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Game On

*A fantasy-themed escape room as a
learning environment for English as a
foreign language*

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<p>Tiivistelmä – Referat – Abstract</p> <p>My thesis discusses the use of a fantasy themed escape room as a learning environment for English as a foreign language classroom. Games, especially roleplaying games, have been the target of many studies and they have been shown to increase motivation, create new language scenarios and contexts as well as promote interaction between students and the gaming environment. However, the digital educational gaming industry in Finland is in its infancy. My study centers around piloting a digital fantasy themed escape room called “The Mage’s Hut”, and this material package functions as the revision material for the course. I set to answer four research questions. The main goal is to find out how well a fantasy themed escape room functions as a learning environment. Secondly, I examine the attitudes of students and the teacher towards the game. Lastly, the fourth research question intends to answer how students’ previous gaming habits affect the gaming experience. I use relevant contemporary literature to examine gaming trends among Finnish upper secondary school students as well as delve deeper into the benefits of gamification used in formal contexts. This includes literature on roleplaying games as well as escape rooms and their utilization in formal educational contexts.</p> <p>The research design includes a digital fantasy themed escape room that I have created based on the course material provided by Insights 5 -book by Otava for ENA5 course. The participants of the study included 26 Finnish upper secondary schoolers and their teacher. To gather the data, two questionnaires were constructed – one for students and one for the teacher. Twenty of the students responded to the questionnaire. The method for the study includes both qualitative and quantitative aspects. The questionnaires were analyzed by close-reading and were transformed into numerical values providing an easy way to compare results with each other.</p> <p>The results indicate that the attitudes of the students as well as the teacher towards the game are positive. The teacher and most of the students enjoyed playing the game and would like to see more similar games utilized in education. The game was deemed to be quite challenging, but it did not seem to negatively affect the game’s enjoyability or reported development of skills. These skills included vocabulary, grammar, reading comprehension, teamwork, information retrieval, logical and critical thinking. On the contrary, the students who deemed the game to be quite challenging reported more skills developed overall. The gaming habits of the students influenced the results partly. The students were categorized to non-gamers, casual gamers, active gamers, and hardcore gamers. Casual gamers, those with one to five hours of game time per week, reported developing the most skills out of all other groups. On the other hand, casual gamers reported the game as quite challenging the most. Therefore, it is not certain whether it is the difficulty or the game time that facilitates the development of the skills. Even though the majority of all groups reported enjoying the game, casual gamers reported the highest enjoyment rate.</p> <p>What we can gather from this study is that digital fantasy themed escape rooms function well as a learning environment. The game corresponds to the learning objectives set by the Finnish curriculum and the teacher. Furthermore, the students felt that learning took place while playing the game. Both aspects of the game, the fantasy theme and the mechanics of an escape room were enjoyed, further reinforcing the previous knowledge on the functionality of roleplaying games in formal educational contexts.</p>			
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1 Introduction

Gamification has been a part of the activities for teaching and learning in schools for a while now. Textbooks are filled with novel ways to make learning more interesting, including such activities as board games, role taking, and solving problems. Teachers strive to find new ways to make learning more entertaining and innovative, and some of these have been implemented in Finnish schools in the forms of interactive board games such as Alias as well as digital games such as Kahoot! or Quizlet. These games have been found motivating by students and teachers alike, and generally they have perked up educational contexts. The motivating power that games hold is their ultimate strength recognized by many studies (Terhema 2018; Bicen 2018; Hwang et al. 2016; Reinders and Wattana 2015) and this power is beneficial to harness.

However, digital games have been primarily limited to platforms that offer short competitive minigames that are based on answering questions such as previously mentioned Kahoot!, and these games are not as immersive as the games that students might play in their free time. Previous studies show that games played in students' free time include shooters and simulators, but also roleplaying games. Many studies recognize the possibilities which roleplaying games hold and these benefits have been reported by students themselves (Terhema, 2018; Uuskoski, 2011) as well as researchers (da Silva, 2014; Kirppu, 2014). Despite all efforts, there is an unexplored avenue in the gap between the games that can be used in education as well as in students' free time. More elaborate games that aim to immerse its players into its world are not applied in educational contexts and this is not being studied enough at least in the context of learning English. Indeed, there are simulators and virtual escape rooms built for learning medicine, mathematics or even flying, but next to none for philology and linguistics (Makri, Vlachopoulos and Martina, 2021, 20). Furthermore, the educational gaming industry in Finland is in its infancy. This gap offers a plethora of possibilities that students could explore together with the aid of their teacher in the renowned schooling system of Finland. My thesis offers a chance to delve into this uncharted territory in the form of a virtual escape room.

In this thesis, I will discuss the use of roleplaying games (RPGs), specifically fantasy-themed escape rooms, in educational contexts. I will first construct a material package and pilot an educational escape room for students based on a course book that they use.

The purpose of the escape room is to function as a revision tool for their course end exam. The purpose of the study is to find an answer to the following research question:

1. How does a fantasy-themed escape room function as a learning environment?

To answer the question this study will also answer to these sub-questions:

2. What are the students' attitudes towards the game?
3. What are the teacher's attitudes towards the game?
4. How do students' previous gaming habits affect the gaming experience?

The thesis is organized as follows: Firstly, I will discuss relevant literature to my thesis and examine related studies. I will then move on to explain my research design for the study and lastly discuss my findings in the results and analysis section.

2 Digital Games in Education

2.1 Digital Games as a Learning Environment

Digital games are usually thought to be a part of student's free time rather than a part of active learning. It is important to make a distinction between different types of teaching and learning - formal, non-formal and informal. Formal teaching and learning take place in a school environment which is typically mandatory, and most importantly the student's learning is evaluated (Escach 2007, 174). This will be the context of my study. Non-formal learning on the other hand is not mandatory and is usually arranged, for example by one's employer, the local museum, or a library (Escach 2007, 173). Similarly, informal learning is also not mandatory, but it is not as structured as formal and non-formal learning. Learning takes place in one's free time in spontaneous situations without intent and the supervision or evaluation of an organization (Escach 2007, 173). Informal learning is an everyday occurrence, and it is strongly connected to one's own interests such as knitting, riding a horse, or playing video games. In this study, I will try to bridge the gap between formal and informal learning, bringing the interests of the student into formal setting and encouraging them to explore a new way of learning the English language in a Finnish classroom.

The importance of informal learning in language acquisition has been the target of many studies. In her study exploring students' extramural English activities, Sundqvist (2009) noticed a strong positive correlation between oral proficiency and the development of vocabulary of the learners together with the time spent on extramural English activities, such as surfing the internet, listening to music and playing videogames (144-146, 163-164). This finding seems only natural since language learning benefits majorly from the learner's surrounding input. Language input is a vital aspect of language acquisition according to Krashen (1980), a pioneer in the field of language acquisition theory. This theory is the basis for Ellis' (1991) interaction hypothesis, which states that "the subconscious process of 'acquisition' (as opposed to the conscious process of 'learning') occurs when the learner is focussed on meaning and obtains comprehensible input" (Ellis 1991, 4).

Comprehensible input requires the active participation of the learner because the input needs to be made intelligible. This is supported by the findings of Uuskoski (2011) in his study exploring the correlation between extramural English activities and English grades. He found that engaging with activities that require the learner to be an active and productive participant correlated more strongly with good grades in comparison to activities where learners remained passive (Uuskoski 2011, 19). Therefore, activities such as games that provide active participation function better as an informal learning avenue than other activities such as watching television or listening to music. With the development of technology and consequently games, it has been found that a growing number of students engage with gaming at the expense of watching television (da Silva 2014, chap. 2) which has been one of the most consumed form of media in the past. This is a positive development since games seem to provide a fruitful platform for different aspects of language learning. Also, in the past students have been encouraged to participate in extramural English activities in their free time, most likely to ensure more extensive surrounding input, which is why with new technological developments it seems only fair to encourage students to play video games as well.

2.2 Learning from Games

Multiple studies have been conducted on different aspects of language acquisition in the field of digital gaming – motivation (Bicen 2018), willingness to communicate (Reinders and Wattana 2015) and the development of language skills such as vocabulary, reading

and listening comprehension (Terhemaa 2018; Hwang et al. 2016) to name a few. However, it is important to bear in mind that most of these researchers have conducted their research in an ad-hoc manner, focusing on student's own personal experiences on gaming and school grades after applying a game and usually in the form of a questionnaire (Petri 2017, 71). Some have also taken into consideration more objective markers such as school grades, but these studies are unfortunately rare. Therefore, there are little objective findings on a general level, and as such, no unison framework evaluating digital educational games has been established. However, it is no reason to undermine subjective experiences of students and their ability to recognize possible advantages and disadvantages of different extramural activities on their language skills. Therefore, my study will follow this same ad-hoc questionnaire format as well.

In the context of Finnish educational system Terhemaa (2018) in his study of upper secondary school students and the correlation of extramural activities and language development, reported that most of the students stated to benefit from digital games in terms of language acquisition (29). He found that the most developed language skill reportedly was vocabulary with 76,9% answers followed by reading comprehension (47,9%) and listening comprehension (39,3%) and only 28,2% reported not benefitting from video games at all (Terhemaa 2018, 29). These findings are connected to the interactive nature of video games - the language input of a video game needs to be made comprehensible if the player wishes to advance in the game. The language can be either in a written or spoken form, encouraging players to find the explanation of a word online or asking others for help. However, if the input is too difficult to understand it hinders motivation resulting in negative feelings towards video games. This will be discussed in a later section (see 2.3. Motivation). Similar findings concerning reading and listening comprehension were found by Hwang et al. (2016) who studied mobile game-based learning environment utilizing tasks that required speaking, listening, and evaluating peers on their speaking skills. They found that the game they built fostered students to reflect on their speech and practice more frequently as well as speaking with greater accuracy and confidence (Hwang et al. 2016, 14). The strength of this study is that they discuss learning and games in educational contexts while Terhemaa (2018) discusses learning in an informal setting.

Games also affect the brain positively in terms of learning. Games have been found to promote deep processing of material, searching and decision making, which facilitates learning and vocabulary transferability (Franciosi 2017, 124). Indeed, games provide a context for linguistic information and promote other useful skills also needed in learning in general. These skills are aforementioned searching and decision making but can also include teamwork and the so-called 21st century skills. These skills include knowing how to use digital devices to find information and evaluate said information. These skills are linked to video games so that if the player for example wishes to make some input more comprehensible, they need to find appropriate information online and see that it is trustworthy. In addition to deep processing, the non-linguistic information of video games activates brain areas that process both non-linguistic and linguistic activity which in turn correlates with better novel word retention (Franciosi 2017, 124). However, the non-linguistic information should not be too distracting. Franciosi (2017) continues that if the game world is too immersive it can cause sensory overload and in turn cause hindrance to learning which is why the immersion of the game should be adjusted accordingly to each player (124-125). The need for personalized experiences is a valid concern, however in educational contexts these are hard to provide. Therefore, in the process of designing the game this aspect should be accounted for and ultimately strived for because personalized gaming experience could be more motivating for students.

2.3 Motivation

The glue between the ability to make an input comprehensible and the goal of language acquisition is motivation. Motivation is a crucial element in any learning and in educational contexts something that should be endorsed by the teacher and the learning environment (Piispanen, 2008, 145). Many studies conclude that one of the many strengths of video games is the motivating power they hold (Terhemaa 2018; Bicen 2018; Hwang et al. 2016; Reinders and Wattana 2015). Games have the ability to transform a classroom into a new learning environment with novel details and new governing rules, which also helps to renew motivation. How long this newly found motivation lasts is another issue and needs further research. There are various aspects that uphold and create motivation. Terhemaa (2018) argue that it is the novel aspect of gamification that makes a classroom more motivating (10). This means that bringing games as a tool into classrooms helps students to look at the subject matter from a new point of view. In the

same vein, Bicen (2018) states that the games have the ability to heighten the interest of students which causes students to become more ambitious for success (88). This is crucial in making the input of the game comprehensible and finding information online. In addition, this motivates the player to understand the non-linguistic game mechanics and how to better overcome them. Da Silva (2014) discusses this idea and names video games to be part of transmedia – the motivation to understand the mechanics of the game might cause the player to seek information and engage in discourse to fully grasp the game’s narrative (chap 3.2). This requires 21st century skills and good enough language skills to find this information. This is however true only for games that have international audiences with English as a lingua franca used in the game forums, for example. As this sort of game has not been seen in Finnish contexts, a future need for an educational game could include English forums, where students could discuss the game together. Better yet, a collaborative project between different nations allowing interaction between students from another country. This could be the future of educational gaming, but alas, still far ahead in the future.

Additionally, in terms of 21st century skills Kaarakainen, Kivinen and Hutri (2015) found that gamers produce three times more likely own video content than peers. This provides more experience using the language and new contexts to practice the skills that gaming can offer. Games also promote motivation through indirect ways, which entails mainly the lowering of student anxiety. The key to lower student anxiety is best examined in the process of game design. Reinders and Wattana (2015) name different key features that reduce anxiety and promote confidence as well as motivation. These features are intrinsically intertwined with game genres, and these will be discussed in a later section (see 2.5).

It is important to also note that not all students find games motivating (Reinders and Wattana 2015) or think that games in educational contexts would be as fun (Terhemaa 2018, 13). Therefore, motivational reasons should not be the only justification for employing games in teaching. Although, a student who did not enjoy video games reported disliking them, they stated that games could have a role in teaching if students like them would be taken into account and there would still be enough face-to-face interaction (Reinders and Wattana 2015, 51). So, it would be beneficial to understand the connection between games and different learning styles. In a study conducted by Sihvo

(2018), he found that the most positive feedback was reported by students who learn kinesthetically (16). Most games require the player to be an active participant within the environment and/or keep hands on a keyboard and mouse, controlling the character in-game. However, not everyone learns kinesthetically but in turn requires more guidance. In the same vein, Sihvo (2018) also questions if there truly is a unison teaching method that suits everyone (39). Indeed, even though the goal should be that most of the students benefit from the teaching method, it is worth arguing that different methods should be experimented on to help students find methods that suit them the best and to give all students the chance to learn most effectively. Also ideally, in terms of game design, the game itself should provide a variety of different tasks for different learners. Sihvo (2018) also reminds that there should be no assumptions about the previous gaming experience as the game should offer a positive experience for newcomers as well (15). This includes the possibility to get guidance and instructions when needed, which helps to maintain motivation.

