UNIVERSITY OF TARTU
DEPARTMENT OF ENGLISH STUDIES

GAMIFICATION IN EDUCATION: PRACTISING ENGLISH PHRASAL VERBS USING A GAMIFIED ACTIVITY
MA thesis

MORTEN MÄGI RAVN
SUPERVISOR: *Assoc. Prof.* JANE KLAVAN

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ABSTRACT

The lack of engagement is a problem for many students in school and a number of potential ways to solve this issue have been proposed. One such solution is the implementation of gamification. Gamification is "the use of game design elements in non-game contexts" (Deterding et al. 2011: 2). Since games have been characterised as fun, gratifying, involving, and motivating (Prensky 2001: 106), including elements from games into non-game contexts should lead to increased engagement in students. The purpose of this thesis is to analyse whether a gamified activity has any positive effect on the engagement of younger, 6th grade students – a relatively underexplored age group. Additionally, this thesis aims to analyse how three game elements – points, time constraints, and cooperation – affect the engagement of these students. The scope of the study conducted in this thesis is small, but since the students participating in it are part of an underrepresented age group, this thesis still hopes to provide valuable data for further research.

The thesis is composed of five main parts: an introduction, two main chapters, a discussion, and a conclusion. The introduction provides an overview of the thesis, explains its purpose, and states the research questions. The first chapter outlines the different ways gamification has been defined and contrasts it with the similar term known as game-based learning, explores gamification's role in education and ways to implement it, highlights prior studies conducted on the topic of gamification, analyses the different elements and the supposed benefits and drawbacks of gamification in more detail, and briefly touches on young people's attitude towards games in Estonia. The second chapter begins by outlining the language focus of the gamified activity – phrasal verbs – and explains why this focus was chosen. It then focuses on the small-scale study conducted for this thesis, analysing the feedback gathered from students, where they reflect on their experience with a gamified activity. The same chapter also presents the perspective of the English teacher who observed the students while they were doing the activity. The discussion provides a thorough analysis of the information gathered from the interviews and the questionnaire and places the results of the study in the context of previous studies. The conclusion summarises the findings of the thesis.

TABLE OF CONTENTS

LIST OF ABBREVIATIONS

CAP – Children's Advisory Panel

COTS DGBL – Commercial Off-The-Shelf Digital Game-Based Learning

DGBL – Digital Game-Based Learning

EFL – English as a Foreign Language

ESL – English as a Second Language

GBL – Game-Based Learning

INTRODUCTION

The question of how to engage students in schools is a question echoed around the world and, naturally, many possible solutions have been proposed. One such solution, which has not only been proposed to be used in education, but in other fields as well, such as business (Calado et al. 2017), is gamification. Games have been characterised as fun, gratifying, involving, and motivating (Prensky 2001: 106). Therefore, attempts have been made to incorporate the appealing elements of games in some form or another into the classroom as well, with one of the ways being through the aforementioned gamification.

Although the term gamification was created in the early 2000s, the term's popularity and the amount of subsequent scrutinising research into it dramatically increased only in 2010 (Karagiorgas and Niemann 2017: 501; Van Roy and Zaman 2018: 284). The purpose of gamification is making learning more engaging by using game-like features and making the entire process more fun. The supposed benefits of gamification in education include, but are not limited to: promoting student autonomy, creating a more relaxing frame of mind for the student to learn (Bhargava and Demkah 2019: 170-171), eliciting desirable behavioural change (Nah et al 2013: 99), and, perhaps most importantly, fostering more engagement in students (Karagiorgas and Niemann 2017: 501). Additionally, as technology continues to grow as an ever-present part of people's daily lives, one facet of technology that is becoming ever more commonplace, especially with today's youths, is the increasingly popular market of video games. Therefore, there could be an incentive to incorporate digital tools into the learning process as well. For all of the reasons outlined above, this thesis will focus on the utilisation of a computer-based gamified activity made for the purpose of increasing student engagement.

For this thesis, I have used the freeware software known as GameMaker: Studio, developed by Yoyo Games, to create an activity to be used on a computer for students to

work with. This activity is presented as a simple computer game, where two students can work together to fill in gaps of English sentences with the correct combination of words. The topic of phrasal verbs was chosen for this activity.

Gamification as a concept has also been previously covered in the Department of English Studies at the University of Tartu by Liisa Liivak in her MA thesis *Gamification in Education: Game Design Elements in the Solutions Second Edition EFL Textbook Set* (2008). In her thesis, Liivak analyses gamification elements found in the Student's Book, Workbook, and Teacher's Book from the *Solutions Second Edition* intermediate level coursebook set. Her findings show that numerous game elements were present in all three books (Liivak 2008: 44), suggesting the potential for gamification is present in all of them. Liivak (2008: 53) concludes by stating that gamification does not necessitate digital tools and encourages teachers to consider using the standard textbooks and workbooks available to them for gamification purposes. In contrast, the current thesis aims to analyse the effects of a computer-based gamified activity within a classroom setting. The gamified activity was created specifically for this thesis and did not utilise any coursebooks. All in all, while the topic has been covered before, gamification, particularly in education, is still a relatively underexplored subject and this thesis aims to add to and expand on what Liisa Liivak already covered in her thesis.

While considerable research has gone into gamification's effect on engagement, studies have mostly been conducted using a sample of young adult or adult participants. Studies involving younger students, who could theoretically benefit more from the positive effects of gamification, as a lack of engagement is a real problem for students that age, seem to be in the minority. It is for this reason that the demographic chosen for this thesis were 6th grade students, as this group is relatively underrepresented in research. While this thesis is comparatively limited in its scope, meaning no major generalisations can be made in good

faith, it could still lead to the results providing some interesting data due to the young age of the participants. Due to the aforementioned relative lack of research dealing with participants of this age group, this thesis is but a small contribution to a relatively unexplored field in Estonia and hopefully there will be more research done in the future on a larger scale.

In order to ascertain the effect the use of a gamified activity on students' engagement, the aim for this thesis is to answer the following research questions:

1) Does using a gamified activity to practice phrasal verbs increase engagement in younger students?

2) How did using points, time constraints, and cooperation affect younger students' engagement in a gamified activity practicing phrasal verbs?

To answer these questions, the aforementioned gamified activity was utilised within a classroom setting. To gather feedback, a combination of two methods were used: a questionnaire and group interviews. Both of these were inspired by previous studies. Group interviews were chosen over individual interviews to allow students to discuss ideas with each other and eliminate any anxiety one on one interviews could generate. Based on prior studies, it is expected that the gamified activity should have a positive effect on students' engagement.

The thesis consists of two core chapters, a discussion, and the conclusion. The first chapter explores the different ways gamification has been defined while contrasting it with the similar term known as game-based learning, examines gamification's role in education and ways to implement it in the classroom, highlights prior studies conducted on the subject of gamification, analyses the different elements and supposed benefits and drawbacks of gamification in more detail, and briefly addresses the attitudes young people in Estonia have towards computer games. The second chapter gives an overview of the language focus of the gamified activity – phrasal verbs – and explains why this was the choice. It will then

focus on the small-scale study conducted for this thesis, where students took part in a gamified activity. It will then focus on the small-scale study conducted for this thesis, where students took part in a gamified activity. It details how students provided feedback through a questionnaire and group interviews. The chapter continues by analysing how students responded to the questionnaire and how they answered the additional questions during the group interviews. The feedback from the English teacher who observed the activity is also presented in the same chapter. The thesis ends with the discussion and the conclusion showing that the gamified activity did have an effect on student engagement and that the effectiveness of the three game elements was varied.

1. GAMIFICATION IN EDUCATION

This chapter gives an overview of the important terms and concepts that are significant for this thesis. It begins by defining gamification as accurately as possible and explores some of the history related to the term. At the end of Section 1.1., it will be argued that the gamified activity created for this thesis is an example of gamification and not of game-based learning (GBL), a term similar to gamification. The chapter then focuses on the different aspects that should be considered when applying gamification in education. The final section focuses on the different elements that influenced the gamified activity. The game elements utilised in the activity are points, time constraints, cooperation. The chapter concludes by additionally showing the keen interest young people in Estonia have towards computer games.

1.1. What is Gamification?

In order to analyse gamification's role in education, it is important to explore the history of the term itself. The term gamification has been around for nearly 20 years now and the meaning of the word has altered over time. The original form of the term was coined by Nick Pelling in 2002, which was, by his own admission in a blog post from 2011, a "deliberately ugly word" used to denote "applying game-like accelerated user interface design to make electronic transactions both enjoyable and fast" (Pelling 2011). Pelling founded a consultancy named Conundra Ltd for the express purpose of pursuing his original idea of gamification. The consultancy was ultimately short-lived but the gamification term survived, it being rediscovered and gaining widespread adoption after 2010 (Kim 2015: 5). The meaning of the term did not remain completely unaltered, however, and a variety of definitions have been proposed since.

