.

2.1 Topic and its choice

In order to effectively determine and select a suitable topic for a lesson, the teacher who facilitated the classroom instruction dutifully and promptly provided the researcher with a comprehensive and detailed account of her teaching schedule, including a comprehensive outline of the various subjects and topics that she intends to cover with her students throughout the duration of all lessons. The declination of grammatical topics occurred due to a lack of viable ideas concerning the gamification of these concepts into an interactive Minecraft level that could engross and engage students during class.

The choice to design a lesson around Planet Earth and the environment can be attributed to several factors. Firstly, learning about Planet Earth and the environment in English can provide children with an opportunity to develop their language skills in a meaningful and relevant context. By learning English in the context of topics that are relevant to their lives and interests, such as the environment and sustainability, children can develop their language skills in an engaging and authentic way. This can help children to understand and use English more effectively, which can have a positive impact on their academic and professional success in the future.

Secondly, studying the environment in English can help to raise children's awareness and understanding of environmental issues. By learning about environmental concepts, such as climate change, pollution, and renewable energy, children can develop a greater appreciation for the natural world and a deeper understanding of the importance of protecting the environment. This can also help children to develop a sense of responsibility for the environment and to become more environmentally conscious citizens.

Moreover, studying the environment in English can provide opportunities for children to develop important critical thinking and problem-solving skills. Environmental issues are complex and multifaceted, and learning about them in English can help children to think critically and to analyze and evaluate different viewpoints and perspectives. This can help children to become more independent and creative thinkers, which can be valuable skills in both academic and personal contexts.

In addition, studying the environment in English can also provide opportunities for children to engage in cross-curricular learning. By exploring environmental issues in English language lessons, children can make connections with other subjects, such as science, geography, and social studies. This can help children to develop a more comprehensive understanding of the world around them, and to see how different disciplines are interconnected.

Lastly, studying the environment in English can help to foster an appreciation for cultural diversity and global citizenship. Environmental issues affect people and communities all around the world, and studying the environment in English can help children to develop an understanding and appreciation of different cultures and ways of life. This can help to promote empathy and understanding, which can be valuable skills in an increasingly interconnected and globalized world.

2.2 Test Group

The process of conducting a practice lesson to gather information on the impact of Minecraft: Educational Edition on middle-school students' motivation in English language learning required careful planning and consideration of several factors. One of the critical factors was the availability of a suitable class to work with, and fortunately, multiple schools in Kohtla-Järve were willing to grant access to their classes for the study. This reflects the growing interest in using digital games like Minecraft in education, as educators recognize the potential of these games to enhance student engagement, motivation, and learning outcomes.

However, selecting a school to conduct the lesson in required more than just the availability of a classroom. The primary criterion for selecting a school was the availability of a sufficient number of computers with adequate technical specifications. This was essential because Minecraft: Educational Edition is a sophisticated program that requires high-quality computers to function optimally. The use of outdated or underpowered computers can result in poor performance, such as freezing, low frame rates, and crashes. Such technical issues can negatively impact the students' learning experience, leading to frustration and disengagement.

Therefore, the technical specifications of the computers were given careful consideration to ensure that the program would run smoothly during the practice lesson. The choice of school was also influenced by the location and accessibility, as well as the willingness of the school authorities to cooperate with the study. The process of selecting the school that met all these criteria was essential to ensure that the practice lesson would yield meaningful and accurate results on the impact of Minecraft: Educational Edition on middle-school students' motivation in English language learning.

After careful consideration of all available options and visiting several potential schools in the Kohtla-Järve area, the decision was made in favor of Kohtla-Järve Gümnaasium. This decision was based on several factors, including the availability of a sufficient number of laptops and the advanced technical specifications of these laptops, which were critical for the successful implementation of Minecraft: Educational Edition.

Therefore, the choice of Kohtla-Järve Gümnaasium was the best option, as it met all the necessary criteria for the successful implementation of the practice lesson. The availability of a sufficient number of laptops with advanced technical specifications ensured that the lesson would be conducted smoothly, allowing for accurate data collection on the impact of Minecraft: Educational Edition on middle-school students' motivation in English language learning.

2.3 Practice

The lesson was designed as an interactive experience within the virtual environment of Minecraft: Education Edition. The level comprised a range of tasks for the students to complete, which were all related to the topic of deforestation. To provide guidance and context, a Non-Player Character (NPC) named Emily (Figure 1) was present throughout the lesson, providing information and assigning the main task to the students.

Figure 1

NPC Emily.



Note. This is how the guide NPC looks like in game.

In addition to Emily, the lesson utilized blackboards as an additional tool for conveying critical information regarding the lesson's topic. These boards were strategically placed throughout the level and displayed essential information relevant to the topic of deforestation. The lesson's primary objective was to explore and study three distinct regions, each of which represented different challenges caused by deforestation or resulted from it.

To accomplish this goal, students were provided with a guidebook and a camera. The guidebook contained numerous images of various locations that could be found on the level,

and students were tasked with locating each of these places and taking photographs of them. These photographs were then used to complete the lesson's task.

Along with the guidebook and camera, students were required to locate three yellow rifts (Figure 2) within each of the three regions. Beside each rift was a blackboard containing relevant and useful information on deforestation topics, and Emily was also present to offer additional guidance. Before entering the rift, students were required to read and understand the information provided by both the blackboard and Emily (Figure 3).

Figure 2

Rift



Figure 3

Blackboard and Emily



Upon entering the rift, students were transported to an area that resembled the location they had just left (Figure 4), but one that had not been affected by deforestation (Figure 5). This immersive experience allowed students to witness the consequences of deforestation firsthand and understand the importance of preserving our natural environment. Each of the rifts also had a blackboard with useful information on the topic.

Figure 4

Area affected by deforestation.