2.4 The Core of Educational Games

Naturally, teachers have their own requirements for a game for it to be successful in a classroom setting. The teachers in Sihvo's (2018) study hope that an educational game would not include anything unnecessary, such as long cutscenes, it would be precise in its subject matter but would make it more fun and teachers should be able to assign homework and tasks within the game (10). The most contradictory wish is the preciseness of the subject matter but keeping the game malleable in terms of fun i.e., omitting dull, everyday aspects of it. This can prove to be difficult in some areas. In terms of English there should be little to no problem with this since English can be used in so many different ways as the contexts are highly malleable and easily provided. However, I would disagree with the teacher's opinion on the lack of cutscenes – these could provide much needed L2 spoken input, if they would be voice acted. They should be seen as a possibility, not as an add-on.

In the context of their designed app, Palomo-Duarte et al. (2016) list concisely the aspects of an educational game they have considered to be important for it to be successful or a guaranteed effective learning environment. These are based on the work of Sharples, Taylor and Vavoula (2005) who studied the core of effective learning. Palomo-Duarte et al. (2016) lists with examples the following aspects - the game should be “learner-,

knowledge-, assessment- as well as community-centered” (58). With learner-centered aspect they mean that the game should be built around the learners, on their own competences and interests. Secondly, the game and its content should be structured by someone who has knowledge of the content and its appropriateness in terms of language accuracy and correctness. Thirdly, the game should provide students formative guidance and feedback on their progression and finally, the game should accommodate weaker students and engage them to share knowledge. This is a valid framework for a game to work in educational contexts while still giving enough room for the creative aspect of the game. Within these guidelines the game and its creators, be it a company or an individual teacher, the outlook for games in education is more positive. In contrast with the teachers in Sihvo’s (2018) study, those in Palomo-Duarte’s et al. (2016) seem to express more confidence on the ability of a game to function in a classroom setting. Interestingly, Sihvo’s study is centered around Finnish context which would differ from Palomo-Duarte’s et al. (2016) context and give us relevant information about the situation in Finland. This is one of the reasons why in my work, I will also ask the opinion of the teacher on games used in education. Attitudes have an essential impact on introducing virtual games into classrooms, which is why further research is needed on the subject.

In terms of the Finnish context, it is important to discuss the national curriculum and how employing digital games meet its guidelines. My study will concern upper secondary schoolers but may indicate trends for elementary schoolers as well. As earlier established, video games provide at best a platform for new learning environments that support societal skills such as communication, resourcefulness, and adaptability (Barr 2018, 292). In the Finnish curricula, both in elementary school, POPS, as well as in upper secondary school, LOPS, they highlight skills such as learning to think and interactional competences (POPS 2014, 20-21; LOPS 2019, 62-63). Communication, resourcefulness and adaptability all fall into these two categories. Interactional competences are one of the most noteworthy learning goals (LOPS 2019, 180) which is why employing video games in classrooms is justified for their interactional nature, both between characters in-game as well as interaction between students themselves. This interaction is discussed within the genre of games (see 2.5). Additionally, one of the emerging features in the curricula is the language profile, where students fill in their competences of a certain language. Video games could provide one aspect of the profile, showing competence in one area or a hobby. Furthermore, upper secondary school curriculum mentions the use

of various learning environments (LOPS 2019, 19), which games have the power to provide as earlier established. Lastly, both of the curricula strive for transversal competence which includes the interactional competence and the creative competence (LOPS 2019, 60). These are heavily affected by digital competences, and video games, by their digital nature, help develop these competences.

2.5 Genre of Games

As earlier mentioned, the genre of the game has a part to play in what type of content it includes. As a result, they are connected to certain types of skills that they develop and what type of learning environments they have the ability to function as. For my thesis, I have chosen to examine the core genre of roleplaying games (RPGs), namely fantasy and its ability to function as a learning environment in a virtual escape room setting. The reasoning behind this is three-fold. Firstly, I have extensive experience of fantasy RPGs as a free time hobby and this interest in the roleplaying world drives my study. I have seen many different variations of games and different stories unfold before me for the past 15 years of my life. From this experience, I draw inspiration. Secondly, in a study conducted by Uuskoski (2011), RPGs were one of the most played genres as well as the most useful genre within the target population of upper secondary schoolers in terms of language acquisition (32). Even though in his study he was not able to determine whether it was the genre, or the overall time spent playing video games that influenced the English grades, RPGs remain a viable target for research due to the genre's past popularity within the target population as well as due to the similarity of the target population between his and my study. This approach in my study is in line with the learner-centered approach proposed by Palomo-Duarte's et al. (2016), discussed in previous section – the game is designed based on the learner's interest and competences. Popularity among students has the potential to indicate familiarity within the genre. However, it is worth noting that Uuskoski's (2011) study was conducted a decade ago, and therefore popular gaming genres might have changed. This is one of the reasons why in my study, I am also examining the current, most popular genre among my study's participants. Uuskoski's (2011) questionnaire form will be the basis of my own questionnaire, but with certain modifications. These include making the example games more up to date as well as fitting it to my own research needs. These will be discussed in more detail in research design.

Thirdly, the RPG genre has been the target of many studies, especially in educational contexts. Roleplaying was introduced in language classes years ago, and it can be argued to be a valuable tool for language acquisition. Roleplaying involves the practice of speaking, turn taking and usually solving a problem. Typical exercises involve adapting a role, for example a traveler, who is asking directions from a local, who is portrayed by another student. In roleplaying situations students are able to practice their own abilities in tackling everyday problems in new contexts. These new contexts are the strengths of video games, and especially roleplaying games. Video games function as a tool to bring new learning environments into an everyday classroom. These learning environments provide new contexts in which the language can be used. As da Silva (2014) mentions, “video games are good at putting language into the context of dialogue, experience, images, and actions” (chap. 2). The student becomes an active learner as mentioned earlier and interacts with the new context provided by the game. Indeed, RPGs provide the possibility for many interactions due to their story-centered nature which usually include fantasy-oriented storytelling including magic and other powerful abilities. Fantasy RPGs are the center of my study, due to their extensive ability to promote immersiveness. Additionally, the fantasy genre is age appropriate and can easily be modified for different age groups. In her research, Kirppu (2014) found that students felt story-centered games were the most useful type of game due to their extensive L2 input. Following a story requires active participation and evokes inner motivation to unfold the story – just as the input hypothesis argues. Better results are acquired if the player is able to interact with another character even if it is only a fictional one because games are at their best as a social environment according to da Silva (2014, chap. 2). By fictional characters they mean non-player characters (NPCs) with whom the player usually interacts by pre-determined answer options from which the player then chooses the appropriate one for their liking. In social contexts, such as discussions outside of the game, players are able to practice both the input as well as the output of a language, usually in English due to its prominent status as a lingua franca and its status as the language of mainstream entertainment. The central hub for these discussions is usually gaming forums, general forums on Reddit or discussing the game being played by a streamer in real time on Twitch, for example. As earlier stated, these games that have forums dedicated to the game are progressive forms of video games and as such in the context of education, still far away in the future.

As earlier established, one important aspect of developing a learning game is to take a learner-centered approach, namely, to take into consideration students' own interests (Palomo-Duarte et al., 2016). It is then worthwhile to discuss the use of the most popular genres as a learning environment. I argue that it is important to take into consideration the goal of the game, which in terms of educational games is the different learning objectives. While games that are not considered as educational have set goals in the context of the game itself and the games improve the player skills in different ways, the goals or aspects of the game are not similar to those that educational games emphasize. For example, online shooters require a vast range of different skills including fast reflexes and co-ordination between team members, and players underline the importance of the social aspect of the game (Jansz and Tanis, 2007, 135). Nevertheless, most shooter games such as the popular games Counter Strike and Call of Duty are PEGI 18, which automatically makes them impossible to be used in an upper secondary school setting. However, some shooters such as Valorant, where the goal is to eliminate the opposing team, are suitable for ages 14 to 16 depending on the presence of an adult. In the same vein, battle royale games, a sub-genre of shooter games with the staple feature of becoming the last man standing, share an avenue with shooters as a possible learning environment. Popular games of this genre are, for example, Fortnite and Apex Legends.

At the time of writing this paper, there is no research conducted on shooting games that are used in education. It is important to critically think whether or not it is ethically acceptable to bring these types of games into schools as a possible learning environment. The intention of killing an opponent might not stand well without a modification of the goal for an educational game. However, it is worth examining whether a more suitable modification could provide a better alternative for eliminating opponents, for example a game of dodge ball. But then again, as shooters do not entail as many possibilities for advancing in the game story wise when compared to RPGs for example, the learning possibilities are mostly limited to social interaction. Indeed, shooters are repetitive in nature, where the game is played in short rounds. The game has the ability to teach vocabulary, but I argue that shooter games do not require the player to make the input understandable in order to advance in the game. Therefore, language acquisition becomes close to irrelevant. A possible answer could be found in a shooter RPG, where the shooting is a feature, not the core of the game.

Some games have been developed to combine shooting with vocabulary usage. An example of a game is called *Zombie Killer*, where the player needs to type words in order to shoot an attacking zombie. The game lacks social interaction and the words entail only English words or sentences. However, these types of games could be utilized in learning a language, but it would need to include words in both target and source language as well as the repetition of the words. These types of games, when modified to be suitable for younger audiences, could function as an effective way to build up vocabulary. Therefore, even when abiding by the suggestions of Palomo-Duarte et al. (2016) to strive for learner-centered approach, in this case overriding shooters with RPGs even though the latter is less popular among students, RPG is more pedagogically sound approach for an educational game.

Similar arguments can be construed for some of the other genres. From language learning aspect social deduction games' strengths lie in their social nature. In social deduction games the player intends to use logical deduction to reveal someone who is not part of the group, such as an alien impostor posing as a crewmember in *Among Us*. If the social aspect could be utilized in class and communication would happen in the target language, social deduction games could function well as a spoken exercise. This would need further investigation in future research. Auto and simulator games, hyper casual games, and strategy games all represent similar possibilities for an educational game. These games are more based on physical or logical skills rather than language skills. Vocabulary can be acquired by playing these games, but the emphasis of encountering learnable material in terms of language learning is limited because there is no story line to follow and reading comprehension is limited in some cases only to instructions. That is not to say that these genres could not be used for other school subjects, but in terms of English learning, I argue that there are better avenues to explore. Other popular genres such as building and life simulator games, platformers and survival games host the most potential among RPGs due to their progressive nature. All these genres have the possibility to include story-based content as a part of their core features. Overall, as earlier established it is the power of immersion and storytelling that governs the superiority of RPGs as potential learning environments. If the popularity of RPGs is dwindling, however, it is worth considering creating a game that would include aspects of different genres to create a game that would serve several types of players. That would create the best possibility to cater for all types

of learners and interests. That is something that should be taken into consideration in future research.

So, the type of game is an important factor when choosing a suitable educational game. Kinzie and Joseph (2008) have suggested six activity modes to define gameplay which are Active, Explorative, Problem-solving, Strategic, Social, and Creative play. They do not specify example games for each, but, for example, active games require active participation of the player and many shooter games such as Counter Strike can be used as an example. Explorative mode allows adventuring and searching the surrounding environment, whereas problem-solving mode allows the use of deduction skills. Strategic mode enables the use of logical skills, social mode interaction with the environment and lastly, creative play enables the use of ingenuity as a resource. Noteworthy however, is that within this framework Sylvén and Sundqvist (2012) argue that some games like massively multiplayer online role-playing games, or MMORPGs, such as World of Warcraft that are games with massive player bases, have all six of these modes (304). This would then mean that games that can provide many types of activities to many types of players enjoy success within the player communities. For future research, it would be beneficial to apply this framework into educational contexts and see which type of learners do different game modes serve the best. The strength of Sylvén and Sundqvist's (2012) study is that they gathered data from three proficiency tests, language diary as well as a questionnaire rather than just one summative ad-hoc questionnaire. This functions as a solid indication of the supremacy of (massively multiplayer) roleplaying games as a better learning environment in comparison to other game genres. The participants were a few years younger than my target population, but I do not think this will matter because due to digitalization, even younger generations are engulfed within the gaming entertainment and as such are a valid target population for further research.

As mentioned earlier, games have the ability to lower student anxiety which improves student motivation. In their study of different game genres and willingness to communicate, Reinders and Wattana (2015) found that MMORPGs have the best ability to lower student anxiety due to key design features that at the same time increase confidence and motivation (39), which is in accordance with the work of Sylvén and Sundqvist (2012). Even though MMORPGs govern the most sought-after features, due to time constraints, monetary issues, and the lack of willing participants I am not able to

provide such a game. However, MMORPG is just a version of RPGs, differing only in terms of the size of the player base playing at the same time which is why RPGs will serve me well for my research purposes for the time being. The advantages of a larger player base are that there are more opportunities to communicate between players. Also, MMORPGs seem to provide something for everyone in the framework created by Kinzie and Joseph (2008).

However, the upsides that the studies found conducted on MMORPGs seem to be their overall interactive nature, both with other players in-game and with NPCs. MMORPGs and RPGs rely heavily on a text format but games with larger budgets have also voice actors. A staple trait in an RPG world is the presence of different tasks that the player needs to complete in order to be rewarded with story progression or other in-game rewards. These are usually referred to as quests. Quests are given by NPCs, or by interacting with the environment, which traditionally opens a text window when clicked on. My study will rely heavily on this text-based format as well which might have a negative effect on the game's ability to provide an immersive experience due to the lack of voice actors and sound. However, I will provide as immersive experience as possible with the skills I have. To compensate for the lack of in-game player-to-player interaction, the employed game will be played in pairs or in groups of three to give the possibility to communicate with others.

Lastly, Reinders and Wattana (2015) also found that with the help of avatars and pseudonyms in combination with the lack of open, public sphere, a sense of anonymity helped reduce anxiety regarding willingness to communicate among students (42). In my fantasy-themed escape room, there will not be any avatars unfortunately, but the public sphere is reduced to the immediate group playing the game. Hopefully, this will be enough to help reduce anxiety in terms of willingness to communicate. They also found that with this sense of anonymity and therefore reduced anxiety, began a virtuous cycle with further lowering of affective barriers and increased motivation as well as more L2 production (Reinders and Wattana 2015, 50). Spoken L2 interaction is encouraged in my game, but it is not a necessity to overcome the quests set by the game. These details will be further discussed in the research design.