As of yet there is no single definition of gamification that can be considered universally accepted, with the term itself even being outright rejected in some circles. One notorious instance of such rejection comes from Ian Bogost in his *Atlantic* article titled *Gamification is Bullshit* (2011) where he argues that the term is deceptive. In the article Bogost claims that gamification is nothing more than a marketing ploy and a cynical way of applying game elements to non-game environments without truly understanding games, suggesting the term 'exploitationware' should be used instead. While Bogost is not alone in expressing these sentiments, this opinion seems to be in the minority (Auer et al. 2018). One proposed definition comes from Kapp, who combines many previous definitions, from authors such as Gabe Zichermann to publicly editable Wikipedia articles, into one which states: "Gamification is using game-based mechanics, aesthetics and game thinking to engage people, motivate action, promote learning, and solve problems" (2012: 10). This definition adequately covers the basics of gamification. There is one definition that is used relatively broadly and has been cited in a considerable amount of articles and studies (e.g. Calado et al. 2017; Fox and Hanus 2015), effectively being used as the basis for a number of subsequent definitions. This is the definition proposed by Deterding et al. (2011: 2) that simply states that gamification "is the use of game design elements in non-game contexts". This definition, while still discussed and revised, is the one most commonly known and will also serve as the basis of this thesis.

To elaborate on Deterding et al.'s (2011) succinct definition and take Kapp's into consideration as well, gamification entails incorporating mechanics commonly attributed to games – such as scoring points, earning badges, completing challenges, increasing difficulty levels, cooperating and competing with others, etc. – into non-game contexts, such as in business or education, in order to utilise the positive effects games have on people in terms of engagement, motivation, and enjoyment. It is to extract what makes playing games a

gratifying experience and use that to enhance real-life fields. Deterding et al. (2011: 4) also specify that while gamification is a process that incorporates elements from games into non-game circumstances, it does not necessitate the use of an actual game as long as its elements have been represented.

Similarly to how the definition can vary depending on the author, the elements attributed to gamification can also differ depending on the source. This comes down to what one's idea of a 'game' is and what elements are believed to be inherently intrinsic to them – a topic that is still not completely settled (Homer et al. 2015). Referring back to Deterding et al. (2011) it should also be made clear what is meant by 'element' when discussing this topic. In order to avoid being too restrictive by only acknowledging elements that are wholly unique to games or too expansive by recognising all elements ever featured in any game, Deterding et al. (2011: 3-4) have proposed a middle ground by only associating elements that are widely represented in games, and therefore considered "characteristic" to them, with gamification. They categorise the elements into four different "levels of game design elements" ranging from elements that simply concern the interface of games, such as leaderboards or badges, to elements that relate to game design methods, such as playtesting. The debate surrounding even Deterding et al.'s definition of game elements explains the diversity of gamification elements proposed by different authors. For instance, Hamari et al. (2014) listed a large variety of elements tested in different studies on gamification, which include points, leaderboards, achievements/ badges, levels, story/ theme, clear goals, feedback, rewards, progress, and challenge. Nah et al. (2013: 103) have outlined similar elements, with the addition of quests/ individual challenges and onboarding ("a scaffolding method that can help players progress and advance from a novice to an expert or master"). Others have also expressed similar sentiments, with a great amount of overlap between them (Kim 2015) with time-based challenges being highlighted as well (Buckley and Doyle 2016).

A selection of these elements will also serve as the basis for the study conducted in this thesis and they will be outlined in more detail in Section 1.3 and Section 2.2. Overall, there is a certain amount of subjectivity when discussing the elements related to games and one's perception of them is going to be influenced by broadly accepted truths, such as recognising features like points and quests as being characteristic of games.

Separate from the recently popularised term of gamification is another seemingly similar term – game-based learning (GBL). Although both of these have distinctive meanings, they are similar enough (McBride 2014: 596) that comparisons could be made, which could in turn lead to some confusion. In fact, some definitions or descriptions of gamification might further blur the distinction between these two concepts. One example of this can be seen in Nah et al.'s *Gamification of Education Using Computer Games* where it is stated: "By turning an activity or a process into a computer game, i.e. through various game design elements such as rewards for achievement, desirable behavioural change can be induced" (2013: 99). For the uninitiated, this could imply that gamification specifically entails turning learning into a computer game, rather than merely adding game elements to general learning. While there exist a multitude of other related terms, such as educational entertainment a.k.a. edutainment or simulation, for the purpose of this thesis, the distinction between gamification and game-based learning will be explored in more detail in order to clear up any potential misunderstandings.

Similarly to gamification, when trying to define game-based learning, there can be some confusion. This is because, with the advent of video games, there exists a distinction between game-based learning and digital game-based learning (DGBL) (Cózar-Gutiérrez and Sáez-López 2016: 2). However, some authors still use the nomenclature of game-based learning while referring to digital media as well (Redondo et al. 2013), so it would perhaps be simpler to recognise DGBL as a kind of subcategory of GBL. A further extension of

DGBL would be commercial off-the-shelf digital game-based learning (COTS DGBL), which entails using pre-made commercial video games for teaching purposes (Van Eck 2006), creating yet another subcategory. In the interest of making the comparison between GBL and gamification as non-complicated as possible, these subcategories will be ignored.

Additionally, the confusion regarding the definition of GBL can also stem from the fact that, as discussed previously, what does and does not constitute a game is debated among scholars (Homer et al. 2015). As one's definition of a game changes, so does the perception of game-based learning. This is a similar problem that gamification has with regard to the elements that are and are not considered intrinsic to games. In short, much like gamification, game-based learning as a term is not exactly uniformly defined, although there is a general idea that is more or less universal.

Homer et al. (2015: 259) have concluded that most definitions of game-based learning – digital or otherwise – assert that "it is a type of game play with defined learning outcomes". In other words, students are encouraged to learn through playing an actual game (Al-Azawi 134). With this definition in mind, it can be said that in education both gamification and game-based learning use games in some way to enhance the learning experience. However, there are some distinguishing features between the two. While gamification involves incorporating elements from games (such as badges and points) into the learning process, essentially taking traditional lessons and embellishing them with gaming mechanics, game-based learning provides learners with a fully-functional game, which is then used as the basis for whatever skill or subject the teacher wishes the students to master. Al-Azawi et al. (2016: 134) have very concisely summarised the difference between the two terms as follows: "Gamification is turning the learning process as a whole into a game, while GBL is using a game as part of the learning process". It has also been argued by those who prefer gamification to GBL that there are simply very few successful

games that could be utilised in game-based learning (Alsawaier 2018: 59) – a problem gamification does not have. All in all, while it is possible to connect the terms due to them both being tied to games, they are ultimately not synonymous and cannot replace one another.

As this thesis utilises an activity presented to students as a game on a computer, it is possible to argue that it belongs to the 'serious games' category – games developed with a purpose other than entertainment or enjoyment, such as education (Alvarez et al. 2011) – and is therefore an example of game-based learning and not gamification. I would argue that the gamified activity I have designed is nothing more than a traditional and generic fill-in-the-gaps workbook exercise gamified in accordance to the principles of gamification. Stripping the gamified activity of its time limit, points system, and cooperative mechanics, it might as well be handed to students on a piece of paper. As outlined by Deterding et al. (2011: 4) gamification requires the use of a selection of elements into non-game contexts, excluding what is referred to as "fully-fledged games". Taking that into account, while my activity does indeed incorporate a handful of game elements into a non-game context, it would be a stretch to call it an actual computer game. Many elements are missing (there is no story to speak of nor are there any leaderboards, etc.) and, to reiterate, it is really just a workbook exercise which has been gamified. Seeing as there do exist electronic versions of workbooks nowadays anyway, even the digital element is not so uncommon. Therefore, I maintain that the gamified activity presented in this thesis is an example of gamification and not GBL.

1.2. Gamification in Education: What to Consider

Seeing as gamification aims to augment non-game circumstances to make them more appealing or engaging, one field of interest, as was mentioned earlier, has naturally been

education. The question of how to invigorate students and make school work more engaging has always been hotly debated and new ideas are regularly proposed. As such, gamification joins the long line of new innovations seeking to enhance the learning process, with many studies conducted to test its efficiency.

The ultimate question, however, is how exactly should gamification be applied in schools? After all, several authors (e.g. Nah et al. 2013; Smith-Robbins 2011) have pointed out that traditional education already boasts a number of game elements within its established curricula, such as students being assigned points for school work, "levelling up" from grade to grade or receiving grades and diplomas in lieu of achievements and badges (Hammer and Lee 2011: 2). In that sense, school should be the prime example of gamification in action. However, as Chapman and Rich (2018: 320) call attention to, school is rife with lack of engagement, absenteeism, and distraction, showing little to none of the positive effects gamification is purported to have. Either none of the supposed benefits of gamification are achievable in practice or traditional education highlights that the mere presence of elements associated with games in and of itself is not enough of an engaging factor. Most would agree with the latter.