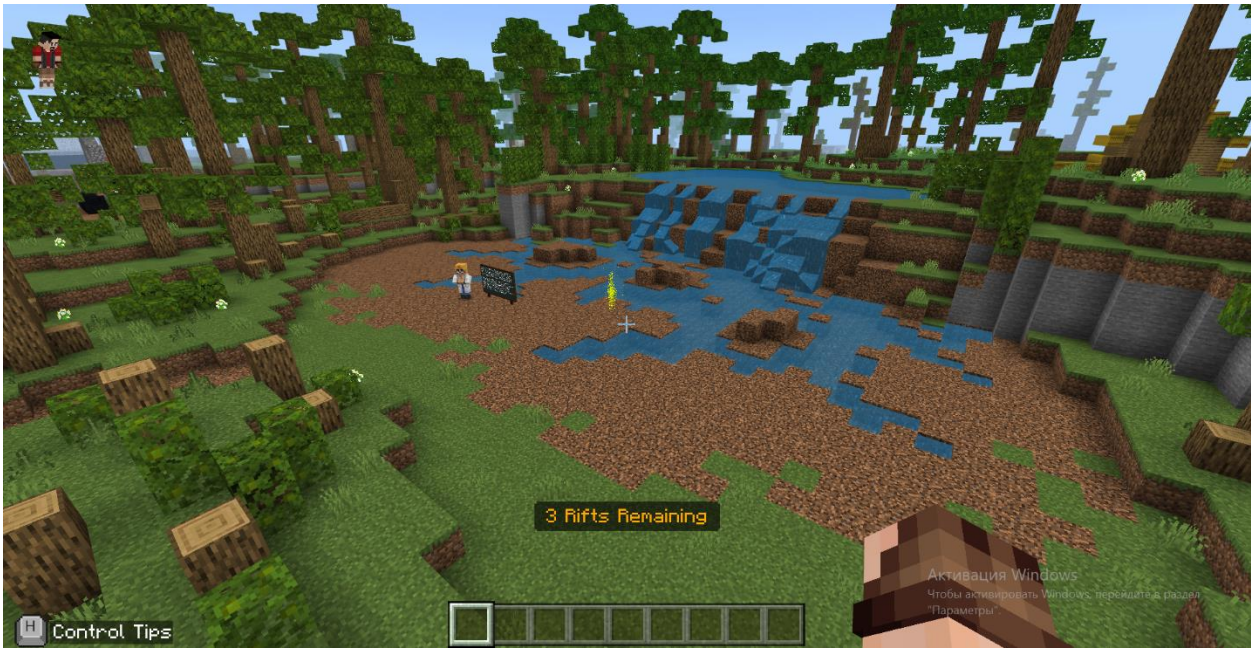
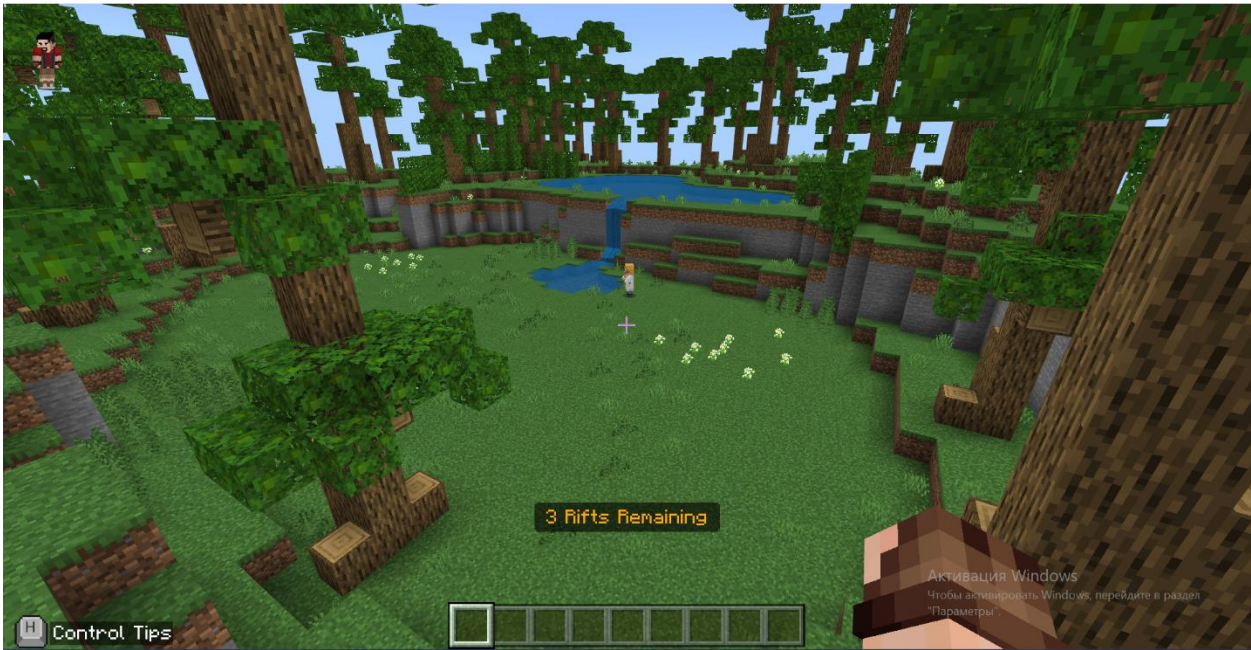


Figure 5

Same area not affected by deforestation



At the culmination of the lesson, after having visited all locations and traversed all rifts, students were returned to the starting point where Emily, the NPC guiding the lesson, provided them with a book and quill. This final task aimed to assess the students' understanding and retention of the information they had gathered throughout the lesson.

The objective of the task was for students to utilize the photographs they had taken during the lesson to create a comprehensive book. The book would contain both images and text, serving to explain all of the key concepts they had learned regarding the topic of deforestation. This exercise not only reinforced the students' learning but also encouraged them to reflect upon and synthesize the information they had gathered throughout the lesson.

To complete the task, students were required to demonstrate their understanding of the material presented during the lesson. They had to effectively organize the information and images they had collected into a coherent narrative. The book provided an opportunity for students to showcase their creativity, as they could include original ideas, insights, and perspectives that they had developed throughout the lesson.

The book and quill task were designed to challenge students to think critically and creatively. It tested their ability to recall, analyze, synthesize, and communicate the information they had gathered throughout the lesson. Furthermore, it encouraged students to consider the broader implications of deforestation and to think about ways in which they could contribute to conservation efforts in the future.

2.3.1 Optional task

After completing the main part of the lesson. The students are being teleported into bonus area (Figure 6). In this bonus area, students are given a little bit of space where they are allowed to build. The game also gives students an access to the full in-game inventory with all blocks available to use in an infinite amount. In this area three zones may be found. Each

zone is marked by mud with no grass on top of it and a sign (Figure 7). On each of the signs is a name of a thing that students have to build in the marked area. All building types are connected to the environment and deforestation topic.