2.6 Escape Rooms

Escape rooms first appeared in Japan 2007, and since then have spread to Asia, U.S.A and Europe. Creators of escape rooms have developed new innovative ways to enhance escape room experience by incorporating technology such as virtual reality in the rooms. The line between an RPG and escape room is a blurry one. Escape rooms are a form of live action role play, where the player becomes the trapped person. In virtual escape rooms there is no live action role play per se – just roleplaying. The premise of an escape room is first and foremost to escape from a set room or facility within a time limit by completing tasks and puzzles within the room. The premise of an RPG is that the player takes on the role of a character within a game. Similarly to RPGs, escape rooms also have a thematic setting, but the theme usually revolves around horror evoking a sense of danger in participants. Interestingly, Franciosi (2017) found that games that have the ability to evoke the survival instinct within a player resulted in better vocabulary retention (125). All things considered, it is not easy to differentiate between an escape room and an RPG – escape rooms could be best seen as a sub-genre of RPGs. Through this connection via roleplay, it seems no wonder that escape rooms have found their way in education as well.

The main difference between educational escape rooms and recreational escape rooms is the audience. The consensus of the contemporary literature reviews on escape rooms seems to be that when escape rooms are applied in educational contexts, the rooms should be designed with great consideration and be based on proper pedagogical theories so that they would encourage further learning outside of the escape rooms as well (Makri, Vlachopoulos and Martina 2021, 2). Indeed, recreational escape rooms try to attract as broad of an audience as possible, but educational escape rooms should be designed with the students' learning goals in mind. In addition, Makri, Vlachopoulos and Martina (2021) also state that recreational escape rooms tend to have smaller group sizes and game masters have the ability to give hints in an adjacent room whereas in educational contexts there are many times more participants and individual guidance can be difficult to provide (3-4). In my study, the group size involves 26 participants divided into smaller groups in contrast to their systematic literature review studies that usually consisted of hundreds of students. Also, in their literature review they discuss a hybrid version of escape rooms involving both virtual and physical properties. My study will only include virtual properties. This is unfortunate since Makri, Vlachopoulos and Martina (2021) found that

the best results were achieved when virtual properties and physical enigmas were blended together (4). In future research, it would be important to examine this hybrid model. However, due to the prevailing COVID-19 situation, fully digital escape rooms can be employed online and do not necessarily need the presence of the game master resulting in an easier application of the game.

Educational escape rooms rely on Vygotsky's pedagogical theory of social constructivism:

“Learners construct their own knowledge based on real-time experiences of advancing through several challenges in the escape room; they are called to face new and often complex problems, which can be solved by interacting with their peers and getting support from their tutor” (Panagiotis and Mastoras 2019, 2).

Social interaction is the key in social constructivism and escape rooms encourage this social behavior. Social constructivism is closely related to problem-based learning, where students learn content and learning objectives that are based on “‘ill-structured’ or ‘messy’ problems” (Wieseman and Cadwell 2005, 11). In other words, these problems need to be made to make sense, or in other terms to be made into a comprehensible input, and this is best achieved by working together. In combination, escape rooms seem to provide a fruitful platform for an encouraging learning environment. Due to their interactive nature, escape rooms are attributed to develop teamwork, communication and initiative skills and additionally critical thinking, attention to detail as well as rational thinking (Makri, Vlachopoulos and Martina 2021, 3; Vergne, Smith and Bowen 2020, 2846). In escape rooms as in video games, the players become active participants of the game developing skills that are not only subject specific but generally considered important skills of everyday life. Indeed, in another systematic literature review conducted by Panagiotis and Mastoras (2019) they found that in addition to these skills, students are helped to understand the value of seeing problems from other aspects and promoting persistence on task (7). Lastly, Makri, Vlachopoulos and Martina (2021) found that in all of the studies they reviewed that measured learning and motivational outcomes as well as increased academic performance also stated that escape rooms improved motivation, positive behavior or strongly influenced learning-related attitudes such as

learner engagement (16). These findings are in accordance with earlier established reports of games' motivational power.

Many educational escape rooms are employed in discipline areas such as medicine and engineering. Makri, Vlachopoulos and Martina (2021) state in their literature review that it is considered vital for future research to explore digital escape rooms and their usage areas in philology and linguistics (20) to name a few. My work will focus on English as a foreign language. In terms of my own study, the context is not only educational but also intended as a way to revise course material. The study conducted by Gomez (2020) reported that the five teachers that used an escape room as a revision tool described that all students passed traditional assessment, which was not usual for those classes, and they found the escape room to function as a better revision tool than their other revision packages (429).

However, it is also important to consider some of the challenges when using escape rooms as an educational platform. Panagiotis and Mastoras (2019) state that most of the reported challenges were poor evaluation, time commitment, small sample sizes, limited resources, unbalanced difficulty, and the length of the escape room (7). In terms of poor evaluation, they argue that the majority of the evaluation happens by the students after completion of the escape room. Therefore, peer review or control group before employing the escape room would be beneficial. Another major challenge was time commitment. Building an escape room takes a lot of time, especially if it needs to be peer reviewed. However, after building a room, it is possible to use it in the future, with slight alterations to fit the needs of another class. The last thing I want to point out from their findings is that in educational contexts it is challenging to provide a balanced escape room difficulty for all. Therefore, the enigmas and puzzles in the room should vary in their difficulty to provide enough challenge to all students regardless of their language skills. I suggest that most of the beforementioned challenges can be overcome by proper peer review and evaluation of the puzzles before applying them in education. By doing so, the game master benefits from new perspectives aiding them in making the room long enough, challenging enough and pedagogically more valid.

There is no unison framework for a digital escape room, but there are some factors suggested in terms of physical escape rooms which I argue are comparable in a digital environment as well. In their study, Clarke et al. (2017) constructed a physical escape

room based on six main areas. These were participants, objectives, theme, puzzles, equipment, and evaluation, which are modeled after a trans disciplinary methodology suggested by Arnab, Clarke, and Nicholson (as cited in Clarke 2017, 78). Firstly, in making an escape room one needs to consider the participants, who in this case are the students, and the goals of the exercise. Therefore, it is important to consider the learning objectives and learner interests when building the room. Secondly, it is important to establish a running theme within the room. As mentioned before, in recreational use it is usually horror themed. However, because of the educational contexts it needs to be carefully considered whether or not a horror theme suits the environment. Therefore, in my study I have chosen fantasy as a theme hoping to build an ethically sound learning environment suitable for educational contexts. Thirdly, the essence of the escape rooms is the puzzles. These need to vary in difficulty as earlier established, and they should involve puzzles that are not immediately obvious but should not require too large of a leap in logic to solve (Ross and Bell 2019, 3). To ensure balance, peer review should be applied at least to this section. In my study, the teacher of the class as well as my own peers will review the puzzles before employing the escape room. Fourthly, in terms of equipment, digital escape rooms differ with physical ones. With the absence of physical enigmas, the equipment needed to solve the puzzles is purely abstract or explorable within the digital world. In my study, I will permit the use of the course book on which the escape room's puzzles are based on to help with information gathering and to bring a physical element to the activity. Lastly, an important factor of an escape room is the evaluation of it. In my study, the game will be evaluated by both students and the teacher.

Similarly to Clarke et al.'s (2017) six main areas, Lior (2020) constructed a framework for learning-oriented escape rooms. In their framework they also highlight the importance of learning objectives, theme and troubleshooting, the ability to make challenges fun and gaming experience interesting. However, they add one crucial element that Clarke et al. (2017) do not mention, which is the presence of soft skills, namely interaction and communication between players (Lior 2020, 25). As earlier established, escape rooms are best as a social learning environment, relying on the idea of social constructivism. Therefore, even though my game is digital, the players will be divided into smaller groups to encourage social interaction.

3 Research Design

3.1 Research questions

The purpose of the study is to ultimately find an answer to the following question:

1. How does a fantasy-themed escape room function as a learning environment?

To answer the question this study will also answer these sub-questions:

2. What are the students' attitudes towards the game?
3. What are the teacher's attitudes towards the game?
4. How do students' previous gaming habits affect the gaming experience?

To answer the main research question, an escape room was constructed and piloted. This escape room and its construction is discussed in the next section. The answer to research question 1 is partly based on sub questions 2. and 3. Answers to questions 2., 3., and 4. were sought with the help of questionnaires. Two questionnaires were made, one for the students and for the teacher. These will be discussed below (see 3.4). The study utilizes both qualitative as well as quantitative approaches. These are mainly visible in the close reading of each open-ended answer of the informants and the presenting of results in a numeric form when analyzing previous gaming experience and attitudes towards the game.

3.2 The Escape Room: The Mage's Hut



Image 1. The entrance to the mage's hut where the player can click on items around the room. Links are embedded into these items.

The escape room was modeled after the framework for escape rooms (Clarke et al., 2017) with virtual augmentation and its effect on the puzzles taken into consideration. This excludes any physical puzzles common to the genre. The virtual escape room was designed and created using Google Slides as the platform. The technical aspect of the escape room was built based on the instructions of Amanda Dills (2020). In her YouTube video she instructs how to use Google Slides as a platform for escape rooms and how to embed links into pictures and so forth. Google Slides allows the creation of an interactive, click-and-search type of platform when various images are inserted into the slides. After inserting images to the slide, links were embedded into these pictures that takes the player to a Google Docs, Google Forms, or a YouTube video. Google Docs and Google Forms were chosen because of their synergy with Google Slides as well as due to my previous familiarity with the platforms. The fantasy theme for the game was chosen based on my own experience with the genre and the results of earlier research of Uuskoski (2011), which entailed roleplaying games as one of the most popular genres of the time as well as the most useful genre in terms of language acquisition. Fantasy themes are also appropriate for educational contexts.

The thematic aspect of the escape room was constructed by me utilizing common fantasy tropes I have encountered before in digital games, literature, and television shows.

However, all the characters and storylines were of my own creation. The pictures were chosen based on their availability, by their creative license and their image form, namely “.png”. These criteria guided the creation of the room very strongly. There are only limited resources that contain all the criteria needed to construct a cohesive escape room. Even though the availability of the images dictated the atmosphere in the room, accommodating the story line to fit these images made the process easier. For example, the table visible in Image 1. shows a black and white image of a table. I was not able to find an appropriate image of an old wooden table from the right perspective. Therefore, I accommodated the story to explain why the table looks different (see Image 2). In addition, the majority of the images used were under creative commons zero license (CC0) that gave permission to alter the picture. As a result, some images were modified in terms of lighting, for example. The list of attributions with mentions of possible modifications can be found at the final scene of the game as well as in Appendix 4.

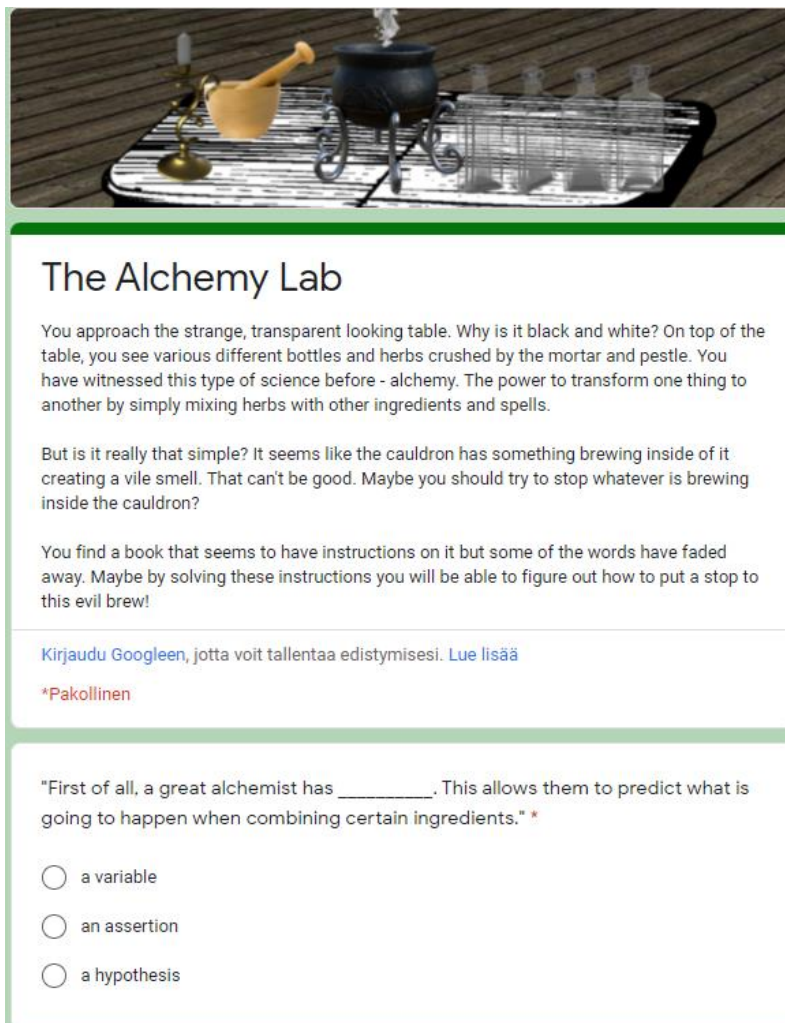


Image 2. An example puzzle called “The Alchemy Lab”.

The escape room consisted of five different puzzles. These puzzles involved reading comprehension, translating from Finnish to English as well as from English to Finnish, deduction skills, multiple choice questions (see Image 2.), grammar, and vocabulary revision. The tasks can be divided into puzzles containing vocabulary revision and grammar, three and two tasks, respectively. The content for these puzzles was inspired by the Insight course book series, namely the book Insight 5 published by Otava, which was the coursebook used by the participants. The theme of the course was science, which guided the creation of the themes of the puzzles, which can be seen in the creation of the alchemy lab, for example. Also, I tried to imitate similar types of tasks that were present in the book. The vocabulary and grammar for the tasks were taken from the course book focusing on the vocabulary and grammar emphasized in the book. These included highlighted words and core grammar discussed in the book.