As has been pointed out, if school was indeed a game it would be considered a very weak one, as there are no clearly defined universal goals for the students, which might lead them to misinterpret the aim of the "game" (Smith-Robbins 2011), and to undesired results. Additionally, Lee and Hammer (2011: 2) explain how the circumstances under which gamification elements are experienced influence the process: since the positive aspects of gaming affect players on an emotional and social level, both of which suffer under the strict formal rules of school, these are negated within the context of traditional education. This is the reason why just having the elements is not enough and gamification must be properly incorporated with careful planning. There are many different tools and methods available

for educators to gamify their classes that can vary in size and scope, such as simply incorporating some game-related language into lessons (Hammer and Lee 2011) or turning entire multi-week courses into a gamified experience (Baydas and Cicek 2019). Therefore, it is important to carefully consider how gamification is implemented, as there are many factors to consider.

A major aspect of games and gamification to be considered is the incorporation of social elements. Bhargava and Demkah (2019: 171) have noted how gamification can consolidate cooperative learning, indicating that collaborative elements could make both the gamified experience and subsequently the learning process even more enthralling. This sentiment is also echoed by Nah et al. (2013), stating that social dynamics in games lead to deeper involvement which could be utilised in class. A modicum of healthy competition between different teams was also presented as an engaging aspect of gamification, although excessive use of elements that reward and rank participants (such as leaderboards or achievements) has been warned against (Nicholson 2015 in Botički et al. 2018).

Another important factor to consider when gamifying the classroom is the dynamic between challenge and skill, or 'flow' – referring to a "state of mind characterized by focused concentration and elevated enjoyment during intrinsically interesting activities" (Asbell-Clarke et al. 2016: 171). The challenge-skill dynamic is crucial for proper flow, meaning that the level of challenge cannot be too low, which could potentially cause boredom and disengagement, or too high, which could result in anxiety and stress. Asbell-Clarke et al. (2016) assert that finding a proper level of difficulty that challenges learners without overwhelming them is key when using gamification in the classroom. Therefore, with each individual game element, it is important to take students' skills into account when designing a gamified activity or learning experience, so that students can feel consistently challenged but never overwhelmed.

Some of the supposed benefits of gamification in education include fostering more engagement and motivation in students (Karagiorgas and Niemann 2017: 501), promoting student autonomy, creating a more relaxing frame of mind for the student to learn (Bhargava and Demkah 2019: 170-171), and eliciting desirable behavioural change (Nah et al 2013: 99). When it comes to gamification's effect on language learning specifically, studies have also shown positive results, such as accelerated learning (Hacı et al. 2016: 675), improved results (Arifin et al. 2017: 66), and facilitating a good cooperative environment for learning (Nikulchev et al. 2015: 76). Particular emphasis has been put on motivation and engagement when applying gamification in schools (e.g. Chapman and Rich 2018; Huang and Soman 2013; Botički et al. 2018). The general idea is that since games have an enthralling quality to them that engages the audience, therefore that level of engagement would extend to school work if elements from games were properly utilised.

Analysing gamification's effect on student engagement is the aim of this thesis and while this thesis did not measure students' level of motivation, it is still an important topic to cover due to how it factors into engagement. For instance, it has been claimed that strong intrinsic motivation can lead to high task engagement and that the combination of the two will ultimately facilitate a successful learning experience (Alsawaier 2017: 62). In addition, motivation is a factor in many studies concerning gamification, making it an important subject to discuss.

Motivation is difficult to define, as the term can be used depending on context and environment to describe a broad spectrum of human behaviour. Earlier studies on the subject of gamification and its effect on student motivation have defined motivation, specifically in the context of education, as an important incentive for learning and that it "is used to explain the attention and effort students dedicate to particular learning activities" (Buckley and Doyle 2016: 1164). Prior research has also suggested that games and "gameful experiences"

are intrinsically interesting (Hamari and Koivisto 2014: 180) and therefore should be more motivating for students. Deterding et al. explained the motivating effects of gamification accordingly:

> […] since video games are designed with the primary purpose of entertainment, and since they can demonstrably motivate users to engage with them with unparalleled intensity and duration, game elements should be able to make other, non-game products and services more enjoyable and engaging as well. (Deterding et al 2011: 2)

It therefore stands to reason that gamified activities should be more motivating for students to engage in.

However, even though prior studies have yielded positive results in regard to gamification's effect on motivation (Buckley and Doyle 2016), studies have also shown that the intrinsic motivation of the participants is highly individual and can vary greatly from person to person (Van Roy and Zaman 2018: 290). Due to motivation being conceptualised as an "internal, personal perception", earlier studies have also relied on students' own self-report evaluations of their level of motivation rather than analysing outcomes such as student grades, with some believing the former to be more effective in finding out why gamification either does or does not affect motivation (Chapman and Rich 2018: 318).

Defining engagement is another topic of heated debate. One example would be from Asbell-Clarke et al., who have defined engagement as "the simultaneous occurrence of elevated concentration, interest, and enjoyment" (2016: 172). This thesis, however, relies heavily on the definition recommended by Raed S. Alsawaier (2017), originally coined by Phillip C. Schlechty. While engagement has been equated with time spent on a task, this definition states that while time on task is a factor in engagement, it is the "enthusiasm and diligence" while doing said task that reveals true engagement (Schlechty 2001: 64). In that sense, engagement is like motivation in that it is difficult to quantify. Once again, engagement being more of an internal perception, it would be preferable for participants to self-reflect rather than base the level of engagement on some kind of physical outcomes.

Engagement has also been characterised as crucial when it comes to schoolwork. Huang and Soman state that the lack of engagement and general boredom are considerable contributors to drop-outs and underperforming students in school, presenting motivation and engagement as "prerequisites for the completion of a task or encouragement of a specific behaviour" (2013: 5). The study by Botički et al. (2018: 455) found a link between engagement and challenge, at least within a primary school context, concluding that sufficient challenge was needed to maintain engagement, but warning that excessive difficulty would lead to decrease in performance due to frustration. Gamification's positive effect on student engagement would therefore be a substantial benefit for schools, at least in theory. Since this thesis is relatively limited in its scope, no major generalisations about gamification and its effect on student engagement can be made. However, since the sample consists of younger students in their early teens – a fairly underexplored demographic within the context of gamification, not only in Estonia but worldwide (Buckley and Doyle 2016) – the results can still shed some light on what could be expected from younger generation of students and could perhaps inspire further research in this field.

While the use of gamification comes with its share of purported advantages within a school setting, there are some disadvantages to consider as well. For instance, it has been stated that once the novelty of gamification wears off, the positive effects it has on subjects will consequently fade (Hamari and Koivisto 2014: 181). This would suggest that elements of gamification should perhaps be introduced in smaller doses and not over extended periods of time. Furthermore, Hamari and Koivisto (2014: 183) state that their findings imply that younger people are initially more impressed with playful interactions but also faster to tire of them after the novelty wears off. However, this position has also been argued against. For example, in their study on motivational effects over time, Van Roy and Zaman (2018: 293) claimed that they did not experience diminishing returns in regards to motivation, arguing

that "only motivational levels that increased in the first part of the semester and decreased in the second part could be an indicator of such an effect", making the presence of a novelty effect unlikely as this was not the case in their study. This seems to indicate a need for further research into the longevity of gamification's appeal with students.

Another potential problem with gamification is that since the learning process is compulsory, an important aspect of games is lost, which is freedom and choice. As Lee and Hammer (2011) and Botički et al. (2018) have clarified, players engage with games voluntarily – a major part of what makes them enjoyable – and by making the game mandatory, it might become indistinguishable from regular school work. Once again, this could mean that the beneficial effects of gamification would dissipate, considering that the mere presence of game elements in schoolwork does not guarantee engagement on the behalf of students.

As was pointed out earlier, it has been suggested that the use of reward-based elements such as badges or achievements might actually backfire and harm motivation. As Fox and Hanus (2015: 154) have pointed out, when presented with a tangible reward it might obscure a student's genuine interest in the subject in favour of focusing solely on the reward itself. This could lead to decreasing intrinsic motivation in students who were already interested in the subject. Similarly, elements like global leaderboards might put needless pressure on students to succeed, once again harming motivation and subsequently their engagement. All of these negatives should be considered, but not allowed to discourage educators from considering gamification. As Lee and Hammer (2011: 4) conclude: "Some gamification projects will succeed, and others will fail. Gamification is not a universal panacea."