Figure 6

Bonus area

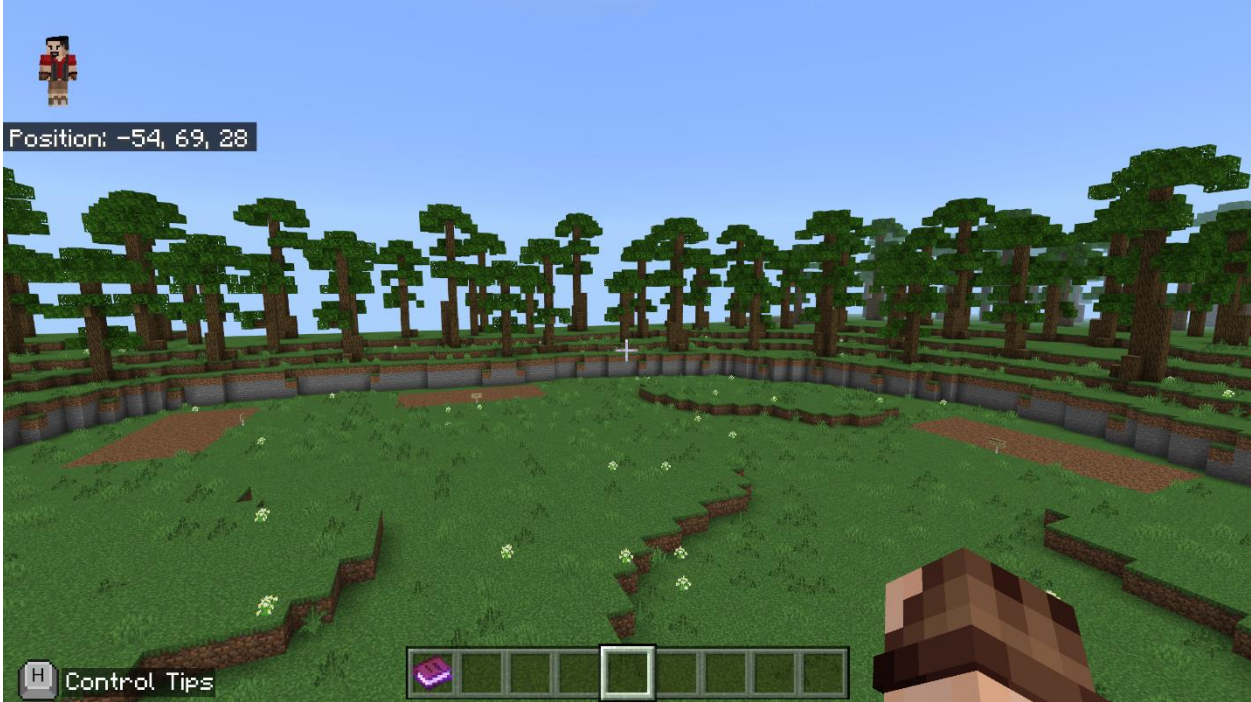


Figure 7

Place to build and task on a sign



2.3.2 Traditional Lesson

The present section discusses a Traditional English language lesson, which was conducted by the regular teacher in a group setting.. The initial segment of the lesson involved a group discussion on the environment in general. The students were encouraged to share their knowledge on the subject and discuss various environmental problems and their possible solutions.

The subsequent part of the lesson focused on working with a textbook text. The group began with a reading task, which required them to read the text and answer questions to evaluate their understanding of the text. The students encountered several blank spaces in the text, where they had to insert a letter indicating the sentence that would fit correctly into the space. Following this, the learners were assigned the task of matching a given problem to its

corresponding effects and solutions. Additionally, they were encouraged to discuss some of the problems with their partners, as exemplified in the textbook.

The third task involved completing the sentences using the correct forms of the words given in the brackets, with the words used in the comparative or superlative form. The succeeding task had a similar structure but required the students to use verbs provided in the brackets. Finally, the students were required to read a text and fill in the correct words derived from the words given next to the text in CAPITAL.

2.4 Analysis of practice results

To investigate the influence of motivation on students, a Google Forms questionnaire was distributed to those who attended English language lessons. Two separate surveys were conducted: one after a traditional classroom lesson, and the other after a lesson in Minecraft: Education Edition.

In the conducted survey (See Appendix 1 and Appendix 2), a total of 17 students participated, consisting of 9 male and 8 female students. Only 2 students reported that they have never played video games before, and these were also the only two individuals who have never played Minecraft. The majority of the students stated that they would continue to study the English language even if it were not necessary, while 5 students reported that they would not study English if it were not included in the school program.

Firstly, the results indicate that video game usage is prevalent among students, with only two out of seventeen participants never having played video games before. This suggests that video games, such as Minecraft, have become a significant aspect of modern-day youth culture and are likely to be an influential factor in students' daily lives.

Secondly, the results suggest that Minecraft has a high level of popularity among the surveyed students, as all but two students have played the game before. This finding underscores the potential of video games, such as Minecraft, as a means of promoting

language learning. The game's popularity could be leveraged to develop English language learning activities that are engaging and interactive for students.

Thirdly, the survey results suggest that most students have a positive attitude towards English language learning. The majority of students indicated that they would continue to study English even if it were not a mandatory part of the school curriculum. This finding is encouraging, as it suggests that students are motivated to learn the language, which could contribute to their overall language proficiency.

2.4.1 Student Interest in Minecraft-Based English Lessons

All students acknowledged the importance of learning the English language. When asked about their willingness to participate in a traditional English language lesson, only 7 students responded positively. On a scale of 1 (Completely disagree) to 5 (Completely agree), 2 students rated their interest as 4, while 5 students rated it as 5. However, after participating in a Minecraft: Education Edition-based lesson, 15 students expressed their interest in participating in similar lessons in the future. Out of the 15 students, 12 marked their interest as 5, 3 marked it as 4, one student remained neutral by marking 3, and one student had a negative view of the Minecraft: Education Edition-based lesson, giving a rating of 1.

I look forward to another class like this.

17 ответов

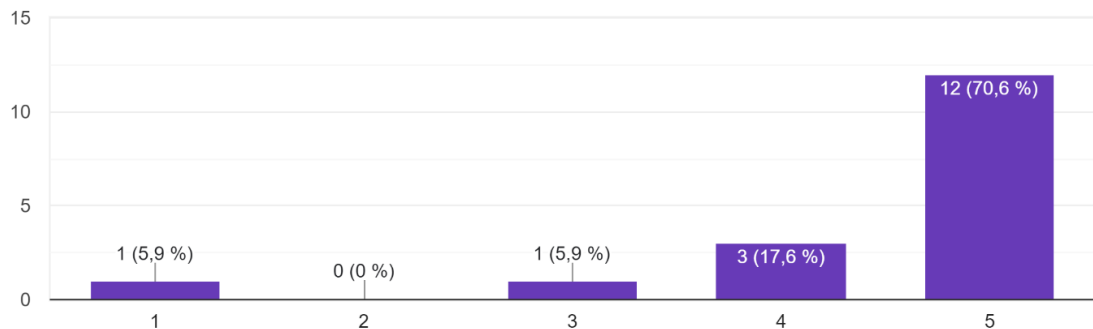


Table A1. The survey result of students will to participate in another English Language Lesson in Minecraft: Education Edition.