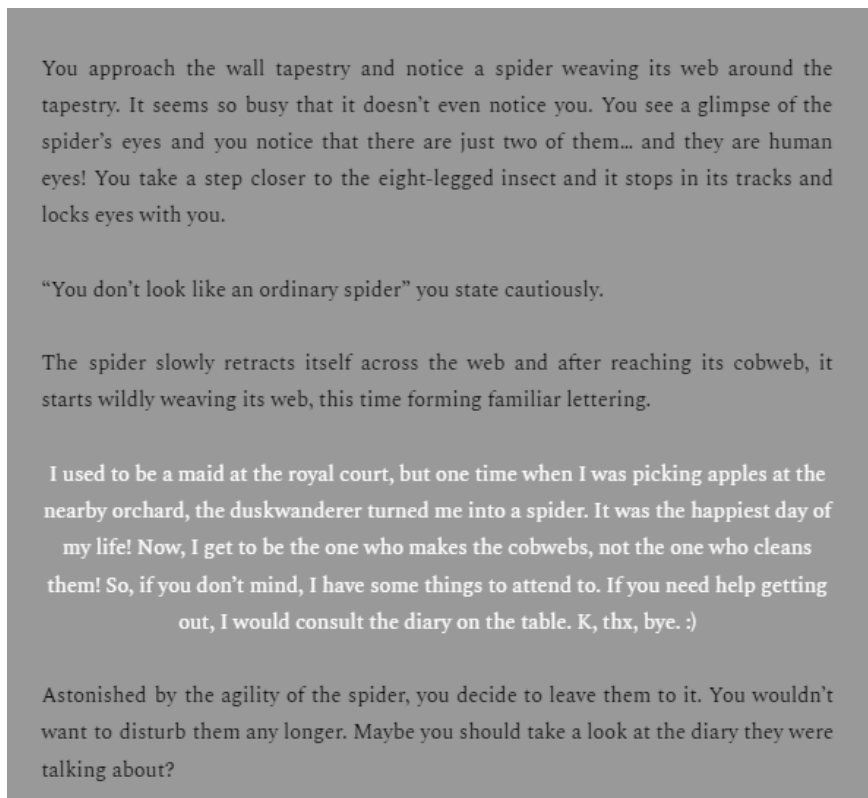


Image 3. A Google Docs opens if you click on the spider.

It is important to note that the type of different puzzles was limited to the options within Google Docs and Google Forms. Therefore, it was not possible to make full sentence translations that would accept synonyms or different than model answers' sentence structures. That would have resulted in unnecessary difficult tasks to answer. Due to

thematic reasons, no listening comprehension could be made either - I was not able to find thematically appropriate videos with a CC license. There were also additional tasks and additions that had purely thematic and atmospheric functions. These included YouTube videos, Google Forms sheets and Google Docs files aimed to provide immersive experience such as a candle flicker, sounds from a burning fireplace and additional story fragments (see Image 3). Even though the theme of the escape room was fantasy, I wanted to add some humorous elements into the game in the hopes of increasing the entertaining aspect of the game. Therefore, some of the additions to the game included more tongue-in-cheek extras such as inserting real life references like Marie Kondō or 21st century internet language as seen in Image 3. These elements were found both in the main puzzles as well as in the additional story fragments. However, I tried to retain also serious parts in the game so that the overall experience would not be overly childish or naïve. By completing these additional tasks or by reading these texts, the students were able to get hints about where to find more information.

Lastly, one of the key features of an escape room, the lock, was constructed keeping the thematic aspect in mind (see Image 4). Because there was no physical lock to open, I had the freedom to construct a digital one with the help of Google Forms. Therefore, a lock was designed with ancient runes in it, inspired by actual historical runes. By pressing the right runes in the right order, or technically speaking writing down the runes in the right order, the door would be unlocked. At the end of each main puzzle, I had included information about one of the runes and information about their position within the string of runes. Therefore, the runes and hints of their right order could be found by solving the puzzles.

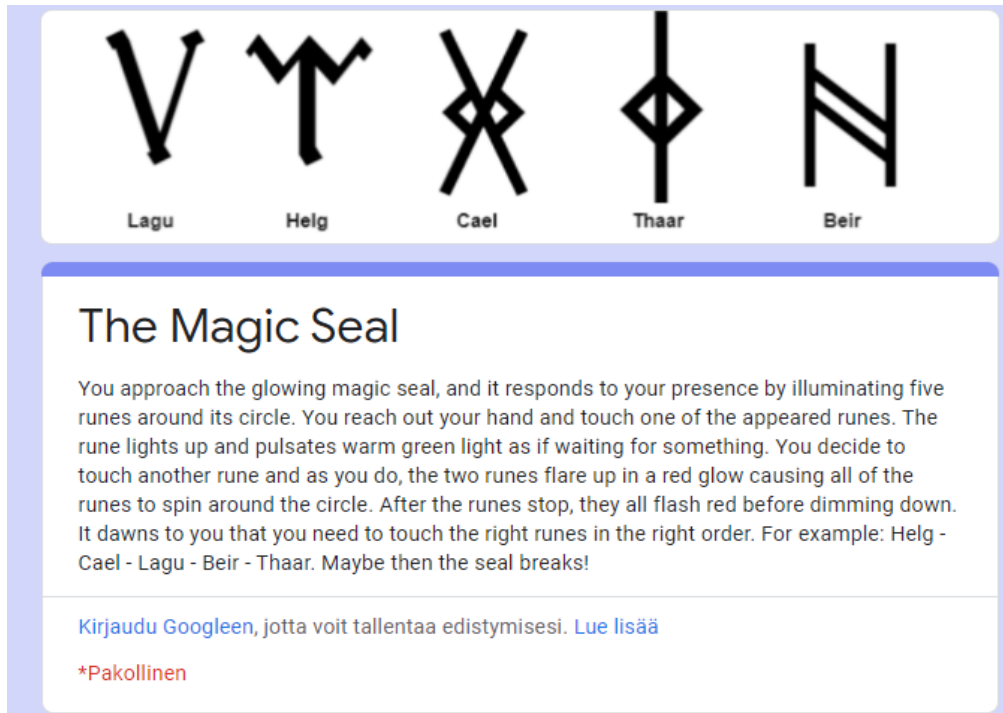


Image 4. The lock.

3.3 Participants

The participants of this study were 26 students from a Finnish upper secondary school and their English teacher. The course was A-level English course 5 (ENA5). The escape room functioned as the revision material for the course. The informants were grouped up for the duration of the escape room and they formed teams of two and three. Three people altogether decided to play the game alone. Upper secondary school students were chosen as the target population due to previous studies focusing on the same population, namely the study focusing on upper secondary school extramural English learning (Uuskoski 2011). A conscious choice was also made to apply the game only for one class due to the time constraints and the goal of close examining of the answers. This in turn lessens the generalizability of the results. These will be discussed more thoroughly in the limitations of the study. After employing the game, the students were asked to fill in the questionnaire. The teacher was also asked to fill in a questionnaire, but only after thoroughly examining the game. Out of these 26 students, 20 students and the teacher answered the questionnaire.

3.4 The Questionnaires

Both questionnaires were made with Google Forms. This was due to practical reasons imposed by the fluctuating situation with COVID – it was safer to make a questionnaire that could be answered via the internet if the situation required it. Also, Google Forms was a familiar platform for the informants because Forms was also used in the escape room. The questionnaire for students and the teacher were constructed following the instructions of Dörnyei (2009). The questionnaire included both open-ended and multiple-choice questions. Open-ended questions were chosen so that I could gather as informative and accurate data as possible from the informants. As Dörnyei (2009) proposes “open responses can yield graphic examples, illustrative quotes, and can also lead us to identify issues not previously anticipated” (36). Unambiguous questions and loaded words were avoided as well as the order of the questions was carefully thought out. Both questionnaires were piloted by my thesis instructor as well as by my seminar peers. The questionnaire was designed by me with two exceptions. The questionnaire for students included general questions about their gaming habits which were adapted to this study from Uuskoski (2011). These were Questions 1. and 2. (see Appendix 1). Changes were made to update the examples of Question 2. More specifically, modifications were made to the example games within a genre and omitting browser-based games as a genre to better reflect the current time period and trends within the gaming community. The students still had the ability to report genres not present in the questionnaire by writing them down.

The skills mentioned in Question 11. on perceived skills that were developed are carefully chosen by their intended presence in the game itself. These skills were specifically meant to be tested or practiced while playing the game. More precisely, vocabulary, grammar, reading comprehension and information retrieval were the learning objectives of the escape room and these were based on the course book as well as the Finnish curriculum. Teamwork, logical and critical thinking are prominent escape room characteristics that I discussed in previous sections that are reportedly developed (see 2.6).

The questionnaires were divided into two parts – gaming experience coupled with games in education and thoughts on the escape room. This was done to promote a clearer answering experience. The answers are based on the reporting of informants so this study cannot state the results as absolute facts, but as a representative of the informants’

conceptions. That is why the questions were designed to ask specific details and leave as little room for interpretation as possible. Lastly, the questionnaire was administered personally in January 2022.

3.5 The Analysis

The results were analyzed using both qualitative and quantitative methods. The questionnaires contained both open-ended and multiple-choice questions, both reflective of their analyzing methods. Open-ended questions were examined by close reading of the answers. I also wanted to have comparable data with the study of Uuskoski (2011), so I determined to include multiple-choice questions to make this comparison easier. Overall, the analysis of the results was done with great care using both Microsoft Excel, the built-in graphs of Google Forms as well as analyzing the answers as an individual respondent as well as part of the whole group. Statistical analysis was done by hand.

3.6 Ethical considerations

The informants were instructed verbally and in written form that answering the questionnaire was anonymous and both students and the teacher were encouraged to answer truthfully. Additionally, it was mentioned that the answers would not be handed over to third parties and it was stated that by answering the questionnaire the informants agreed to take part in the study. Most importantly, because the student informants were all under 18 during the time of the study, consent was needed from their primary care givers. This was acquired by sending an e-mail to their primary care givers. The city in which the study was conducted also required consent from the city council, which was acquired before the actual administration of the questionnaire. The informants were also noted that the answers are deleted after the completion of the study. Lastly, it is important to note that the questionnaires did not entail any personal information because it was not seen as necessary for the study. Therefore, the study followed the guidelines set by TENK (The Finnish research ethics council) and GDPR (The European General Data Protection Regulation).

4 Results

In this section I will discuss the results of the study and discuss their significance in relation to contemporary research. First, I will discuss the gaming habits of the students in relation to other available literature and in the context of creating an effective learning environment. Secondly, I will discuss the results of the fantasy-themed escape room and its utilization as a learning environment in terms of skill development. Simultaneously, I will firstly discuss the students' and teacher's attitudes towards the game and move on to discuss the effect of gaming habits on the escape room experience. Lastly, as a summation of findings I will discuss the fantasy-themed escape room's functionality as a learning environment.

4.1 General Gaming Habits

4.1.1 Gaming Activity

To present the data in a more meaningful way, the seven different gamer groups in the questionnaire were grouped into four larger groups similarly to Uuskoski's (2011) categorization. These groups are non-gamers (those who reported not playing at all), casual gamers (gamers who play 0-5 hours per week), active gamers (5-15 hours per week) and hardcore gamers (over 15 hours per week). The non-gamers are reported by combining information from the time spent playing (0-1 hours) as well as reported games played ("I don't play games"). Majority of the students (75%) play games at least to some extent, while 25% report playing no games at all (see Figure 1). These results are similar to the findings of Uuskoski (2011) namely that the majority of the students fall under the casual gamers category. Hardcore gamers are the minority in both studies but in my study the non-gamers group was notably smaller. It is worth noting that Uuskoski's (2011) study involves drastically more participants (N=495). Therefore, it is maybe surprising to find similar results when comparing with the participants of my study (N=20) and to see overall that not much change has happened in gaming activity in a decade.

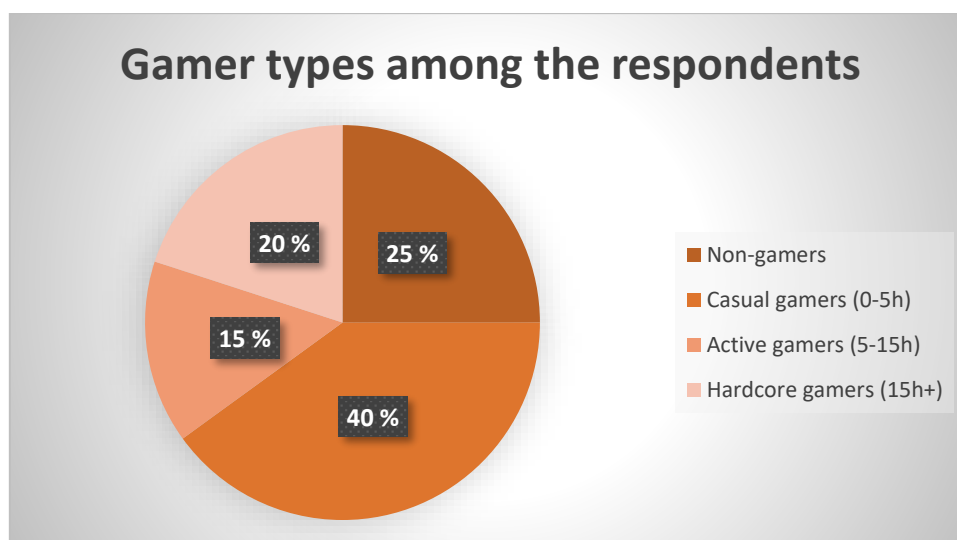


Figure 1. Gamer types among the participants profiled after Uuskoski's (2011) framework based on average time spent playing (N=20).