One issue, unrelated to the effectiveness of gamification itself, is the current lack of studies analysing the effects of gamification in younger students, especially when using

digital tools. While the general volume of research has greatly increased over the course of the last decade, a lot of research into the topic of gamification has been conducted with adult learners, mostly university students (e.g. Domínguez et al. 2013; Fox and Hanus 2015). The effects of gamification on elementary and especially secondary school learners might therefore seem less apparent, even though students of that age could greatly benefit from increased engagement. However, this does not mean research on the topic is completely absent. A fairly recent study by Botički et al. (2018) – which has also served as a source of inspiration for this thesis – analysed the effects of different types of gamification on second to third grade students using digital teaching tools. The types of gamification were competitive gamification, which saw students go up against one another; adaptive gamification, where students were essentially competing against themselves with the help of an adaptive algorithm; and collaborative gamification, where students working together was encouraged over them individually trying to win against each other (Botički et al. 2018: 447-450). Based on the results, the adaptive type yielded the most significant increase in performance. The results from the collaborative type, however, were very mixed, indicating a need for further research into gamification using collaborative elements (Botički et al. 2018: 454). The lack of research on younger students was also highlighted in the study.

1.3. Elements of the gamified activity

In order to answer the research questions posed in this thesis – does using a gamified activity lead to increased engagement in students and how different game elements affect engagement – a gamified activity was created which incorporates various elements related to gamification. These elements will be outlined here along with rationalisation for their inclusion, as well as other factors that inspired the creation of the activity.

One major game element employed in the gamified activity is the use of points. As mentioned earlier, earning points for completing tasks or clearing obstacles is one of several highlighted feedback systems that are recognised as being used in gamified settings (e.g. Kim 2015; Nah et al. 2013; Buckley and Doyle 2016). In a school setting, this would mean earning points or rewards for successfully completing tasks, answering questions correctly, and other similar accomplishments. Points have been categorised as a "self-element" by Huang and Soman, meaning an element that gets students to "focus on competing with themselves and recognizing self-achievement" (2013: 13). Furthermore, in Read and Reeves' *Ten Ingredients of Great Games* (2010) one of said ingredients is proper feedback, something a scoring system would adequately provide. A review of gamification elements and their impact by Noor et al. (2018: 42) found that the points and rewards element is one of the most applied elements in studies concerning gamification. Despite being one of the most basic and commonly utilised game elements in non-game contexts, however, the potency of the effect points have on students is still slightly unclear. A study by Brühmann et al. (2013: 70) found that while the inclusion of gamification elements such as points and leaderboards seemingly had a positive effect on performance from students, feedback from the participants revealed no discernible effect on "intrinsic motivation or need satisfaction". It was also assumed from the feedback that, contrary to prior belief, points were not considered proper informational feedback as participants apparently did not experience an increased feeling of competence from the gamified experience. All of this points to the conclusion that while scoring systems are popular, likely because they are easy to implement, they do not seem to have a considerable effect on students.

The inclusion of time constraints is another element featured prominently in the gamified activity created for this thesis. Similarly to points, time pressure has been categorised as a "self-element" (Huang and Soman 2013: 13) and highlighted by Read and

Reeves (2010) as an element of great games. Time pressure in this context does not necessarily mean that a great game explicitly requires the inclusion of a time limit, but rather that a great game requires players to make constant, quick, moment-to-moment decisions. In a classroom setting this might increase engagement with the activity as it applies constant pressure on students but it may also demoralise those who do not handle this kind of pressure well. Botički et al.'s (2018: 455) study adopted an algorithm that dynamically modified time limits based on students' performance, which could lead to extremely short time limits some students were unable to cope with. Once the algorithm allowed for more time, the students who had given up due to the pressure became engaged once again, showing the need for a delicate balance when including time constraints within one's gamified activity. In other words, challenge coupled with time pressure is an important aspect of gamification (Nah et al. 2013: 103), but an overwhelming challenge can rapidly decrease student motivation. The inclusion of time constraints in one's gamified activity must therefore be considered carefully before implementation.

The gamified activity used in this study also prominently features social elements, specifically cooperation. The primary rationale for cooperation being introduced into the gamified activity is the fact that the presence of social elements is recognised as an element of gamification (Bhargava and Demkah 2019; Nah et al. 2013) and it has a supposedly positive effect on participants (Redondo et al. 2013: 352). In fact, some studies have shown that students who are less socially engaged with others benefit less from gamification (Baydas and Cicek 2019: 282), highlighting the need for the inclusion of social elements. In addition, cooperative elements have shown to improve language learning with gamified activities (Nikulchev et al. 2015: 76).

A report regarding the Children's Advisory Panel (CAP) by the Telia Company (2019) on the subject of young people and gaming also influenced on the decision to make

the activity computer-based. 700 twelve-year-old children took part in the project and it was found that 82% of the sampled children played games on the internet and 26% played them daily (Telia Company 2019: 33). While those same results showed that boys were more interested in playing games than girls, the report definitely shows a clear general interest in games when it comes to younger people, so utilising a fairly mundane exercise presented as a game could yield favourable results with that age group. According to the report, young people also highly value the positive effects of gaming, such as learning new skills (e.g. learning English or improving ones thinking), communicating with other players, and just being a relaxing experience (Telia Company 2019: 42). If children of that age have a positive outlook on games, it could potentially extend to gamified activities in educational settings.

2. ENGAGING STUDENTS WITH A GAMIFIED ACTIVITY

For the purpose of this thesis – to analyse whether gamification has a positive effect on engagement in younger students and how certain game elements affect engagement – I have created a gamified activity to be utilised in a classroom setting. Using the software GameMaker: Studio and following the principles of gamification, I have essentially taken a fill-in-the-gaps exercise, similar to those that could be found in standard EFL workbooks, and turned it into a gamified activity to be used on a computer. It was made with the intent of practising English phrasal verbs and it is presented as a kind of computer game, with several gamification elements being incorporated into its design. In order to gather feedback on the activity, a questionnaire and group interviews with students were utilised. The questionnaire was chosen because it had been used in prior studies on gamification and provided structure to the feedback. Group interviews were conducted at the same time that students were filling out the questionnaire. This was done in order to guarantee the young participants fully understood the questionnaire and to ensure they took it seriously. The group interviews provided additional insight and allowed the students to expand upon the ideas from the questionnaire and even provide some of their own.

2.1. Language Focus: Phrasal Verbs

The gamified activity created for this thesis uses phrasal verbs as its language focus. Phrasal verbs were chosen as the topic because of their suitability to be utilised in a fill-in-the-gaps exercise and the presumed difficulty students have with them.

Phrasal verbs have been characterised as relatively difficult for English as a Second Language (ESL) or English as a Foreign Language (EFL) learners, purportedly due to their high frequency in the language and the uniqueness of both their structural and semantic usage patterns (Liu and Myers 2018: 2). This includes their sometimes unclear meanings

and idiomatic uses (Ryoo 2013: 65). The influence of one's native language is one of the potential factors affecting the use of phrasal verbs in English. Hebrew students, for instance, were found to deliberately avoid using English phrasal verbs, presumably due to the absence of phrasal verbs in their native language (Dagut and Laufer 1985: 77-78). This seems to be a pattern with students' whose native language lacks phrasal verbs, such as with French-speaking students (Gilquin 2014: 81).

The topic of phrasal verbs has also been covered relatively recently by Sandra-Leele Toom (2020) in her BA thesis defended at the Department of English Studies at the University of Tartu entitled *The Use of Phrasal Verbs by Estonian EFL Learners: A Corpus-Based Study*. While she similarly highlights the difficulty of learning English phrasal verbs, she also points out how there is little research on the use of phrasal verbs by Estonian EFL learners when compared to their non-Estonian counterparts (Toom 2020: 11). Her thesis aimed to address that shortcoming by analysing different aspects of phrasal verb usage by Estonian EFL learners. Relevant to the current thesis was the finding that Estonians tend to underuse English phrasal verbs, especially when compared to native speakers (Toom 2020: 28). Taking all of these factors into consideration, learning phrasal verbs is a potential challenge for EFL learners and challenge is something gamification regularly incorporates.

When choosing the phrasal verbs to be utilised in the gamified activity, the national curriculum was consulted for inspiration, with the target audience of 6th grade students being kept in mind. Since the national curriculum requires 6th grade students to ultimately be proficient in A2.2 level English vocabulary (Vabariigi valitsus 2011: 9), phrasal verbs utilising A2 level words were deemed appropriate to use. This should theoretically make the gamified activity challenging enough for the students without overwhelming them. The phrasal verbs used in the gamified activity are therefore based on the Cambridge English KET (Key English Test) Vocabulary List (2012) meant for A2 level students (see Appendix

1 for the list of phrasal verbs used in the study), which was seen as suitably challenging. Although this activity is currently designed around English phrasal verbs, it is possible to modify it to fit any other topic where a gap filling exercise is applicable.