I look forward to another class like this.

17 ответов

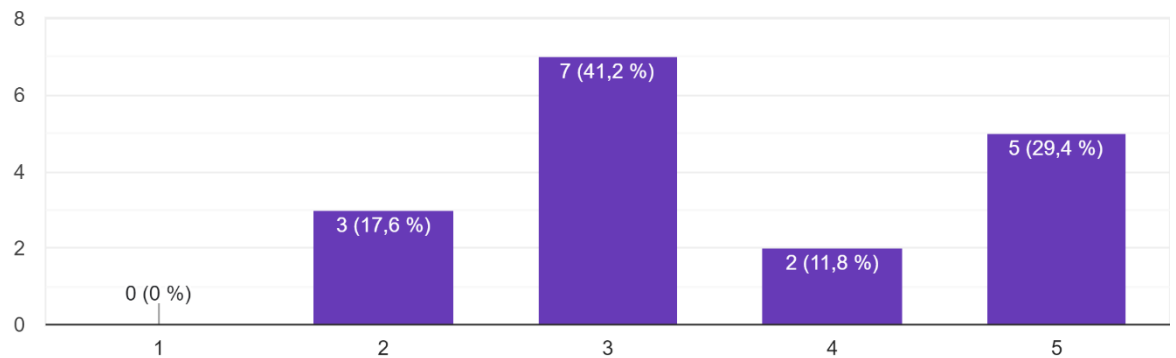


Table A2. The survey result of students will to participate in another English Language Lesson in a traditional way.

The key point of this part is that while all students recognized the importance of learning English, only a small number of students were willing to participate in traditional English language lessons. However, after participating in a Minecraft: Education Edition-based lesson, the majority of the students expressed their interest in participating in similar lessons in the future.

2.4.2 Engagement

Moreover, when presented with an optional task in Minecraft: Education Edition, 14 students reported that they would volunteer to complete it, while 2 remained neutral, and one student expressed absolute negativity towards the task. On contrast, same question after a traditional English language lesson caused a split in students' opinion: 7 replayed positively, 4 stayed neutral and 6 replayed negatively.

If teacher would give an optional task in this type of studying, i would certainly volunteer to do it.

17 ОТВЕТОВ

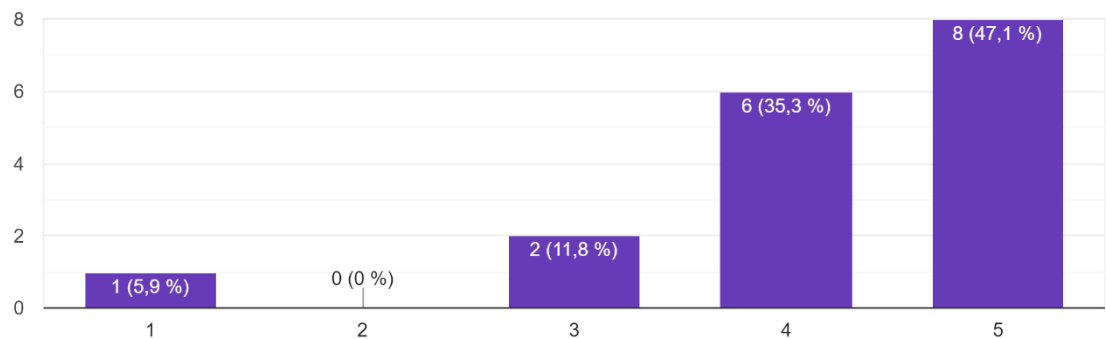


Table A3. The result of a survey on students' wish to do optional task in Minecraft: Education Edition.

If teacher would give an optional task in this type of studying, i would certainly volunteer to do it.

17 ОТВЕТОВ

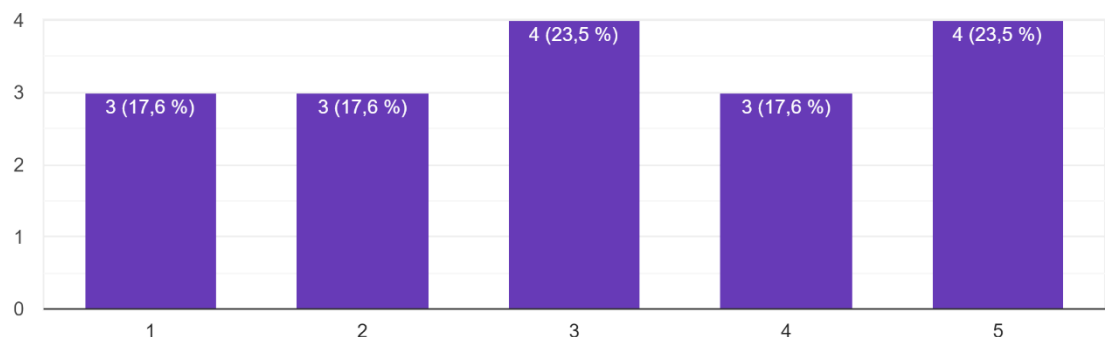


Table A4. The result of a survey on students' wish to do optional task in a traditional way.

The survey results revealed that all students who participated in the Minecraft: Education Edition lesson reported that time passed faster for them. This finding indicates that the Minecraft: Education Edition lesson may have been more engaging for the students compared to the traditional lesson. In contrast, after the traditional lesson, 11 students gave positive feedback, while five students decided to stay neutral, and one student reported that time passed slower for him/her. These results suggest that traditional lessons are less engaging than Minecraft: Education Edition lessons.

Time passed faster during this lesson for me.