It is worth noting that according to the respondents, 25% do not engage in any gaming activities in their free time. This means that they are the minority. In comparison with the research conducted by Kaarakainen, Kivinen and Hutri (2015) that surveyed the gaming activity of 12–22-year-olds (N=2558), there seem to be similar results - in their study, they found that two thirds of their sample population engaged in gaming activities at least to some extent (7). Contrastively, two decades ago in the early 2000s, the roles were reversed according to the research of Cummings and Wandewater (2007) who found that 64% of students aged 10-19 identified as non-gamers and respectively, 36% identified as gamers. As da Silva already pointed out in 2014, people are spending more time playing video games at the expense of viewing television or going to the cinema (chap. 1). The increase in the number of gamers could be the result at least partly of the increase in the variety of games available to suit many needs and interests. Previous dominating leisure time activities such as watching the television or attending the cinema have been encouraged by the language teachers before to increase the amount of language input. It would be important to examine if contemporary teachers are aware of the benefits of gaming as an extramural activity and more specifically if they are encouraging students to engage in gaming activities. If so, it does not seem that much pressure is being put on the creators of learning materials which can be seen in the lack of educational games. On the other hand, creating an educational game that would attract students' attention needs a high-end budget and a team of professionals behind it, which would understandably be difficult to provide by the public educational sector. For future research, it would be

beneficial to map out the possible interest between an educational provisioner and a game developer.

4.1.2 The Most Popular Genre

Among students who play video games, the most popular genre overall is shooter games represented by the games such as Call of Duty and Counter Strike. Similar results were found in Uuskoski's (2011) study - shooter games have held their position as the most played genre among students. Two students reported an additional option for genres, namely Minesweeper and 2048 as well as survival games. I have categorized Minesweeper and 2048 as hyper casual games due to their simplicity, ease of access and short play cycles which are typical features of hyper casual games (Ahonen and Kateisto, 2021, 5). However, a clear decrease was visible in the popularity of RPGs and MMORPGs. More precisely, roleplaying games were reported only once among the top three most played genres and MMOs not once (see Figure 2). It is not clear whether it is due to the rather small sample size or the actual drop of interest in the genre, but it is worth noting that other genres have gained popularity among students. Namely, the rise of battle royale games which were not present in earlier studies due to its recent emergence in the gaming market.

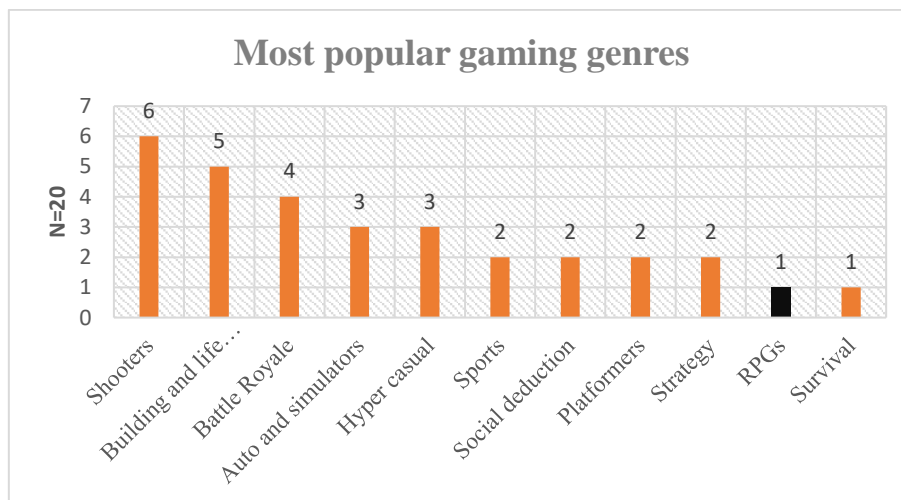


Figure 2. Most popular genre among students (N=20). Genres with no selections have been omitted. Students were allowed to choose only three of the available genres.

Among participants, auto and simulator games piqued more interest in comparison to Uuskoski's (2011) study. This might also be due to the emergence of virtual reality equipment for the commercial market that has introduced simulator games to the public.

Simulator games are being used in school environments already, mostly in disciplines that require practical knowledge or skills like medicine and engineering. Additionally, the emergence of hyper casual games, which were not listed in Uuskoski's (2011) study, are mentioned by the students. Otherwise, the data has shown no notable changes across different genres.

4.2 The Escape Room

4.2.1 General Attitudes

Out of 20 informants, 17 (85%) students reported not encountering digital escape rooms before. Same amount (85%) reported hoping to see more digital games in teaching overall. The other 15% did not wish to see digital games in education and among them one reported that they would not want to play it in English. Furthermore, 85% of the students enjoyed playing the escape room. Interestingly, half of the respondents (50%) did not make it out of the room. Therefore, success might not be the only driving factor why the game was generally perceived as enjoyable.



Figure 3. Correlation between time spent playing video games and enjoying the game (N=20).

When comparing the data and correlating time spent playing video games on average per week and enjoying the game, it seems that in all player groups the majority enjoys the game (see Figure 3). It cannot be said for certain from the data whether or not previous

gaming experience affects liking the game, but according to the data those students with more time spent playing video games enjoyed the game rather than not – only one student who is categorized as an active gamer did not enjoy the game. Percentually the highest reported rate of enjoyment was among hardcore gamers (100%), then casual gamers (88%) followed by non-gamers (80%) and active gamers (50%). Overall, it seems that despite the differences in gaming habits, the consensus appears to be that the game is enjoyed by all groups. This further emphasizes the view that educational escape rooms are commonly found to be encouraging and motivating learning tools among students as Makri, Vlachopoulos and Martina (2021) found (16).

Another factor might be the novelty of previously unencountered digital escape rooms in teaching as 85% of the informants reported. In general, escape rooms in language learning are a rarity especially in Finnish contexts. Although, the 15% that had encountered digital escape rooms before all reported enjoying the game so the reason does not lie solely on novelty. Two out of the three students who did not enjoy the game reported not wanting to see similar games in education. Reasoning behind this varied from that they “did not like anything about the game, I guess” to perceiving the game to be “too difficult”. Simultaneously, two of the respondents reported “liking idea of the game” and “thought that it was built nicely”. Also, the two reported wanting to see more games in general in education, one stating that “at least if it is not in English”. Therefore, there might be interest to play similar games if the game difficulty would be adjusted appropriately. The issue of game of difficulty will be discussed in the next section in more detail (see 4.2.2.1).

The teacher enjoyed the game and would want to see similar games utilized in teaching in the future. They also mentioned that they would want to see more games utilized “if they were, for example, provided by the publisher and were pedagogically proven”. The teacher views games to be good additions to other learning materials since “they can reach those students better than traditional methods might not”. In sum, the teacher views educational games in a positive light, if they are used as a part of a variety of methods and provided among other learning materials. Indeed, for relatively new methods to be utilized in teaching, it would be important that the material is easily accessible. Furthermore, the teacher should be familiar with the game and courageously immerse themselves to learn something new because they are responsible for directing the students

towards learning goals (Kaarakainen, Kivinen and Hutri, 2015, 15). By doing so they can help the students overcome possible challenges they face within the game.

On a general level, the teacher reports that an educational game should include the following attributes: “technically functional implementation, pedagogical idea and a suitable difficulty”. Lastly, they add that the game should “preferably include variation so that different learners and learning styles are taken into consideration”. These are similar findings that earlier research has found on teacher’s wishes for educational games (Sihvo, 2018; Palomo-Duarte et al., 2016). The outlook and attitudes towards educational games and escape rooms as a learning environment remains positive.

4.2.2 Fantasy-themed Escape Room as a Learning Environment

The most enjoyable aspects of the game reported by the students are presented in Figure 4. As a note, one of the students reported two rather than one aspect of the game they enjoyed the most. The most enjoyed aspect of the game included the setting or the idea of the game. I have interpreted answers that are included in this category to entail the overall idea of an escape room and how it was built. This includes graphics, game design, and set design. It seems that students appreciate time and effort put on to create the room and the details around it. This aspect relates both to the escape room aspect as well as the fantasy RPG aspect – the escape room and its theme, the fantasy RPG aspect, together direct the set and game design. More specifically, the theme dictates the props and items found in the room and the thematic aspect of the tasks. These details affect the ability to immerse players and this immersiveness is one of the beneficial characteristics of RPGs. Therefore, it seems that as a setting virtual fantasy-themed escape room seems enjoyable to students.

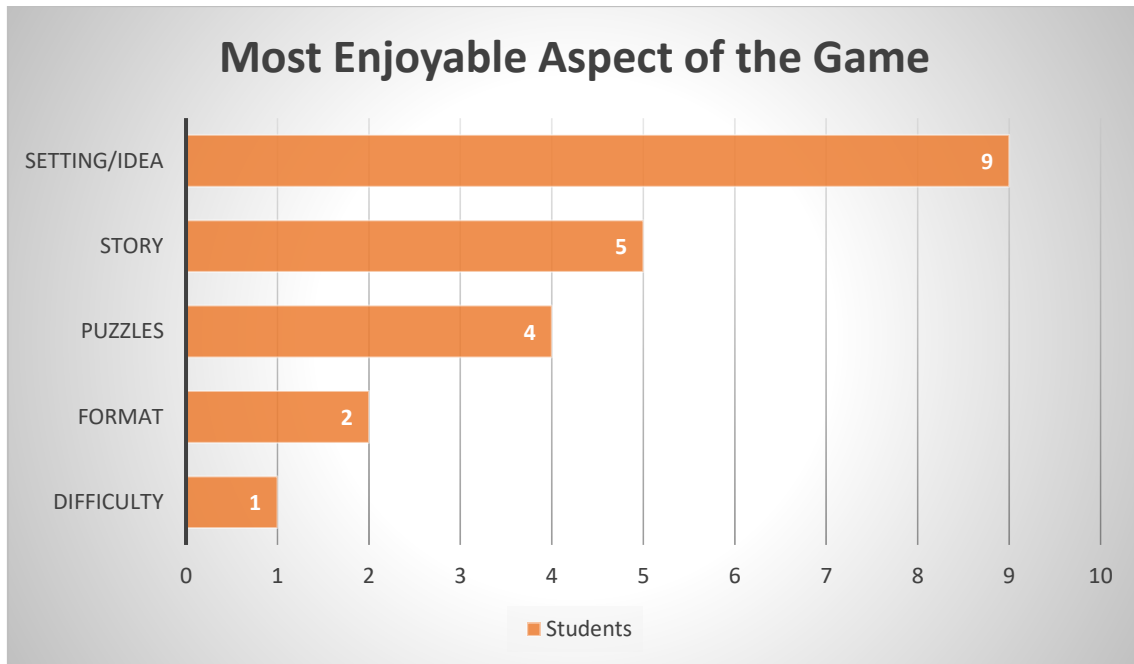


Figure 4. Most enjoyable aspects in the game reported by the students (N=20).

One of the most enjoyed characteristics of the game was the story behind the room. This was reported by the students as well as the teacher. A story behind an escape room is an essential part of an escape room and that is where escape rooms and fantasy RPG meet common ground. However, as the story behind the room is heavily relying on fantasy tropes, I attribute the mentions of liking the story to enjoy the fantasy RPG aspect of the room. Therefore, it seems that fantasy-themed escape rooms would function at least as an interesting environment. However, it cannot directly be said without the examination of reported skills that were developed whether the fantasy-themed escape room functions as a good learning environment or not.

Other aspects that were mentioned specifically were the enjoyment of the puzzles and their variations as well as the format, namely Google Forms. These are more technical aspects of the game and in terms of many mentions of liking the actual puzzles themselves indicates that the creation of good puzzles was successful which is crucial in making escape rooms. Lastly, one specific mention was about enjoying the challenging aspect of the game, but this was an unpopular opinion.

4.2.2.1 The Game Difficulty

There were mainly two things mentioned by the students that they perceived as unenjoyable – the difficulty of the game and specific word forms/synonyms that the game required. Out of the 16 respondents who answered the question “what aspects did you not enjoy in the game?”, four mentioned the incapability of accepting synonyms. Similarly, four out of 16 mentioned the overall difficulty of the game. Other answers included specific mentions of certain tasks or instructions such as “pressing the arrow” or “in which order the tasks were supposed to be completed”. The game difficulty was reported by 50% of the informants to be “quite challenging”. The second most popular opinion was that the game was “balanced” (30%) and 15% thought that the game was “very challenging” with only one student reporting the game as “very easy”.

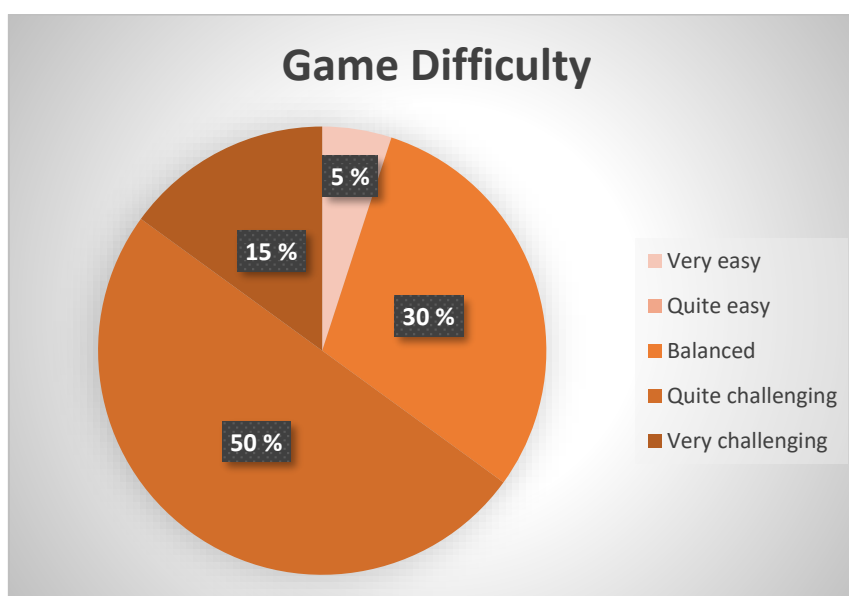


Figure 5. Game difficulty reported by the informants (N=20).

Before I start discussing the informant’s views on the difficulty, it is important to note that some of the answers were either hard to interpret or blatantly too explicit for analysis. These included inappropriate comments that did not answer the question or answers that leave too much room for interpretation. Fortunately, this was a minority among respondents, and I have done my best to analyze these answers to the best of my abilities.