2.2. The design of the gamified activity

The design of the gamified activity includes the following three gamification element.

1) The first element featured in the activity is the scoring system – users are rewarded points after filling in a gap correctly, the number of points being based on how quickly the correct answer was entered and how many mistakes were made prior. Users are given a total of four chances to enter the correct answer and should they answer incorrectly the fourth time, they are presented with the correct answer, receive no points at all, and move on to the next sentence. After all 15 gaps have been completed, users are rewarded with a final score. While the scoring system in the gamified activity designed for this thesis is somewhat arbitrary in a broad sense, as it does not factor into the students' school lives beyond the single time they are exposed to it, the dynamic system of giving them more or less points based on their performance gives them adequate feedback in the moment of doing the activity – something they would not experience simply writing in a paper workbook.

2) The second element featured, as already alluded to, is that the activity is time-based. A countdown visualised as a white bar being depleted in the lowermost part of the screen is present during every sentence (see Figure 1). The less time users have left when they enter the correct answer, the less points they receive. Should time run out, events will play out the same as when four incorrect responses have been entered and simply show the correct answer and move on

with no points rewarded.

3) The final gamification element is the inclusion of social elements. In the activity utilised in this thesis, the students will not be competing with each other but cooperating. As the activity has no online capabilities, which would have enabled students to cooperate from separate computers, the multiplayer experience is limited to local offline use. Students have to share a computer and use their respective side of the keyboard to choose from a selection of four words each. After both have selected a word, the combination of the two words will form a phrasal verb. Students are encouraged to discuss which words to select to create the correct phrasal verb for filling in the gap. It is of course technically possible to complete the activity by oneself, as there is nothing stopping the student from hitting the buttons on the keyboard alone, but for the purpose of this thesis, cooperation was made compulsory.

The basic structure of the activity is as follows: a sentence with a missing phrasal verb is given and, using two separate sets of words, students will have to work together and combine the correct words in order to fill in the gap with the appropriate phrasal verb before time runs out (as can be seen in Figure 1). The time limit is approximately 38 seconds.
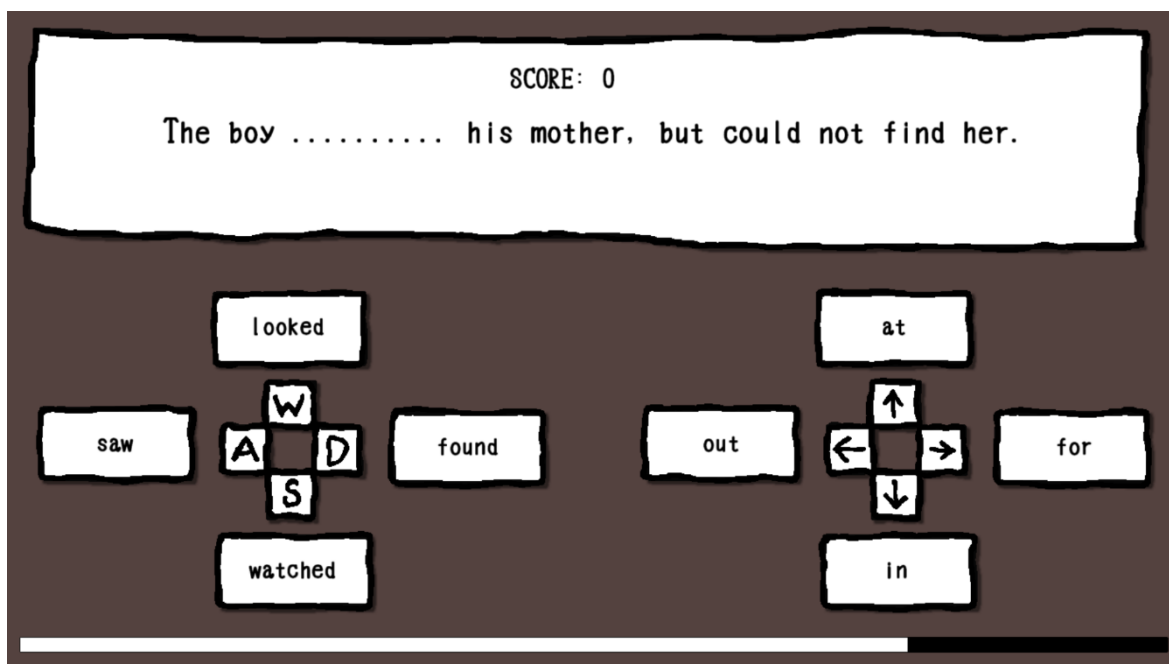
Figure 1. Screenshot of the Activity

There are 15 sentences in total (Appendix 2). The title screen has three options: the option
to start the activity, to exit to desktop, and to view simple instructions (as seen in Figure 2
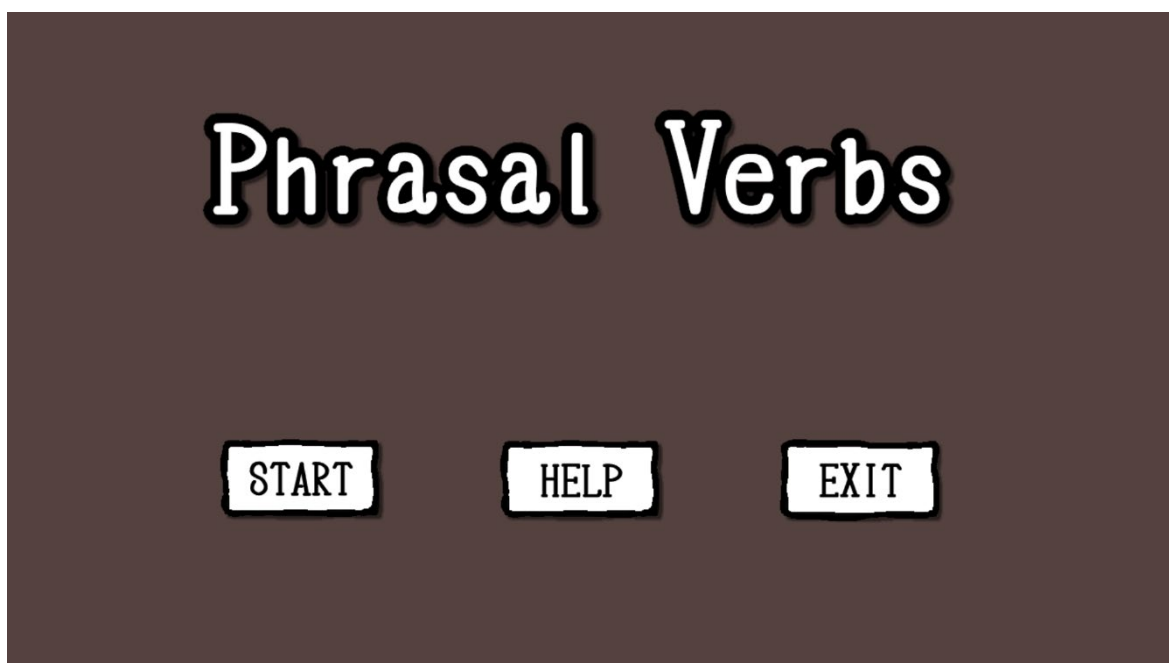and Figure 3).

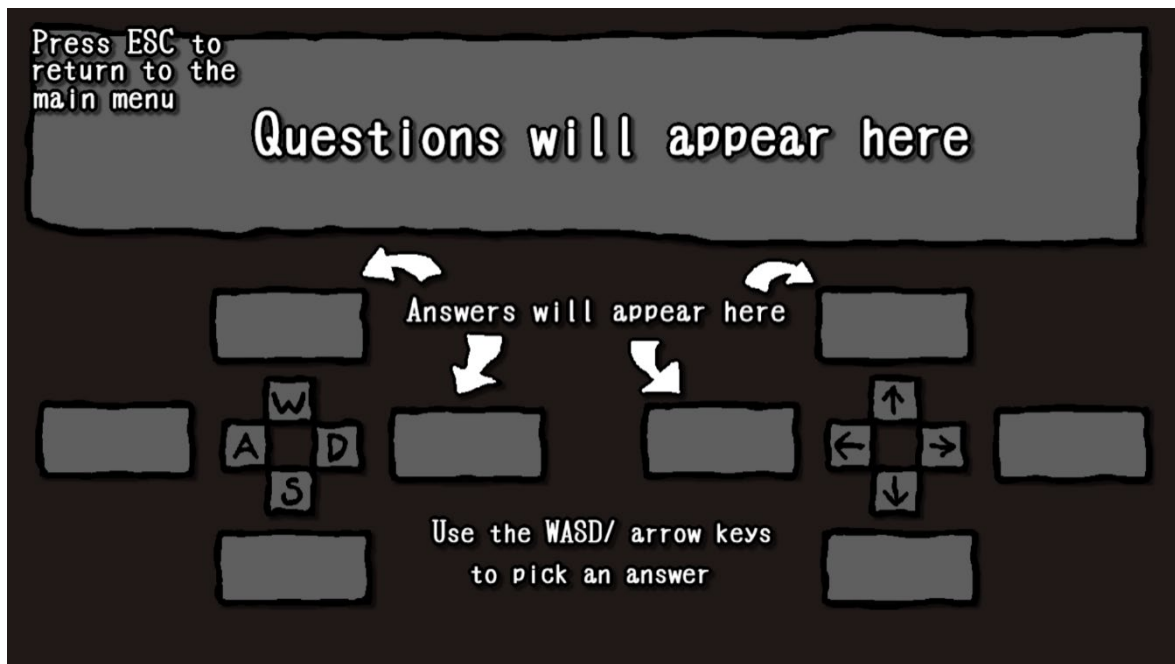Figure 2. Screenshot of the Title Screen

Figure 3. Screenshot of the Instructions.