17 ответов

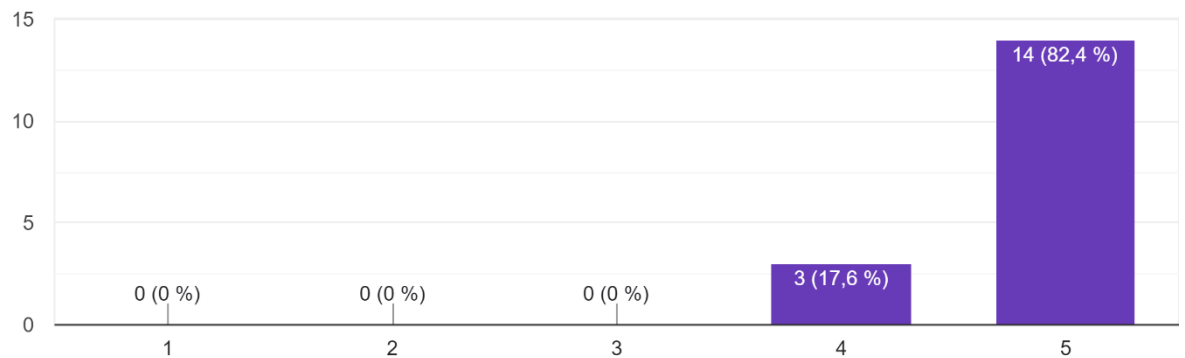


Table A4. The result of a survey on students' perception of time during English language lesson conducted in Minecraft: Education Edition.

Time passed faster during this lesson for me.

17 ответов

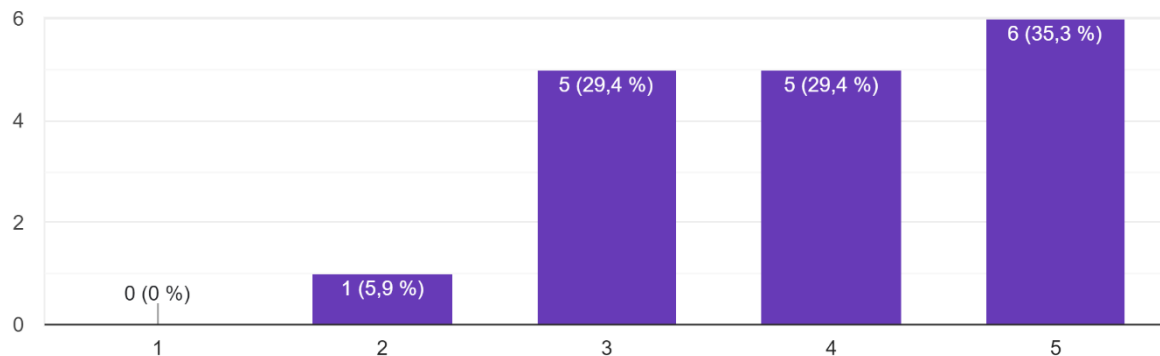


Table A5. The result of a survey on students' perception of time during traditional English language lesson.

All students reported that time passed faster during the Minecraft lesson than the traditional lesson. Traditional English lessons were less engaging for students than Minecraft-based lessons.

2.4.3 Comparison of Student Interest in Minecraft vs. Traditional English Lessons

Regarding interest in completing tasks, 14 participants in the Minecraft: Education Edition lesson found it interesting, while two stayed neutral, and one felt a little uninterested. Similarly, when asked about feeling excitement during the Minecraft: Education Edition lesson, responses were identical to those regarding interest in task completion. These findings suggest that Minecraft: Education Edition lessons have the potential to increase students' interest in learning and task completion.

Task completing felt interesting to me.

17 ответов

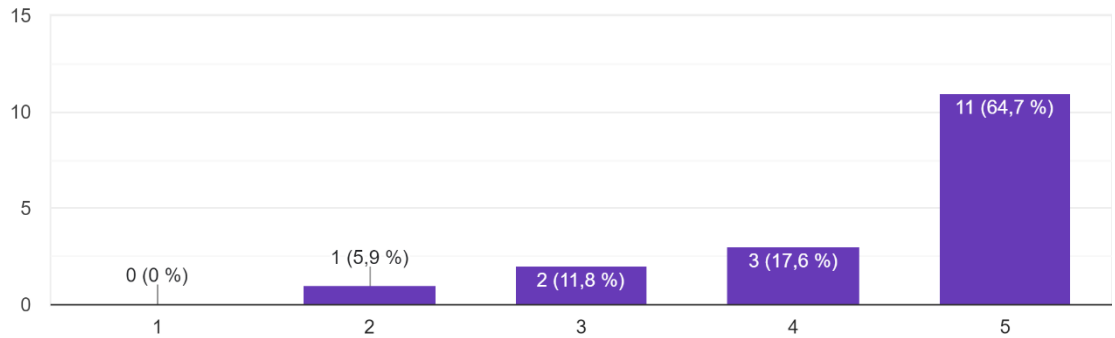


Table A6. Students interest towards completing tasks in Minecraft: Education Edition.

I felt excited during the lesson.

17 ответов

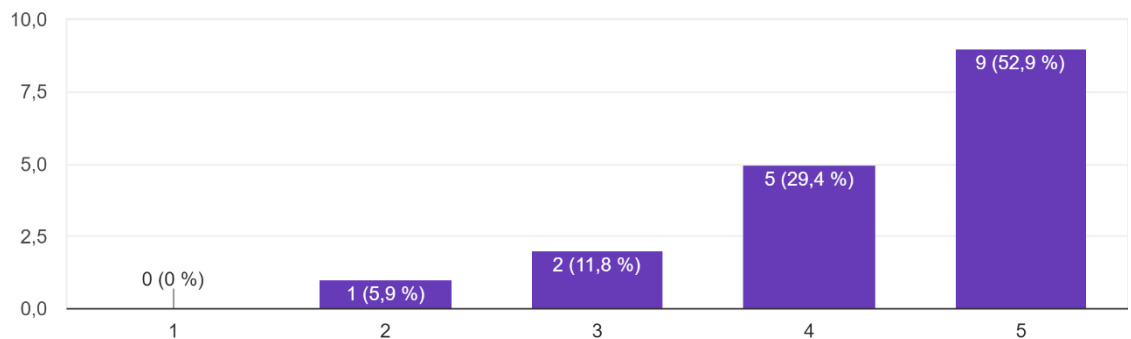


Table A7. Students' excitement during lesson in Minecraft: Education Edition.

The traditional English language lesson also received mostly positive feedback, with eight participants finding it interesting, three staying neutral, and six finding it uninteresting. The same proportions of answers were observed when students were asked about enjoying the traditional English language lesson. These results suggest that traditional lessons can be

engaging for some students, but may not be as effective as Minecraft: Education Edition lessons in terms of increasing interest and engagement.

Task completing felt interesting to me.