Those who deemed the game to be either “quite challenging” or “very challenging” mostly reported experiencing that the tasks were too difficult, or that they were not able to complete them. There was no mention of a reason why however – did the tasks lack

clear instructions or was the language level too difficult. Many of the respondents reported that the game required too high of a language proficiency which seems to be the most probable reason for the game's perceived difficulty. In comparison, those who thought the game was balanced thought that even though the game used difficult vocabulary, they were able to overcome the obstacles. Both groups agreed that they enjoyed the variety of different tasks. Therefore, it seems that the task types were mainly successful. In future research or a later application of the game it would be important to take into consideration the language difficulty. This is further supported by the teacher, who commented that the students could benefit from a key vocabulary that would aid them when they feel lost:

”The vocabulary was very challenging for some of the students, so a sort of “clue box” or a similar place where vocabulary could have been found in Finnish for the most challenging words would have been beneficial.”

The difficulty of the game was determined by comparing the tasks and texts within the Insight 5 book and by examining the learning objectives of the Finnish curriculum. However, it is important to note that this was a pilot, which has offered great feedback especially on the game difficulty for a possible reapplication of the game. For future reference, it would be beneficial to obtain information about the skill level of the students who are taking part in the study beforehand. This was an unfortunate oversight that I did not think through in advance. Adapting the game to correspond to the target population would give more accurate results. However, on a general level it would be better to find a balanced game that would function well for all possible levels of proficiency. Although, creating a game that facilitates learning for all skill levels can be challenging to create alone. Differentiating should be taken into consideration when developing the game to make it possible to change the difficulty of the game, or better yet, that the game would change its difficulty based on the answers of the player. This type of technology is already in use in some of the language proficiency tests. The students had the freedom to use internet as well as the course book to search for information, in the spirit of promoting making the input understandable, but it is natural if there is a need to search for information repeatedly, it is difficult to remain motivated. Furthermore, the texts in the course books also include vocabulary lists. Thus, the game would benefit from a concise list of vocabulary.

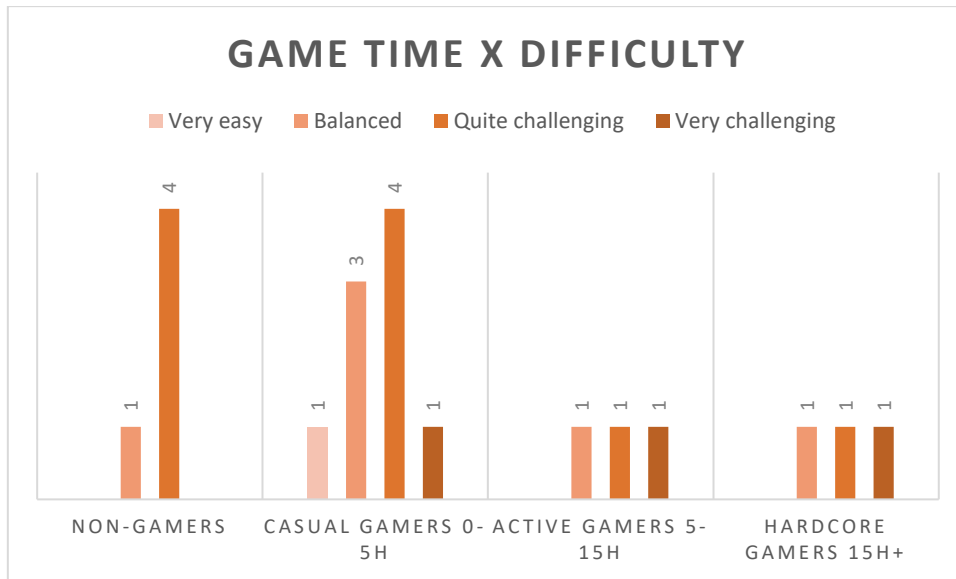


Figure 6. Correlation between game time and perceived game difficulty (N=20).

Above in Figure 6. is shown the correlation between the time spent playing video games and the perceived game difficulty. It seems that there is no clear correlation between these two factors – those who are more avid players do not perceive the game any easier than those who are less passionate players. This might indicate that there is not much relation between gaming habits and the perceived difficulty of the escape room at least in the context of time spent playing video games. In Uuskoski's (2011) study, he was not able to tell whether it was the time spent playing or the genre played that correlated with better grades (32). It is safe to assume that better grades correlate with better language proficiency and better language proficiency correlates with more developed language skills that affect the perceived challenge of a certain language-related task. In the context of my study, no one mentioned not understanding what to do in the game apart from a few missteps in the game as mentioned earlier. The teacher seemed to have gathered some comments from students and stated the following in their answer:

“—some of the students had problems getting started, because virtual escape room was a completely new experience for them. After the introductory description there could have been explicit instructions about what to do in the game. As a result, those weaker students would have known what to do right from the get-go.”

This is something to take into consideration in the future. In any case, according to these results, among the study's participants the time spent playing video games does not seem

to affect positively the level of perceived challenge. On the contrary, the less you play the more balanced the game seems. However, the genre of the game was not among the most popular played genres - there was only one who reported playing RPGs perceived the game as “balanced”, but no conclusions if this had an effect can be drawn from this data as it is.

However, in the context of the current study it seems that the game’s difficulty was not ideal, but it was not overtly impossible. As the teacher points out, the game caters to more advanced students who enjoy a bit of challenge. For example, one student who ranked the game as “very easy” thought that the familiarity with fantasy literature aided them in navigating and completing the game. Those who deemed the escape room as “balanced” mentioned mainly that the time required to complete the tasks and find information to get out of the room was appropriate. Five out of six students who deemed the game “balanced” were able to escape the room. In comparison, only four out of 10 students who deemed the game as “quite challenging” were able to escape. In sum, it seems that the rate of escape correlates with the perceived difficulty which is not surprising. Lastly, some tasks required certain words or word forms and would not accept synonyms, so finding the specific word from the course book without any help would have been difficult, cumulating the perceived difficulty even further. The inability of the tasks to accept synonyms was one of the two most reported downsides of the game which was partly expected beforehand. This was due to the inflexibility of the platform, and I was not able to counter this with my knowledge.

It would be interesting to see whether randomizing groups, and therefore ensuring all types of skill levels would be mixed, would have better results rather than letting the students decide for themselves. In the current study, some groups might have had better language proficiency altogether lowering the difficulty of the game as a result. On the other hand, this might cause problems with teamwork and co-ordination. It would then be beneficial to ensure that the group can work together despite randomizing. By the terms of social constructivism, the most effective learning should take place at the further end of students’ own capabilities from which point the teacher, or someone more capable aids to grow the zone of proximal development (Kalina and Powell, 2009, 244). In terms of my study, the students were able to ask for help from me as well as from their own teacher when playing the game. Therefore, I argue that even though the game was deemed quite

challenging, it was not too challenging for no learning to happen at all. This is further supported by the findings of self-reported skills that students as well as the teacher thought were developed.

4.2.2.2 *Development of Skills*

All the intended skills that the game was intended to test or put into practice are presented in Figure 7. Firstly, the teacher stated that the game develops all the skills mentioned. The teacher also mentioned in addition to the story when asked what they enjoyed about the game that “the tasks functioned as they should have as a revision material and that the whole game acted additionally as a reading comprehension task”. This supports the findings of Gomez (2020) who also reported positive outcomes for the usage of escape rooms as revision tools (429). In order to gather data from longer term benefits, further research should focus on examining the results after the course test. This would be beneficial when larger populations are examined with the same revision tools.

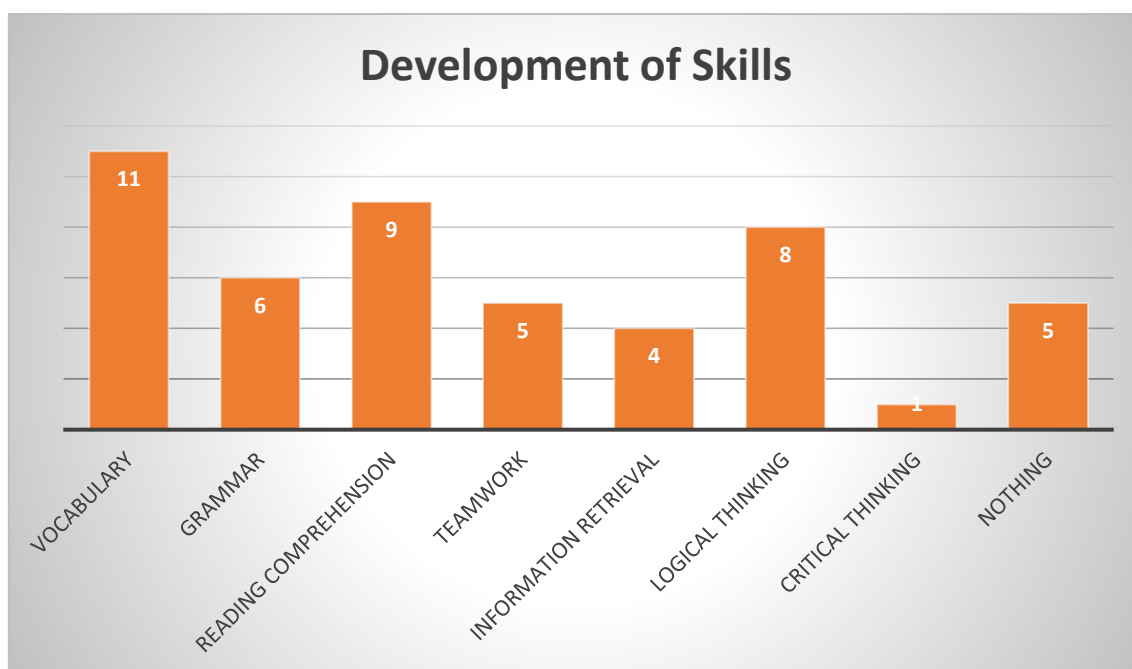


Figure 7. Students' self-reported skill developments.

In the same vein, the teacher stated that due to a lot of reading the game was “quite challenging” for the students. However, the reception among students was mixed. Some students reported that there was too much reading involved while the others said that the reading comprehension supported vocabulary retention. Therefore, it does not surprise

that most reported development of skills were vocabulary and reading comprehension. Three of the tasks purely required vocabulary knowledge while two of the tasks were purely dedicated to grammar. According to the results, it seems that the game does not function as well as a grammar review as it does as a vocabulary review. This might be due to the tasks or then due to the overall experience. However, the results do not differentiate between the acquisition of unfamiliar words and the revising of already learned words. This is something that would be beneficial to examine in further research. Additionally, as a general skill, students felt that the game developed logical thinking.

All skills found both in my study as well as in the study of Makri, Vlachopoulos and Martina (2021) of the skills that escape rooms develop, namely logical thinking, critical thinking and teamwork were visible in the data. Practicing logical thinking is one of the listed skills that the Finnish curriculum promotes on ENA5 course. The logical aspect of the game derives directly from the escape room side of the game. Connecting clues and information creates an opportunity to practice logical thinking. Other skills related to escape room aspect of the game include teamwork, critical thinking, and information retrieval. One of the most developed skills attributed to escape rooms, teamwork (Makri, Vlachopoulos and Martina 2021, 3; Lior 2020, 25), is only mentioned five times in the data which is relatively low in comparison with other studies done on escape rooms. One contributing factor might be that there were at least three students who chose to play the game individually and therefore, the amount might be skewed, though this is only speculation.

The reasoning behind reported developed skills concerned mainly the design of the game. The majority of those who reported developing vocabulary mentioned that the reason behind this was the extensive reading and the translating of unknown words with the help of dictionaries and translators. This was one of the reasons behind the development of information retrieval as well. In addition, one mentioned the need to really understand what they were reading and its effect on vocabulary retention. The second most reported reason behind developing skills concerned teamwork, namely that certain tasks were distributed among the group members based on their strengths. This is a fitting example of the zone of proximal development (Kalina and Powell, 2009, 244) - one student guides the others with their knowledge. Reading comprehension, grammar and logical thinking seemed to be fairly straightforward in a sense that tasks that were designed to develop

reading comprehension, grammar or logical thinking did what they were designed for. Lastly, there was no specific mention of how the game developed critical thinking.

Four students reported that the game did not develop any skills. In addition to these four, one of the students reported developing information retrieval and logical thinking as well which is why I have decided to categorize them to having developed some skills. Three out of these four students who reported not to have developed any skills did not specify any one reason why they thought they had not developed any skills. However, two of them would like to see more games like these in the future in education. One of the students specified that the language was very familiar to them, which is why it did not develop any skills. Possibly more challenging vocabulary and grammar would change their answer, but this can only be speculated. Three out of these four students reported the game to be very or quite challenging. This might be the reason why they did not experience any development – the game was too difficult. Lastly, only one reported not liking the game. As a result, it can be stated that among the participants only one student seemed not to develop any skills, like the game or wish to see more games in the future – for others, the game catered at least to some extent, be it on the entertaining or useful side of the spectrum.

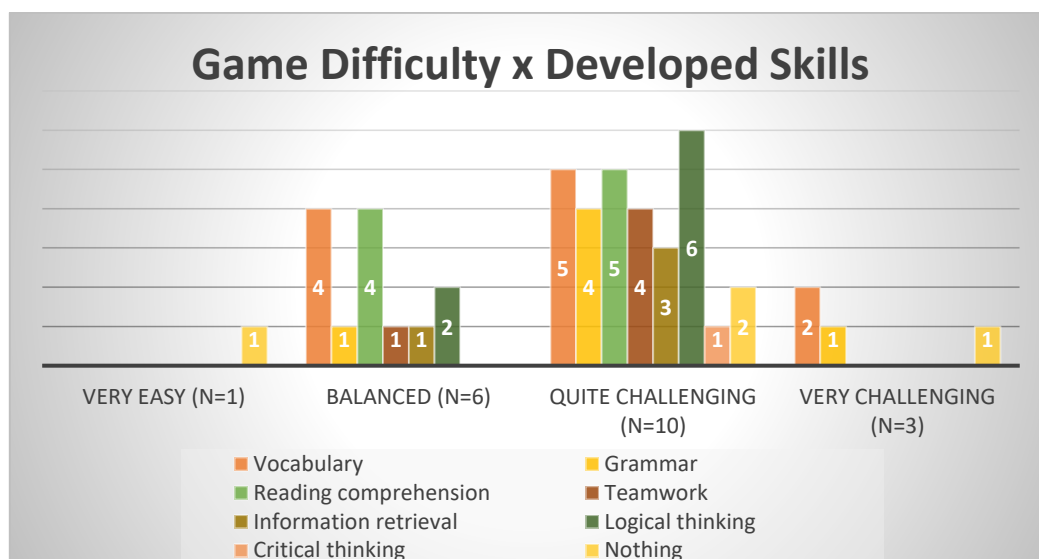


Figure 8. Perceived game difficulty and developed skills reported by students (N=20).