A preliminary version of this activity was piloted with four 7th grade students at Tartu Hansa School in December 2019 in order to get feedback on the activity itself. The feedback was mostly positive, but led to a couple of alterations. Firstly, two sentences presented in the activity were edited due to those sentences being somewhat too ambiguous for the students to fill in the gap. Secondly, the time limit for each question was also changed to be slightly stricter since all four participants in the pilot felt that the timer was too slow.

To evaluate the students' attitude towards the gamified activity and to assess the effect it had had on their engagement, a combination of a questionnaire (Appendix 3) and group interviews was used as the method for gathering feedback. Two prior studies influenced the choice of the questionnaire in this thesis. The questionnaire was inspired by the one used in Domínguez et al.'s *Gamifying Learning Experiences: Practical Implications and Outcomes* (2013), which was in turn inspired by a previous similar study, *VisualJVM: A Visual Tool for Teaching Java Technology* (Abenza et al. 2008). The questionnaire used in this thesis, like in the two aforementioned studies, is comprised of 10 statements designed for the measurement and evaluation of the participants' attitudes towards the gamified activity and their level of satisfaction. The questionnaire is based on a five-point Likert-

scale, where all the sentences score on a positive scale. To ensure that the Estonian-speaking students fully comprehend the questionnaire, it was translated into Estonian.

Some of the questions were merely translated into Estonian with minor alterations, while others had to be discarded, as they did not make sense within the context of this thesis. For example, the statement "There was a sufficient amount of exercises" had to be changed to "There was a sufficient number of questions" as the activity used in this thesis did not consist of multiple exercises. For the same reason the statement "The proposed practical activities were useful" was changed to "Using the learning tool was useful for me" since the former was again not applicable. The statement "I would like to learn more about the course topic" was discarded for this thesis. It was replaced with "I would like to do exercises in this format in the future" which is more relevant for the aim of this thesis.

The additional method, group interviews, was utilised due to how young the participants were and there were concerns that they might either half-heartedly fill out the questionnaire or not fully comprehend what is expected from them. For this reason group interviews were combined with the questionnaire. This meant that each individual statement would be discussed and further specifying questions were asked from the students while they were filling out the questionnaire. This was done in order to encourage further conversation and to gain additional insight. The idea to use group interviews with young students was influenced by Botički et al.'s study *Examining Competitive, Collaborative and Adaptive Gamification in Young Learners' Math Learning* (2018) as comparatively little research has been done with an age group that young and they specifically utilised interviews with the second grade students they chose as their sample. Group interviews were chosen over individual interviews for two reasons: the obvious reason was to save time and the other was for the students to feel more comfortable during the interview due to the presence of fellow classmates, which could also lead to them expanding on each other's ideas.

2.3. Participants and Procedure

16 students participated in the study. They were sampled from two different 7th grade English groups in Kuressaare Gümnaasium. 14 students were from one group and 2 students were from another. The latter also had a different English teacher, who was not present during the activity. However, their proficiency in English seemed to be on the same level as the rest of the students. The study was initially planned to take place while the students were still in 6th grade but due to Kuressaare Gümnaasium closing because of the 2020 COVID-19 pandemic before the study could be carried out, the participants graduated to 7th grade before they could try the gamified activity. Since the gamified activity was already complete and the study was conducted early in the school year, reworking the activity or arranging another group of students was seen as unnecessary. The students' age ranged from 12-14 years. This age group was chosen due to the fact that most studies conducted on gamification's effect on engagement have been done using young adults or adults as participants. Due to their age, students were handed consent forms for their parents to sign, with the students themselves, of course, also having to agree to participate. The teacher of one group was involved in the process as well, acting as an observer and later giving her views on the gamified activity and her opinion on its success. The inclusion of the teacher was to provide a more objective and adult perspective, to contrast it with the opinions of the students and see whether there was any disagreement between the two.

The study took place on October 6, 2020. Students were seated in a computer classroom with each computer being shared by a pair of students. The students were allowed to form the pairs themselves. After having the design of the activity explained to them and being encouraged to view the instructions within the activity, each pair clicked the start button and began doing the activity. The activity took approximately 7-10 minutes for the

students to complete. During this the teacher observed the proceedings.

Having completed all 15 sentences, students returned to their regular classrooms with groups of four being sent to participate in the group interviews. These groups were formed randomly, simply combining pairs that were sitting close to each other during the activity. There were four of these groups in total. Before each interview, the students were handed the questionnaire with the 10 statements and were given a short explanation of the procedure. Each statement was clarified for the students to make sure they understood what was wanted from them and subsequently discussed. Additional questions were asked in order to gauge their opinion of gamification's effectiveness. After the discussion on one particular statement had concluded, students would fill in the questionnaire and move on to the next statement. Once all 10 statements had been discussed and the questionnaire filled in, students were given the ability to give additional feedback. Once one group was finished, students were thanked for their time and the teacher was notified via text message to send in the next group. Interviews took approximately 15 minutes each. Once all group interviews were done and lessons were over, a short interview was conducted with the teacher who had observed the process, with her perception of the students' engagement and the value of the activity being the primary subjects of discussion.

The audio of the group interviews with the students was recorded with a mobile phone in the interest of saving time. Students knew beforehand that they were being recorded and were given the opportunity to refuse, although all students consented. The recordings are kept on a personal computer, where they will be deleted after this thesis has been defended.

2.4. Results from the Questionnaire

The results from the questionnaire alone provided some insight into students'

response to the gamified activity. The questions and results, provided both in English and Estonian, are summarised in Figure 4. The results show a generally positive attitude towards the activity, with no student strongly disagreeing with any of the statements. Students' opinions about the 10 statements were expanded upon during the group interviews.
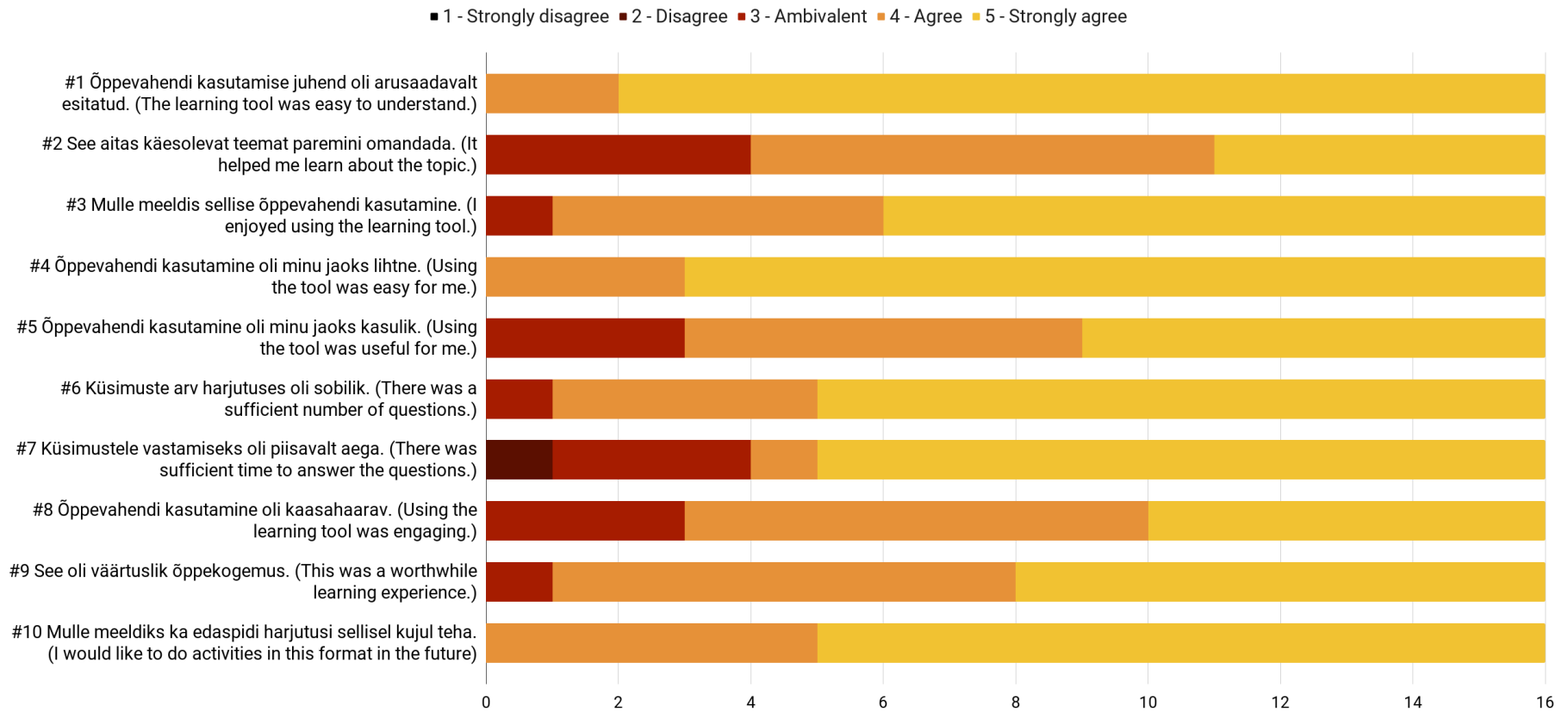
Figure 4. Answers to the Questionnaire