17 ответов

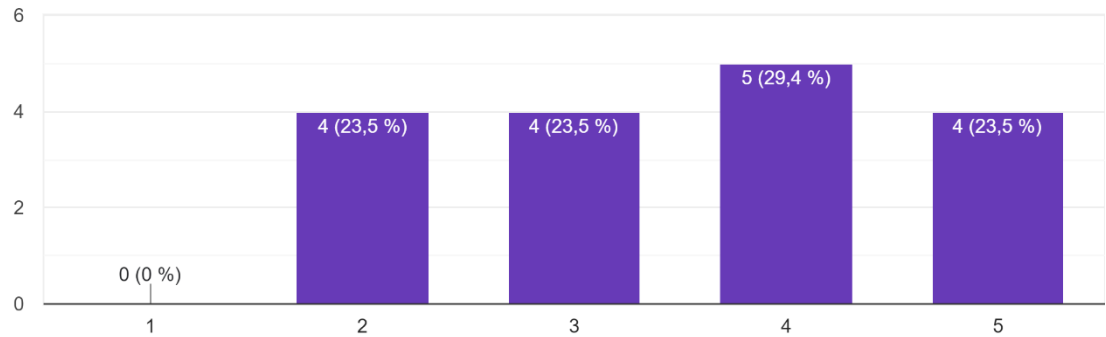


Table A8. Students interest towards completing tasks on a traditional English language lesson.

I felt excited during the lesson.

17 ответов

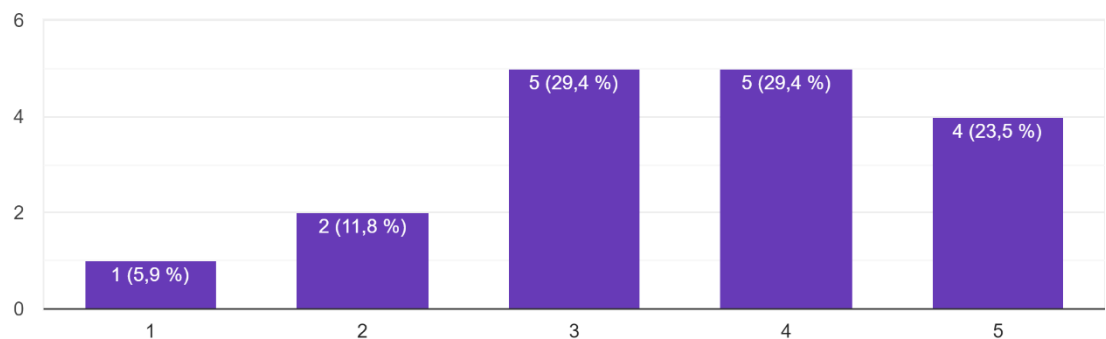


Table A9. Students' excitement during traditional English Language Lesson.

Minecraft: Education Edition lessons have the potential to increase students' interest in learning and task completion. Traditional lessons can be engaging for some students, but may

not be as effective as Minecraft: Education Edition lessons in terms of increasing interest and engagement.

2.4.4 Survey

In the present study, used questionnaire was based on Foreign Language Learning Motivation Scale (FLLMS) to gauge the students' motivation for learning English. The decision to use this measure as a base for crating own questionnaire was based on its focus on English learning, which made it particularly appropriate for the research question at hand. The FLLMS was adapted from Huang's (2005) work and comprises three sub-scales: learning needs, self-efficacy, and achievement motivation. Learning needs encompass diverse reasons for learning a foreign language, such as meeting academic requirements or improving communication with individuals from other cultures. Self-efficacy refers to an individual's belief in their ability to perform specific tasks, while achievement motivation measures their expectation of successfully completing a particular task. The FLLMS demonstrated a robust internal consistency coefficient of 0.90, indicating strong internal reliability.

Conclusion

The findings of this study support the notion that game-based learning can have a positive impact on student motivation in language education. The use of Minecraft: Education Edition in the second lesson resulted in a significant increase in student interest and motivation compared to the traditional classroom setting. The high percentage of students who found the Minecraft: Education Edition lesson to be very interesting and enjoyable suggests that game-based learning has the potential to engage students in language education.

The survey results also revealed that Minecraft: Education Edition lessons were more effective in increasing students' interest and engagement than traditional lessons. Students reported that time passed faster during the Minecraft: Education Edition-based lesson, and they found the tasks interesting and exciting.

This finding is consistent with previous studies that have shown the effectiveness of game-based learning in promoting student understanding and retention of concepts.

The fact that the students reported feeling more motivated to learn English language concepts when using Minecraft: Education Edition also highlights the potential of game-based learning in language education. Previous studies have suggested that when students are engaged and motivated, they are more likely to retain and apply the knowledge they have learned. Therefore, using Minecraft: Education Edition in language education may lead to better learning outcomes for students.

However, this study has some limitations. Firstly, the sample size was small, with only 17 students participating in the study. This means that the results may not be generalizable to a larger population. Secondly, the study only focused on middle-school students, and further research is needed to explore the potential of using Minecraft: Education Edition in different age groups and language learning contexts. However, it is important to note that not all students responded positively to Minecraft: Education Edition-based lessons. One student

expressed negativity towards the lesson, indicating that different teaching methods may be necessary to cater to different learning styles and preferences.

Despite these limitations, the findings of this study provide useful insights into the potential of game-based learning in language education. The results suggest that Minecraft: Education Edition can be a valuable tool for language educators to engage and motivate students in language learning. Moreover, the findings highlight the importance of using innovative approaches, such as game-based learning, to enhance language learning outcomes and promote student engagement and motivation.

The results of the survey revealed that the majority of the students had experience playing video games, including Minecraft. This finding suggests that incorporating video games in education could be a promising approach to increase students' engagement and motivation, given that many students are already familiar with these technologies.

Interestingly, while all students acknowledged the importance of learning the English language, their willingness to participate in traditional English language lessons varied. Only seven students responded positively to the traditional classroom lesson, while the majority of students expressed greater interest in participating in a Minecraft: Education Edition-based lesson. A reason for that may be something that K. Chilingaryan and K. Drobotenko (2015, page 6) mentioned in their work: „As a matter of fact, people like doing what they do well, and are therefore more likely to do it again, and put in more effort. Thus, those students who develop an image of themselves as ‘no good at English’ will simply avoid situations which tell them what they already know – that they aren’t any good at English. It can lead to a downward spiral of a self- perception of low ability – low motivation – low effort – low achievement – low motivation – low achievement.”“ In the context of traditional English language lessons, it is common for students to publicly report their responses to the entire class, which may result in the exposure of any errors made during the task. This aspect has been identified as a potential deterrent to students' motivation during traditional English language lessons. Conversely, in Minecraft: Education Edition classes, mistakes made by

students are only visible to the teacher and not the entire class, which may positively impact students' motivation levels. These findings suggest that educational video games like Minecraft: Education Edition have the potential to improve students' motivation and learning outcomes.