In terms of perceived game difficulty and developed skills there are a few noteworthy findings. Firstly, four out of five students who reported developing teamwork perceived the game to be more difficult. This seems only natural since teamwork is even more

crucial when the problem faced is challenging. Secondly, it is worth noting that developing vocabulary knowledge was mentioned in all difficulty categories except for the first, “very easy” group. In contrast, those who perceived the game to be “very challenging” reported developing vocabulary. This is significant, because even though the game was perceived difficult by some learning seems to have still taken place. With the adjustment of the game difficulty, it could prove even more learning supporting tool. Furthermore, those who reported the game to be “quite challenging” reported more skills to have developed than those who reported the game to be “balanced”. In numeric terms, “quite challenging” group mentioned developing different skills altogether 30 times while “balanced” group mentioned different skills 13 times. This means that first group reported altogether 33% more skills to have been developed when compared to the latter group after the numbers have been proportioned accordingly to their group size. This might have connections to the rise of importance of teamwork and as such social constructivism, but without further data or interviews that remains at the level of speculation. Differences in the reported skills might indicate that the game was not too difficult for no subjective sense of learning to have occurred. In the context of actual standardized testing in school more research should be conducted to see whether or not learning has occurred. This further supports that the game was not too difficult for any learning to take place. Lastly, only one out of the three who perceived the game to be “very challenging” did not report any development to have occurred.

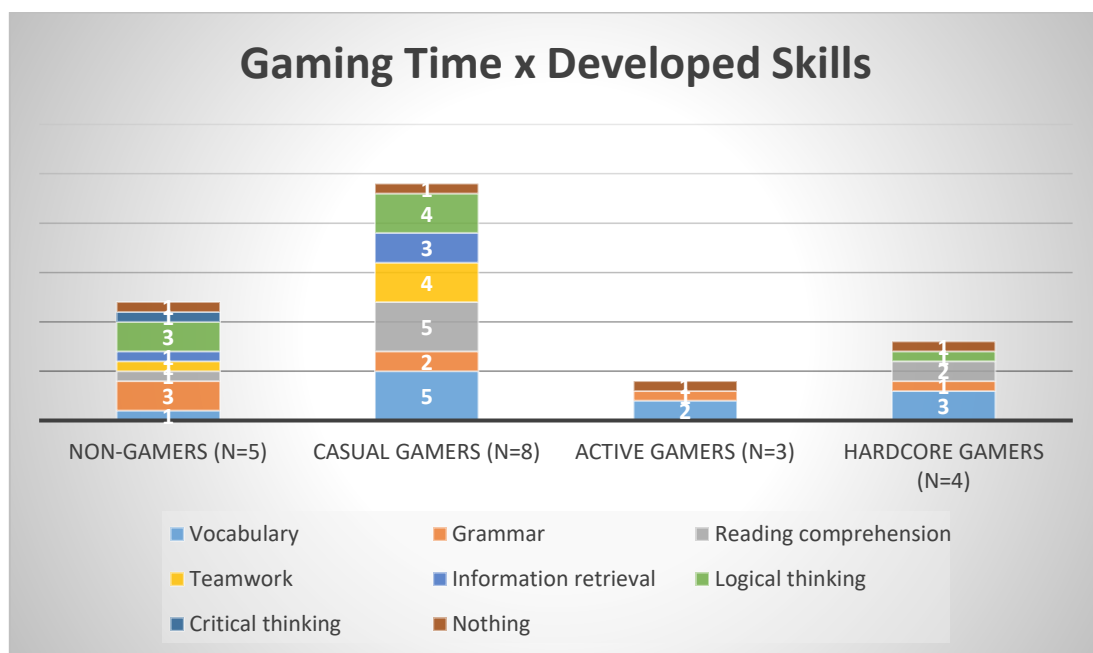


Figure 9. Correlation between reported weekly game time and reported skills developed (N=20).

Lastly, in terms of previous experience with games, it seems that casual gamers benefit the most from the game regarding the development of different skills. More accurately, casual gamers were 30% more likely to develop some skill when compared to the second most developed group, the non-gamers. In comparison to more avid gamers, it seems that the game does not cater as much in terms of skill development. Although, it is important to note that there still was skill development in these groups. Then it would seem that the fantasy-themed escape room would function best for gamers who do not spend much time on games in their free time. Then again, when compared to Figure 6., these groups were most likely to report the game “quite challenging” in comparison to other groups. As earlier discussed, this challenge might stem from weaker English skills. In that case, it is important to question whether these two are connected. Namely, does less game time mean a lower proficiency in English. Either way, more studies must be conducted on which one determines the development of skills - the challenge or the game time.

When comparing the developed skills that are attributed to the escape room (teamwork, logical thinking, information retrieval, and critical thinking), it seems that most learning happens when the game is not seen as “very challenging”. On the other hand, it seems that those who perceive the game as “very challenging” still seem to practice the learning objectives of the game (vocabulary, grammar, and reading comprehension). As a result, it seems that if the full benefit of both aspects is desired the escape room especially cannot be made too difficult – the learning objective aspect is more forgiving.

Overall, the developed skills attributed to the escape room or to the learning objectives, it can be said that the game had balanced benefits from both aspects of the game. This would further indicate that escape rooms could function well in language learning scenarios while creating encouraging and generally beneficial skills at the same time. When asked if the game would function as a learning environment the teacher said the following:

“The game functioned well [as a learning environment], especially because it was tailored after the course book. The students were able to revise vocabulary and grammar and were able to practice using the language in a ‘authentic’ scenario (as the language of the game).”

It seems then that the language scenario, in this case a fantasy-themed story, would function well as an escape room setting. Video games' ability to make language into context and authentic situations are supported by many (da Silva, 2014, 3,1; Uuskoski, 2011, 24). However, future research is needed to determine would a fantasy-themed escape room fare better than a non-escape room fantasy RPG to find whether there are significant differences between one another. Then again, the results as well as earlier research would show that both are viable learning methods and the question over one's superiority becomes questionable – one might fit other learners better than the other.

5 Conclusion

In this thesis, I have discussed the utilizing of a fantasy-themed escape rooms as a learning environment. This study reported the results of piloting a virtual escape room which was built as a revision tool for the ENA5 course. This paper aimed to answer the following questions:

1. How does a roleplaying game genre function as an escape room that is utilized as a learning environment?
2. What are the students' attitudes towards the game?
3. What are the teacher's attitudes towards the game?
4. How do students' previous gaming habits affect the gaming experience?

First of all, the teacher and most of the students enjoyed playing the fantasy-themed escape room and wanted to see similar games used more in educational contexts. The game was perceived to be challenging but this did not seem to affect negatively on either enjoying the game or skill development. On the contrary, most of the students who reported the game to be “quite challenging” viewed the game to have developed most skills in terms of vocabulary, grammar, reading comprehension, teamwork, information retrieval, logical and critical thinking. The teacher's and student's attitude towards the game was mostly positive.

Students' previous gaming habits seem to have some effect on the gaming experience. Casual gamers, who play one to five hours per week, developed most skills. However, the same gamer group reported perceiving the game as “quite challenging” the most. Therefore, it is not certain whether or not it is the time played video games or the

perceived challenge that affects the gaming experience. Simultaneously, casual gamers had the second highest rate of enjoyment across different gaming groups following hardcore gamers. Even though all of the groups enjoyed the game, casual gamers benefit the most out of the game learning and entertainment wise.

In sum, the fantasy-themed escape room functions as a learning environment well. Learning objectives set by the Finnish curriculum as well as the teacher were met and for most of the students learning also took place. Students and the teacher enjoyed the game as a learning environment and developed skills while playing the game. Both aspects, the fantasy theme and escape room mechanics, were reportedly enjoyed which combined with earlier research strengthens the view that roleplaying games and its sub-genre of escape rooms function well in a formal education setting.

5.1 Further Research and Limitations of the Study

My study did not come without its limitations. First of all, it is important to note that my study's participants included only one class and one teacher, which lowers the generalizability of my findings even though similar trends were found in comparison with other studies. Secondly, my study discussed the use of fantasy-themed escape rooms as a revision tool for one specific course and ultimately based on a course book. To know more of the effect of fantasy-themed escape rooms in education variations should be made with different subject matter and different courses as well as different age groups. Thirdly, even though students reported skills to have been developed by playing the game, it would be advantageous to see if these skills were actually developed in terms of standardized testing and evaluation. This stems from the need to conduct research in other terms than just ad-hoc questionnaires to students and teachers.

To differentiate between a fantasy RPG and an escape room is difficult. Therefore, further research is needed to examine how much development is contributed by the fantasy RPG aspect and how much is contributed by the escape room aspect. Furthermore, would shooting games, social deduction games, simulator games and other genres function better as a learning environment if RPG aspects, such as storytelling, would be introduced to the games? I would hope for more research to be conducted on different genres of games as well as mixing different gaming modes suggested by Kinzie and Joseph (2008) together to find suitable mixtures to ensure new ways to teach language to students.

Games, RPGS and escape rooms have been found motivating, but how long does this motivation last? More research should be conducted on how much of games perceived enjoyment is contributed by novelty alone. It would be beneficial to examine how often games could be utilized without becoming less attractive motivation-wise. Furthermore, it would be valuable to examine the possible long-term benefits of using games as a revision tool. Before this can be examined, however, we need to discuss how well teachers are aware of the benefits of different games in education. Teacher's attitudes are one of the most important factors that determine their use in a classroom – if more teachers would want to utilize games in education, maybe more pressure would be put on the makers of learning materials. In the footsteps of Sihvo (2018), I suggest a survey mapping of teachers' attitudes and hopes for educational games and how they could be utilized in the future.

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I want to thank the city council for giving me permission to conduct my study in their municipality.

Appendix

1. The Questionnaire for Students

Kyselytutkimus 27.01.2022

[Kirjautu Googleen](#), jotta voit tallentaa edistymisesi. [Lue lisää](#)

***Pakollinen**

Tutkimuksen peli

Keskity arvioinnissasi pelin sisältöön, tarinaan, kiinnostavuuteen, vaikeusasteeseen ja muihin pelin sisäisiin tekijöihin. Huomaathan, että peli on tehty ilman rahallista tukea, joten tyylliset seikat, kuten pelin grafiikat ja alusta (Google Slides) ovat rajoittuneet ilmaisiin sisältöihin.

Mitä mieltä olit tutkimuksen pelistä? *

Pidin siitä.

En pitänyt siitä.

Pääsitkö pakoon maagin mökistä? *

Kyllä.

En.

Ilmaise alla olevalla janalla, kuinka haastava peli mielestäsi oli: *

1. Helppo 2. Melko helppo 3. Juuri sopiva 4. Melko vaikea 5. Vaikea

	1	2	3	4	5	
Helppo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Vaikea

Mitä pelejä pelaat **eniten**? Valitse **korkeintaan** kolme. *

Jos et tiedä pelaamasi pelin genreä, listaa pelejä "Muu." kohtaan.

- Massiivimoninpelejä (World of Warcraft, Elder Scrolls Online, New World yms.)
- Urheilupelejä (FIFA, NHL, Rocket League, Mario Kart yms.)
- Auto- ja simulaattoripelejä (Surgeon simulator, Goat simulator yms.)
- Roolipelejä (Diablo, Dragon Age, Fallout, Mass Effect, Skyrim yms.)
- Strategiapelejä (Civilization, Age of Empires, Starcraft 2 yms.)
- Ampumapelejä (Call of Duty, Medal of Honor, Counter Strike yms.)
- Battle Royale -pelejä (Fortnite, PubG yms.)
- Taistelupelejä (Tekken, Mortal Kombat yms.)
- Hyper casual -pelit (Candy Crush, Flappy Bird yms.)
- Sosiaaliset päättelypelit (Among Us, Spy Party yms.)
- Tasohyppelypelejä (Super Mario, Prince of Persia, Mirror's Edge yms.)
- Rakentelu- ja elämäsimulaatiopelejä (Stardew Valley, The Sims, Tycoon-pelit yms.)
- En pelaa pelejä.
- Muu: _____

Oletko aikaisemmin pelannut digitaalista pakohuonepelejä? *

- Kyllä.
- En.

Haluaisitko nähdä opetuksessa enemmän hyödynnettävien digitaalisten pelejä?
Miksi/miksi et? *

Oma vastauksesi _____

Kerro, mikä teki pelistä helpon, juuri sopivan tai vaikean: *

Oma vastauksesi _____

Näistä asioista pidin pelissä: *

Oma vastauksesi _____

Näistä asioista en pitänyt pelissä: *

Oma vastauksesi _____

Mitä seuraavista taidoista uskot kehittäneesi pelatessasi peliä? Valitse niin monta, kuin haluat. *

Jos mieleesi tulee jokin muu taito, jota uskot kehittäneesi, listaa se kohtaan "Muu..."

- Sanastoa
- Kielioppia
- Luetun ymmärtäminen
- Yhteistyötä
- Tiedonhakutaitoja
- Loogista päättelykykyä
- Kriittistä ajattelukykyä
- En koe kehittäneeni mitään erityistä taitoa.
- Muu: _____

Jos uskot tiettyjen taitojen kehittyneen, niin miksi? *

Ilmaistethan vastauksessasi mielestäsi kehittyneen taidon. Esim. "Peli kehitti tiedonhakutaitoja, koska..."

Oma vastauksesi _____

Haluan nähdä tutkimuksessa käytetyn pelin kaltaisia pelejä enemmän opetuksessa. *

- Kyllä.
- En.