The highest rated items were numbers 1 and 4, which demonstrates that the students had no difficulty with participating in the activity. Another highly rated item was number 10, showing the students' interest in doing more activities in this gamified format in the future. Concerning students' enthusiasm and perceived worth of the activity, numbers 3 and 9 received a slightly lower albeit still largely positive score. The former indicating that students enjoyed participating in the activity and the latter showing that students found the overall experience to be worthwhile.

Items that received less positive feedback were numbers 5 and 8. The feedback on number 5 shows that students for the most part recognised the usefulness of the activity. Number 8 refers to students' level of engagement during the gamified activity, making it important feedback for the purpose of this thesis. Most students leaned towards positive with a few remaining ambivalent, indicating that students mostly found the activity to be engaging.

The items that received the least favourable feedback were numbers 2 and 7. Number 2 directly refers to students' learning, which indicates that students generally did not find the activity to be extremely helpful for the purpose of learning phrasal verbs. The results from number 7, the only item to receive outright negative feedback from one student, refers to the time limit of the activity. The less positive feedback shows that students were somewhat unsatisfied with the time limit, with it either being too fast or too slow, depending on the student.

While the score for each item did vary, none of the feedback could be interpreted as outright negative. In that respect, the activity proved successful. Students were offered a chance to elaborate on their opinion during the group interview conducted while they were filling out the questionnaire.

2.5. Results from the Interviews

2.5.1. Student Interviews

During the interview, students had the opportunity to provide additional feedback about their attitude and perception towards the gamified activity on each of the ten points laid out on the questionnaire. Additional questions and clarifications were given to ensure that the students fully understood what was being asked of them and to make the feedback as reliable as possible. Students were also allowed to give further feedback unrelated to the questionnaire or expand on any points made.

The first statement in the questionnaire – "The learning tool was easy to understand" – did not require much explanation. All groups were in agreement that the instructions were easy to understand and nobody had any difficulty with figuring out what they had to do. Students were additionally asked whether or not the in-game instructions alone would have sufficed, as they were also provided verbal instructions before starting. Students agreed that the in-game instructions alone would have been enough, even though they were only available in English. This was merely an introductory question to make sure that any of the following answers were not influenced by students not understanding the activity.

On the second statement – "It helped me learn about the topic" – students were first asked to recall whether or not they had previously covered the topic of phrasal verbs. Most students remembered having covered the topic in the 6th grade and also having revised it at the beginning of the 7th grade. In one group, a pair of students could not recall the topic, but when asked if they found the topic difficult, the vast majority of students responded in the negative, including the aforementioned pair, with only a couple of students finding phrasal verbs to be a slightly difficult topic. It was then that students were asked to consider if the gamified activity had helped them either understand the topic more thoroughly or if it helped them practice the usage of phrasal verbs. 12 out of 16 students found that since they did not

have any difficulties with understanding or using phrasal verbs prior to participating in the activity, it did not help them understand the topic more thoroughly than before. All students unanimously agreed, however, that in terms of practicing phrasal verbs, they found the activity useful. Students highlighted the instant feedback system which, combined with the cooperative element that enabled student pairs to discuss their mistakes, allowed them to learn from their mistakes and kept them interested in the activity. It should be noted that the feedback system students were referring to here was not the points system, but rather them getting instant feedback on whether their answer was correct or not.

When discussing the third point on the questionnaire – "I enjoyed using the learning tool" – all four groups referred to the gamified activity as 'fun' or 'interesting', the main point being that it was certainly not a boring activity despite essentially being an exercise students regularly encounter in workbooks. However, students were asked to consider if the novelty of the activity was a factor in their positive assessment of it. Two out of the four groups agreed that their enthusiasm for the activity might decrease over time should it become routine school work, although one student remarked that it would still be preferable to traditional workbook exercises. One group was more hesitant in their response, but still ultimately agreed that there is a possibility of the activity becoming mundane. In the last group, however, all four students dismissed the notion that they would eventually tire of the gamified activity, with one pair of students stating that as long as different topics were covered, the activity would not lose its appeal.

All four of the interviewed groups were in unanimous agreement that variation between traditional school work and gamified activities would most likely slow or prevent gamification becoming stale. It should be taken into consideration that the above is just the opinion of the students themselves. It cannot be stated with complete certainty whether these students would eventually tire of this type of gamified activity or not as they were only

exposed to it a single time, leaving out the possibility of exploring more long-term effects. Nevertheless, these findings should not be discarded either, just treated as the students' perception of their own enthusiasm and interest, and the possible decrease of both over time. Based on that, it can be concluded that a majority of the students perceived a possibility of gamification losing some of its perks – including increased engagement – over an extended period of time. However, students also seemed to believe that variation between regular school work and gamified activities would remedy this issue.

Students were also asked to give their opinion on the cooperative element of the gamified activity when discussing the third statement. Due to the activity's design necessitating students sharing a computer and, more importantly, a keyboard, the activity could essentially be managed alone. While keeping this in mind, students were asked to consider whether the cooperative aspect of the activity ultimately made a difference. Three groups stated that, in addition to being more fun, the cooperative aspect helped them discuss each individual question more thoroughly and believed it enhanced the activity as a result. The ability to discuss the questions, the students believed, made them more confident in their answers and helped them work out any difficulties they were presented with. The only explicit drawback mentioned by the students was that the activity only works as a cooperative experience if the two students really do work together, something that is not guaranteed. The students brought up the possibility of one student simply doing all the work while the other contributes nothing, nullifying any possible benefits of the cooperative aspect of the activity. This was not so much a critique of introducing social elements into a gamified activity but rather a flaw with this specific activity itself, as it relies heavily on pairs being somewhat equally proficient in English and willing to cooperate with one another.

One group, however, was not as enthusiastic about the cooperative aspect of the activity. One pair stated that they would have outright preferred working individually as they

did not discuss the answers with each other at all and just entered the correct answers without talking. The other pair similarly expressed that while they found it more fun to work together, they did not believe it made any difference in terms of increasing their engagement with the activity or improving their results. Still, the majority found that cooperation enhanced their learning experience and found it preferable and more effective than working individually, showing that the cooperative aspect of the activity had a positive effect both on engagement and the learning experience itself.

The discussions related to the next three statements – "Using the tool was easy for me"; "Using the tool was useful for me"; "There was a sufficient number of questions" – added little that was not discussed previously. Students mostly repeated sentiments they already expressed during prior discussions. None of the students had issues with using the computer for the activity as they use computers in daily life and did not have anything else to add during the interview. Similarly, none of the students felt that there were too many or too few questions. When asked to consider the activity's usefulness, students repeated sentiments expressed for the second statement ("It helped me learn about this topic"), such as them already finding the topic of phrasal verbs easy and therefore not needing to practice much. One student, however, added that a longer-term use of the activity to learn new topics would raise the usefulness of it. That aside, the general opinion from the students was that the gamified activity was somewhat useful for them, if only to get some additional practice.

The seventh statement – "There was sufficient time to answer the questions" – deals with the gamification element of time-based challenges. The students were informed that the activity had been piloted with another class before and that the time limit was subsequently tweaked to be slightly faster. The students were then asked to give their opinion on the presence of a time limit itself and if they felt the time limit was of appropriate length.