In conclusion, this study provides insights into the potential benefits of incorporating educational video games like Minecraft: Education Edition in English language lessons. The results suggest that video games can increase students' interest and engagement and could be an effective approach to enhance learning outcomes. Further research is necessary to explore the effectiveness of different video games in different contexts and with different student populations.

Resüme

Minecraft: Educational Edition kasutamise mõju gümnaasiaõpilaste motivatsioonile inglise keele õppimisele.

Selle uuringu tulemused toetavad arusaamatust, et mängupõhine õpe võib avaldada positiivset mõju õpilaste motivatsioonile keeleõppes. Minecraft: Education Edition kasutamine teises õppetunnis tõi kaasa õpilaste huvi ja motivatsiooni märkimisväärse suurenemise võrreldes traditsioonilise klassiruumi seadistusega. Kõrge protsent õpilasi, kes leidsid Minecraft: Education Edition õppetund olema väga huvitav ja nauditav viitab sellele, et mängupõhine õpe on potentsiaali kaasata õpilasi keeleõppesse.

Uuringu tulemused näitasid ka, et Minecraft: Education Edition õppetunnid olid õpilaste huvi ja kaasamise suurendamisel tõhusamad kui traditsioonilised õppetunnid. Õpilased teatasid, et aeg möödus kiiremini ajal Minecraft: Education Edition põhinev õppetund, ja nad leidsid ülesandeid huvitav ja põnev.

See leid on kooskõlas varasemate uuringutega, mis on näidanud mängupõhise õppe tõhusust õpilaste arusaamade ja kontseptsioonide säilitamise edendamisel.

Asjaolu, et õpilased teatasid, et tunnevad end motiveeritumalt inglise keele mõistete õppimiseks Minecraft: Education Edition kasutamisel, rõhutab ka mängupõhise õppe potentsiaali keeleõppes. Varasemad uuringud on näidanud, et kui õpilased on hõivatud ja motiveeritud, on suurem tõenäosus, et nad säilitavad ja rakendavad õpitud teadmisi. Seega, kasutades Minecraft: Education Edition keeleõppes võib kaasa tuua paremaid õpitulemusi õpilastele.

Kuid sellel uuringul on mõned piirangud. Esiteks oli valimi suurus väike, uuringus osales ainult 17 õpilast. See tähendab, et tulemused ei pruugi olla üldistatavad suuremale populatsioonile. Teiseks, uuring keskendus ainult keskkooliõpilastele ja

täiendavaid uuringuid on vaja, et uurida Minecraft: Education Edition kasutamise potentsiaali erinevates vanuserühmades ja keeleõppe kontekstis. Siiski on oluline märkida, et mitte kõik õpilased reageerisid positiivselt Minecraft: Education Edition-põhised õppetunnid. Üks õpilane väljendas õppetunni suhtes negatiivsust, mis näitab, et erinevad õpetamismeetodid võivad olla vajalikud erinevate õpistiilide ja eelistuste rahuldamiseks.

Vaatamata nendele piirangutele annavad selle uuringu tulemused kasulikke teadmisi mängupõhise õppe potentsiaalset keeleõppes. Tulemused näitavad, et Minecraft: Education Edition võib olla väärtuslik vahend keeleõpetajad kaasata ja motiveerida õpilasi keeleõppe. Lisaks rõhutatakse tulemustes, kui oluline on kasutada uuenduslikke lähenemisviise, nagu mängupõhine õpe, et parandada keeleõppe tulemusi ning edendada õpilaste kaasamist ja motivatsiooni.

Uuringu tulemustest selgus, et enamikul õpilastest oli videomängude mängimise kogemus, sealhulgas Minecraft. See järeldus viitab sellele, et videomängude kaasamine haridusse võib olla paljutõotav lähenemine õpilaste kaasamise ja motivatsiooni suurendamiseks, arvestades, et paljud õpilased on nende tehnoloogiatega juba tuttavad.

On huvitav, et kuigi kõik õpilased tunnistasid inglise keele õppimise tähtsust, oli nende valmisolek osaleda traditsioonilistes inglise keele tundides erinev. Ainult seitse õpilast vastasid traditsioonilisele klassiruumi õppetunnile positiivselt, samas kui enamik õpilasi väljendas suuremat huvi Minecraft: Education Edition-põhine õppetund. Põhjuseks võib olla see, mida K. Chilingaryan ja K. Drobotenko (2015, lk 6) oma töös mainisid: "Tegelikult meeldib inimestele teha seda, mida nad hästi teevad, ja seetõttu teevad nad seda suurema tõenäosusega uuesti ja pingutavad rohkem. Seega need õpilased, kes arendavad pilti endast kui "no hea inglise" lihtsalt vältida olukordi, mis ütlevad neile, mida nad juba teavad - et nad ei ole hea inglise keeles. See võib viia madala võimekuse - madala motivatsiooni - madala pingutuse - madala saavutuse

- madala motivatsiooni - madala saavutuse - madala saavutuse - madala saavutuse - madala saavutuse - allakäiguspiraalini." Traditsiooniliste inglise keele tundide kontekstis on tavaline, et õpilased annavad avalikult aru oma vastustest kogu klassile, mis võib põhjustada ülesande ajal tehtud vigade kokkupuudet. See aspekt on tuvastatud kui potentsiaalne takistus õpilaste motivatsioonile traditsiooniliste inglise keele tundide ajal. Vastupidi, Minecraft: Education Edition klassides on õpilaste tehtud vead nähtavad ainult õpetajale, mitte kogu klassile, mis võib positiivselt mõjutada õpilaste motivatsiooni taset. Need tulemused näitavad, et hariduslikud videomängud nagu Minecraft: Education Edition võivad parandada õpilaste motivatsiooni ja õpitulemusi.

Kokkuvõttes pakub see uuring teadmisi hariduslike videomängude nagu Minecraft: Education Edition inglise keele tundide võimaliku kasu kohta. Tulemused näitavad, et videomängud võivad suurendada õpilaste huvi ja kaasatust ning olla tõhus lähenemine õpitulemuste parandamiseks. Täiendavaid uuringuid on vaja, et uurida erinevate videomängude tõhusust erinevates kontekstides ja erinevate üliõpilaste populatsioonidega.