Sana on vapaa! Tuliko mieleesi jotain muuta, mitä haluaisit ilmaista peliin ja/tai tutkimukseen liittyen? *

Oma vastauksesi _____

2. The Questionnaire for the Teacher

Opettajien kyselytutkimus

Tämä kyselytutkimus käsittelee lukiolaisten digitaalisten pelien pelaamista ja tutkimuksessa käytetyn pelin kaltaisen aktiviteetin toimivuutta oppimisympäristönä. Kyselytutkimus on osa Helsingin yliopiston pro gradu tutkielmaa. Kyselyssä ei ole oikeita tai vääriä vastauksia, eikä niitä luovuteta kenenkään muun kuin tutkijan käyttöön. Kysely raportoidaan tutkimuksessa nimettömänä. Vastaathan siis mahdollisimman rehellisesti!

Muistathan painaa lomakkeen lopussa "lähetä" -painiketta. Vastaamalla tähän kyselyyn hyväksyt vastaustesi käyttämisen tutkimuksessa.

Kiitos paljon arvokkaasta vastauksestasi!

Samuli Grönfors
Helsingin yliopisto
samuli.gronfors@helsinki.fi

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*Pakollinen

Oletko kohdannut tai itse käyttänyt digitaalisia pakohuonepelejä opetuksessa aiemmin? *

- Kyllä.
- En.

Mitä mieltä olet digitaalisista peleistä ja niiden hyödyntämisestä opetuksessa? *

Oma vastauksesi

Haluaisitko nähdä digitaalisia pelejä enemmän vai vähemmän opetuksessa? Miksi? *

Oma vastauksesi

Minkälaisia ominaisuuksia hyvä opetuspelejä pitää sinun mielestäsi sisällään? *

Oma vastauksesi

Tutkimuksen peli

Keskity arvioinnissasi pelin sisältöön, tarinaan, kiinnostavuuteen, vaikeusasteeseen ja muihin pelin sisäisiin tekijöihin. Huomaathan, että peli on tehty ilman rahallista tukea, joten tyylilliset seikat, kuten pelin grafiikat ja alusta (Google Slides) ovat rajoittuneet ilmaisiin sisältöihin.

Ilmaise alla olevalla janalla pelin vaikeusastetta - kuinka haastava pelin taso mielestäsi on opiskelijoille: *

1. Helppo 2. Melko helppo 3. Juuri sopiva 4. Melko vaikea 5. Vaikea

	1	2	3	4	5	
Helppo	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Vaikea

Kerro, mikä teki pelistä helpon, juuri sopivan tai vaikean: *

Oma vastauksesi _____

Mitä seuraavista taidoista uskot pelin kehittävän? Valitse niin monta, kuin haluat. *

Jos mieleesi tulee jokin muu taito, jota uskot pelin kehittävän, listaa se kohtaan "Muu..."

- Sanastoa
- Kielioppia
- Luetun ymmärtämistä
- Yhteistyötä
- Kriittistä ajattelukykyä
- Loogista päättelykykyä
- En koe pelin kehittävän mitään erityistä taitoa.
- Muu: _____

Jos uskot tiettyjen taitojen kehittyneen, niin miksi? *

Oma vastauksesi

Mistä pidit tutkimuksen pelissä? *

Oma vastauksesi

Mitä kehitettävää huomasit tai mistä et pitänyt tutkimuksen pelissä? *

Oma vastauksesi

Toimiiko tutkimuksen peli mielestäsi oppimisympäristönä? Miksi? *

Oma vastauksesi

3. The Escape Room: The Mage's Hut Puzzles and Setting



So, you must be wondering: How did you end up here?

An adventurer always finds their way - that is what your father always used to tell you. A couple of months ago you traveled across the Vast Sea to the human kingdom of Tideport in Runethia. Tideport is a coastal city known for its extensive fleet, ruled by the beloved Milandria. On the streets of Tideport one can see many walks of life, from humans to elves, mages to rangers and soldiers. During your time in Tideport, you completed tasks and quests to those who needed your aid. That is what adventurers do, right? Yesterday, you sought for a place to stay from the local inn, Drunken Mermaid. While eating your dinner at the table, you saw a distressed boy entering the inn. The boy seemed to be looking for someone and as your eyes met, the expression on his face turned from worried to relieved.

The boy told you that his father had gone to see a mage for potions called Vethremir who lived at the outskirts of the city, but he had never returned from his journey. The boy had heard about your great deeds from other citizens of Tideport and offered you coins to go look for his father. He showed you a drawing of Vethremir and you agreed to set forth to the outskirts of the city the very next day.

As you approached the mage's hut, the door suddenly opened, and you hid behind the surrounding trees. You saw Vethremir coming out of the hut, muttering something to himself: "It should take around 45 minutes before I'll be back... Yes... 45 minutes". As Vethremir wandered off, you sneaked to the door and to your surprise it was open. The boy's father must be here! You entered his hut, and suddenly you heard a loud thump as the door behind you closed. On the door, a rune was sketched emanating a red light and you realized what was going on. The door was sealed with powerful magic and now, you were trapped. Maybe looking around the hut will help?



The Hanging Herbs

There are three herb bushes hanging from the ceiling and they are just out of your reach. The herbs smell quite old, and they have a pungent smell to them. They also have little tags hanging off of them, each of them carrying a piece of writing - "Herbert, Herbir and Herbamar". Are these different species of herbs?

You hear faint whispering coming from two of the herb bushes. What is going on?

[Kirjautu Googleen](#), jotta voit tallentaa edistymisesi. [Lue lisää](#)

*Pakollinen

I am going to... *

- focus on the herb bush tagged Herbert.
- focus on the herb bush tagged Herbir.
- focus on the herb bush tagged Herbamar.
- focus on literally anything else... they are just herbs for crying out loud!



The Painting

In one of the corners of the room hangs a painting of an old man, covered in unfamiliar markings. As you approach the painting, it seems as if its eyes are following keenly your every move. You take a step closer and examine the painting. It has been painted with precise strokes of the brush and the details make the man almost lifelike. Even the chest seems to be moving, and for a split second you could swear to have heard quiet breathing. Under the painting you see an ungarnished plaque reading "Duskwanderer Vethremir of Runethia". As your are peering into the eyes of the man, the picture slightly shifts, and you are intuitively drawn to touch the painting.

[Kirjautu Googleen](#), jotta voit tallentaa edistymisesi. [Lue lisää](#)

*Pakollinen

The ink bottle has an ornamental label on it reading:

*Mrs. Inkwell's Finest
The Ink of Dehumanising*

A weird name to call your ink, but to each their own, I guess. But wait a minute, wasn't one of the local businesses called "Inkwell's Finest" and they had a missing poster on their shop's wall? The missing poster was about the owner, Mrs. Inkwell... The poster seemed old, though, so maybe they never found her. Maybe there are other uncommon things around... like that gargoyle over there... or that spider on the wall!



The Alchemy Lab

You approach the strange, transparent looking table. Why is it black and white? On top of the table, you see various different bottles and herbs crushed by the mortar and pestle. You have witnessed this type of science before - alchemy. The power to transform one thing to another by simply mixing herbs with other ingredients and spells.

But is it really that simple? It seems like the cauldron has something brewing inside of it creating a vile smell. That can't be good. Maybe you should try to stop whatever is brewing inside the cauldron?

You find a book that seems to have instructions on it but some of the words have faded away. Maybe by solving these instructions you will be able to figure out how to put a stop to this evil brew!

[Kirjaudu Googleen](#), jotta voit tallentaa edistymisesi. [Lue lisää](#)

*Pakollinen

"First of all, a great alchemist has _____. This allows them to predict what is going to happen when combining certain ingredients." *

- a variable
- an assertion
- a hypothesis



The Stone Gargoyle

"A little of that, a few of those
 maybe some of these
 Little do they know only few can these poor souls release
 Much fuzz about nothing, many were fools,
 a lot of options - lots of tools!
 To be or not to be
 That is the question but only if you believe me
 Singing and grinning keeps you and me away from the key."

The Gargoyle is singing in a chirpy tune seemingly unaware of your presence. You shrug and decide to let the little stony being do their thing as suddenly you hear a gravely voice take over the joyful singing.

"I am no scholar but you can be,
 if you are prepared to answer me.
 Show me your hidden intelligence
 and I'll give you oh that precious sense!"

[Kirjautu Googleen](#), jotta voit tallentaa edistymisesi. [Lue lisää](#)

*Pakollinen

"We are not alone in this hut. The oldest of us have been here for _____ years. I can feel it in my gut." *

Valitse ▼



Lagu



Helg



Cael



Thaar



Beir

The Magic Seal

You approach the glowing magic seal, and it responds to your presence by illuminating five runes around its circle. You reach out your hand and touch one of the appeared runes. The rune lights up and pulsates warm green light as if waiting for something. You decide to touch another rune and as you do, the two runes flare up in a red glow causing all of the runes to spin around the circle. After the runes stop, they all flash red before dimming down. It dawns to you that you need to touch the right runes in the right order. For example: Helg - Cael - Lagu - Beir - Thaar. Maybe then the seal breaks!

[Kirjautu Googleen](#), jotta voit tallentaa edistymisesi. [Lue lisää](#)

*Pakollinen



The Hourglass of Doom

"From a grain of sand into the rubble of a city."
~ The Hourglass of Doom ~

The blue flames of the hourglass dance around it. If you listen closely, you can hear faint whispers that speak.

"Tuho... destruction... soon... pian... aika loppuu kesken... time is running out."

What is this contraption? It seems to be a giant hourglass with a kingdom inside of it... and is that... yes it is... it is the kingdom of Tideport! And the sand seems to be running out shortly. The name and the whispers of the giant object don't sound too promising. How do you stop this thing?!

You look around to see anything that could prove helpful but come up with nothing. Then you notice engravings in the wooden frames of the hourglass but some of them seem to have faded away. They seem to be alternating between two different languages... Good thing that you are a master of both!

(Write answers with two slots in the form of "word, word". For example, "success, fail". Remember the right inflection [taivutus] as well!)

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*Pakollinen

"Ajan 1. _____ kattaa meidät kaikki, siltä ei voi paeta, siltä ei voi piiloutua. Jokainen odottaa vuoroaan, olette vain pitkässä 2. _____." (1. curve, 2. queue) *

Oma vastauksesi



The Tome of Knowledge: Runes & Me, The Art of Hiding in Plain Sight

Next to the hourglass you see a dusty book lying open on a pedestal. As you flip through the pages of the tome, you realize it contains a lot of information about runes and different places where to plant them such as cauldrons, hourglasses, talking skulls and so on.

You stumble upon a page titled "Does that hut spark joy? by Karie Mondö" which entails information about how to turn your own living quarters into a joyful experience for your guests. There are a lot of notes scribbled on the margins of the page such as: "A talking skull as the watcher of my diary could be fun" and "should I carve runes in my cauldron?".

The next page is called "Hiding Runes Behind Words: The Making of a Quiz" filled with notes, and it seems there is a whole set of questions waiting to be answered. Could there be a rune behind this quiz?

This seems like an important piece of information, but you should definitely search the hut thoroughly before tackling this task since some of the questions seem to require detailed information!

[Kirjautu Googleen](#), jotta voit tallentaa edistymisesi. [Lue lisää](#)

*Pakollinen

What is the name of the talking skull? *

Oma vastauksesi



Kaputo, The Talking Skull

Next to the diary on the table, on top of a pedestal, floats a weird looking skull. As you approach it, it speaks.

"Elo there! It's Vethremir, right? Just call out the password - you know that condition you don't want others to know you have - and I'll let you know the information you wanted me to keep away from the strangers that get trapped in your house. Yeah, totally safe with me. And if you are a stranger, don't try to fool me - I might not have eyes or even properly working ears but I do have a mean bite! But it's all good 'cause you are Vethremir... I knew it the instant you walked in. Love your outfit of the day, by the way."

[Kirjautu Googleen](#), jotta voit tallentaa edistymisesi. [Lue lisää](#)

*Pakollinen

The password must be... *

Oma vastauksesi

5th day of Rivenia, 9th Circle of Lumenia

Dear diary,

I fear I have begun to lose it. My obsession with the Hourglass of Doom has caused me to mix up languages in my head. I cannot write clearly anymore.

Am I losing my *järkeni/mielenterveyteni*? I cannot tell. However, I am really close to uncovering the hourglass' secret. Even if I have to give up on my *elinikä/pitkäikäisyys* so be it. I have not come this far to give in now! After that embarrassing incident with Allerin, I will never be scorned in love again... nor will they! That will teach them to play with my *tunteet*. I want to... no I will see Tideport see the ruin it deserves. *Lopulta* everything must come to an end, don't they?

I mean I am right, aren't I? Even Kaputo, The Talking Skull agrees with me. Why else would he be giving me *positivista vahvistamista*? I am getting too deep into my thoughts again. But I have always been like this. After the *menetyt* of my parents it just got worse. Always in my head. But then again, I have always enjoyed my own company. Others just complicate things. I will never know how *ulospäin suuntautuneet henkilöt* do it. Ugh, there is that nasty *tuntemus* again. My body is trying to tell me I have a conscience. Not on my watch. I need to *pidättää* it just a little while longer. Your *neuroottinen* plea will not reach me!

However it may be, the time is nigh. It will take only a day or two if I *arvioin* correctly. Now the *Vaaka* of Fate has tipped in my favour and I am certain its power will *ulottua/käsittää* the whole of Tideport and its sorry citizens!

Always yours with eternal love,
Vethremir.

Ps. Due to my dwindling mind, I have reset the password that Kaputo, The Talking Skull asks. It is on this page, and you can form it by taking the first letter of each of the red words *AFTER* you have translated them into my native language, English.

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8. Aspont, Gondolinic rune CC BY-SA 4.0
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Videos:

1. Lit-up Candle Light | 4K Relaxing Background by [Josu Relax](#)

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<https://www.youtube.com/watch?v=XXMinSgKw7U>

2. The Best Fireplace Video (3 hours) by [MoneySavingVideos](#), CC0 [Creative Commons Attribution -käyttölupa \(uudelleenkäyttö sallittu\)](#)

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3. A Person Putting Dried Flowers in the Mortar and Pestle | by non copyright videos by Non copyright videos, CC0 [Creative Commons Attribution -käyttölupa \(uudelleenkäyttö sallittu\)](#)

<https://www.youtube.com/watch?v=5C4CKU1-ggg>