REFERENCES

- Antar, R. (2019). Investigating the impact of video gaming on children's magical thinking in early childhood (Doctoral dissertation, College of Education).
- Bertolini, R., & Nissim, S. (2002). Video games and children's imagination. *Journal of Child Psychotherapy*, 28(3), 305–325. <https://doi.org/10.1080/0075417021000022667>
- Ciampa, K. (2013). Learning in a mobile age: an investigation of student motivation. *Journal of Computer Assisted Learning*.
- Huang, H. W. (2005). The relationship between learning motivation and speaking anxiety among EFL non-English major freshmen in Taiwan (Unpublished master's thesis, Chaoyang University of Technology, Taiwan).
- Karsenti, T., Bugmann, J, and Gros, P. P. (2017) Transforming Education with Minecraft? Results of an exploratory study conducted with 118 elementary-school students. Montréal: CRIFPE.
- Kubischta, F. (2014). Engagement and Motivation: Questioning Students on Study Motivation, Engagement and Study Strategies.
- Lebow S. (2021) Gamers make up more than a third of the world's population <https://www.emarketer.com/content/gamers-make-up-more-than-one-third-of-world-population>
- Malone, T. W., & Lepper, M. R. (1987). Making learning fun: A taxonomy of intrinsic motivations for learning.

Milakovic H. (2021, April 2). Why is Minecraft so Popular? 9 Addictive Reasons. Fiction Horizon <https://fictionhorizon.com/why-is-minecraft-so-popular/>

Paglia-Boak, A. e. (2012). The mental health and well-being on Ontario students, 1991-2012. Toronto: Centre for Addiction and Mental Health.

Rosser, J. C., Lynch, P. J. Jr., Cuddihy, L., Gentile, D. A., Klonsky, J., & Merrell, R. (2007). The impact of video games on training surgeons in the 21st century. Archives of Surgery, 142(2), 181-186.

Schlickum, M. K., Hedman, L., Enochsson, L., Kjellin, A., & Felländer-Tsai, L. (2009). Systematic Video Game Training in Surgical Novices Improves Performance in Virtual Reality Endoscopic Surgical Simulators: A Prospective Randomized Study. World Journal of Surgery, 33(12), 2360-2367.

Whitworth S. (2022, April 13). Why Minecraft is still so popular in 2022. Sportkeeda <https://www.sportskeeda.com/minecraft/why-minecraft-still-popular-2022>

Woodwart, M. (2028, April 23). Minecraft User Statistics: How Many People Play Minecraft in 2023? Search Logistics. <https://www.searchlogistics.com/learn/statistics/minecraft-user-statistics/#:~:text=68%25%20of%20boys%20aged%206,as%20its%20primary%20user%20demographic.>

Yaden J. (2022) The bestselling games of all time <https://www.digitaltrends.com/gaming/bestselling-games-of-all-time/>

Andy McKinley R., McIntire L., & Funke, M. A. (2011). Operator selection for unmanned aerial systems: Comparing video game players and pilots. Aviation, Space, and Environmental Medicine, 82(6), 635-642.

K. Chilingaryan and K. Drobotenko (2015) Motivation in Language learning.

Appendix 1

The questionnaire that was handed to the students after traditional English language lesson.

1. I am a... male/female.

Question	1 (completely disagree)	2	3	4	5 (completely agree)
I think that learning English is important.					
I learn english ONLY because of the school programm.					
I learn english because it is a useful communication tool.					
I would learn English this way even if I was not required to.					
I look forward to another class like this.					

I came to this lesson excited.					
I would like to spend more time studyin english this way.					
If an English course based only on this type of lessons was presente in the future, I would gladly take it.					
If teacher would give an optional task in this type of studying, i would certainly volunteer to do it.					
Time passed faster during this lesson for me.					

I felt excited during the lesson.					
Task completing felt interesting to me.					
I am excited to have another class of English like this one.					
I really enjoyed today's lesson.					
Today's lesson was interesting for me.					

Appendix 2

The questionnaire that was handed to the students after English language lesson conducted in Minecraft: Education Edition.

1. I am a... male/female.
2. I have played video games before.
3. How much time a day you spend playing videogames on average?
4. I have played Minecraft before.

Question	1(Completely Disagree)	2	3	4	5 (Completely agree)
I think that learning English is important.					
I learn english ONLY because of the school programm.					
I learn english because it is a useful communication tool.					
I would learn English this way even if I					

was not required to.					
I look forward to another class like this.					
I came to this lesson excited.					
I would like to spend more time studyin english this way.					
If an English course based only on this type of lessons was presente in the future, I would gladly take it.					
If teacher would give an optional task in this type of					

<p>studying, i would certainly volunteer to do it.</p>					
<p>Time passed faster during this lesson for me.</p>					
<p>I felt excited during the lesson.</p>					
<p>Task completing felt interesting to me. I am excited to have another class of English like this one.</p>					
<p>I really enjoyed today's lesson.</p>					

<p>Today's lesson was interesting for me.</p>					
<p>It was easy for me to adapt to the game.</p>					
<p>I felt comfortable working in Minecraft.</p>					

Lihtlitsents lõputöö reprodutseerimiseks ja üldsusele kättesaadavaks tegemiseks

Mina, Erik Kreivald

1. annan Tartu Ülikoolile tasuta loa (lihtlitsentsi) minu loodud teose
Impact of using Minecraft: Educational Edition on middle-school students' motivation in
English language studying

mille juhendaja on Noora Mahmassani

reprodutseerimiseks eesmärgiga seda säilitada, sealhulgas lisada digitaalarhiivi DSpace
kuni autoriõiguse kehtivuse lõppemiseni.

2. Annan Tartu Ülikoolile loa teha punktis 1 nimetatud teos üldsusele kättesaadavaks
Tartu Ülikooli veebikeskkonna, sealhulgas digitaalarhiivi DSpace kaudu Creative
Commonsi litsentsiga CC BY NC ND 3.0, mis lubab autorile viidates teost
reprodutseerida, levitada ja üldsusele suunata ning keelab luua tuletatud teost ja
kasutada teost ärieesmärgil, kuni autoriõiguse kehtivuse lõppemiseni.
3. Olen teadlik, et punktides 1 ja 2 nimetatud õigused jäävad alles ka autorile.
4. Kinnitan, et lihtlitsentsi andmisega ei riku ma teiste isikute intellektuaalomandi ega
isikuandmete kaitse õigusaktidest tulenevaid õigusi.

Erik Kreivald
14.05.2023