The feedback was mixed. While most students agreed that there was enough time to

answer the questions, a number of them seemed to prefer more lenient time limits. One student argued that from their perspective a slower time limit helps them learn more since there is more time to discuss with one's partner. In fact, one particular pair of students noted that the time limit negatively impacted the cooperative aspect for them since they felt too pressured to discuss the questions and therefore simply entered the answers they thought correct without consulting one another, feeling that the time limit should be further extended by 3-4 seconds.

For some students, reading the questions and all possible answers took too long for them and consequently left them with little time to actually enter their answers. This was especially bothersome if the students entered incorrect answers more than once and time suddenly ran out. An option to read the question first without the time limit and manually continuing to the answering phase of the question would perhaps alleviate this. Only one pair of students felt that the time limit was not strict enough. According to their English teacher, these two students are quite proficient in English, which would explain the reason for their assessment.

The eighth statement – "Using the learning tool was engaging" – was difficult for the students themselves to assess. Evaluating one's level of engagement at such a young age seemed to be challenging for them. The students were asked simpler questions to help them think of an answer. The topic of discussion which yielded the most results was about how focused the students felt during the activity. The majority of students indicated that they were focused throughout the entire activity, with one pair being the exception. In all four groups, comparisons with workbook exercises were made, where students claimed to feel more drawn to the gamified activity by comparison. Students would sometimes experience mind-wandering with generic workbook fill-in-the-gaps exercises, while this did not occur with the gamified activity. Even the aforementioned pair of students who found the activity

less engaging than others still agreed that the gamified activity was more interesting for them when compared to regular workbook exercises. This might be related to the novelty effect discussed previously. However, due to the positive feedback received on the game elements utilised (time limit, teamwork), it could be reasoned that the gamification of a fill-in-the-gaps exercise made it more engaging for students.

The ninth statement – "This was a worthwhile learning experience" – was meant to conclude everything discussed up to that point. Students were asked to consider all prior points and summarise their feelings towards the gamified activity as a whole. While most students agreed that it was an interesting experience, half of the students felt that in the long-term, the activity probably did not have a very significant effect. As was expressed earlier, a longer-term usage of the gamified activity might have been seen as more worthwhile for the students. Because students only got to experience it a single time, it was difficult for them to assess its worth properly. Although the vast majority of students agreed that they did not regret participating and when asked if they thought there would have been absolutely no difference if they had not participated only one student agreed. Again, this might be due to the novelty effect, as students were more enthusiastic towards the variety the activity brought rather than the learning experience itself. Further research is required to ascertain whether or not this enthusiasm would erode as time went by.

The final statement – "I would like to do exercises in this format in the future" – was meant to gauge the students' interest in more gamified activities in school. The students were asked to both consider if they wanted to do more exercises in the form of the gamified activity designed for this thesis and if they would want to see more gamified activities introduced in general. The students answered affirmatively to both of these questions. When discussing the gamified activity created for the thesis, students expressed that they would be interested in seeing this activity used for topics other than phrasal verbs. Some of the students

asserted that gamified activities such as this one make learning more memorable. The reason for that being that since the activity is perceived as more interesting, the memories are that much stronger, with one student commenting on the difference between seeing a corrected mistake on a piece of paper and seeing the mistake instantly corrected in an activity they are involved in. The increased engagement caused by the gamification of exercises can therefore be said to help students learn better since it makes memorisation easier. Many students also explicitly showed interest in more activities using digital tools.

Additional feedback was given after the completion of the questionnaire. While the time limit and cooperative element yielded good results with the students, the points system did not really impact them at all. Multiple students expressed indifference towards its inclusion. One student felt that the number of points awarded was too high for each question (students could potentially earn 2000 points on each question if they simultaneously answered it correctly on their first try and answered quickly enough). The feedback system of simply confirming whether or not the answer entered by the students was correct and showing the correct answer after entering incorrect answers four times in a row was all the students seemed to need. The points system was therefore somewhat arbitrary, due to the fact that it appeared as just a random number by the end of the activity, with students possessing no frame of reference on what that number meant.

2.5.2. Teacher Interview

The teacher's function during the activity was to observe the students in order to give her personal assessment of the activity's effectiveness on them.

The first topic discussed with the teacher was student engagement and teamwork. As this topic was rather difficult for the students' themselves to discuss, the teacher's input on this was highly necessary. While the teacher observed one pair of students not taking the

activity seriously at all and occasionally inserting answers at random, she also noticed how quickly the rest became focused on the task they were given. Other students who had initially expressed disinterest or those who were dissatisfied with not being allowed to use the internet were quickly engaged in the activity once they figured out what to do. The teacher emphasised how diligently the students started working which she found interesting to observe. The cooperation between the pairs particularly stood out. The teacher remarked that normally when they visit the computer classroom every student works individually, but seeing students actually working in pairs was new and interesting for both her and seemingly the students. Contrary to what was discussed with the students, the teacher saw less proficient students working together with stronger students as a positive since the former could get some support from the latter. The cooperative aspect of the activity was therefore deemed beneficial by the teacher and, according to what she observed, the students were actively engaged with the activity.

Another topic covered was the activity's worth as a learning experience for the students, similar to how students were asked whether they found the experience to be a worthwhile or not. One drawback the teacher immediately noted was the points system discussed earlier. As was mentioned, the points were rather arbitrary and meaningless to the teacher. She could therefore not assess how well the students had managed with the activity. The activity therefore served more as a drilling exercise for students, an opportunity to practice a topic most of the students had recently revised in class. The sentences presented were simple enough in the teacher's opinion that no student should have had any trouble with them, and while the teacher could not evaluate the results of the activity, she thought all of the students managed to complete it successfully with the exception of the one disinterested pair of students. The activity was therefore found to be somewhat worthwhile, as the class had recently revisited the topic of phrasal verbs and they now had the opportunity

to practice them in a way that was more interesting.

The last topic discussed was the teacher's willingness to use this kind of gamified activity in the future. She stated her belief that the introduction of these kinds of game elements into schoolwork is attractive for children and that she has already utilised gamified activities of her own in the past. She highlighted the need to make these activities with specific classes in mind as the differences between students need to be taken into account. This point was also highlighted during the group interviews when discussing the time limit, considering the differing opinions on the topic. The teacher emphasised the importance of creativity needed to maintain student interest, so that even when the novelty wears off, the enthusiasm remains. However, the gamified activity made for this thesis is unique in the sense that it is unlikely that teachers use computer software to create their activity. Since it also requires knowledge of GameMaker: Studio to modify the activity, using this specific activity was not ideal for the teacher as it is quite inflexible without making adjustments first. Therefore, while the teacher was willing to incorporate gamification into her lesson plans, as she had already done so before, this particular gamified activity was not that suitable.

3. DISCUSSION

The questionnaire and the interviews with both the students and the teacher provided some interesting findings. To return to the first research question of the thesis – Does using a gamified activity to practice phrasal verbs increase engagement in younger students? – it must be restated that due to the limited scope of this thesis, broad generalisations cannot be made in good conscience. However, the positive feedback from the students during interviews concerning their engagement while doing the activity reinforces the idea that gamification utilised in a classroom setting leads to more engagement in students (Deterding et al. 2011: 4). Combining that with the observations from the teacher and the largely positive score on the questionnaire, it can be inferred that the gamified activity increased student engagement when working on an otherwise simplistic fill-in-the-gaps exercise. This ultimately confirms that the positive effect of gamification regarding heightened engagement, as has been observed in multiple previous studies (e.g. Asbell-Clarke et al. 2016; Baydas and Cicek 2019; Botički et al. 2018; Buckley and Doyle 2016), is applicable to this age group as well. Undoubtedly, further research into this age group is required for definitive answers, but the findings here could serve as a starting point for those who wish to continue studying this topic.

However, the group interviews also revealed that this increase in engagement could also potentially be temporary. The majority of students suspecting that their enthusiasm towards the activity would fade with time correlates with the findings of Hamari and Koivisto (2014) – that the novelty of gamification may wear off over the course of time. This, as has already been outlined, would negatively impact the perceived positive effects of gamification such as student engagement, particularly with younger users (Hamari and Koivisto 2014: 183). However, the one group of students whose answers suggested that the novelty of gamification diminishing over time would not have an effect on perceived

usefulness or enjoyment would be more in line with the findings of Van Roy and Zaman (2018). It should be noted that their study was conducted with participants who were over the age of 20. To reiterate, these were just the opinions of the students themselves, since it was not possible to actually observe the long-term effects. Further research could improve on this by observing the usage of similar activities over an extended period of time and noting the changes in student enthusiasm.

Students also provided valuable feedback concerning the second research question of this thesis – How did using points, time constraints, and cooperation affect younger students' engagement in a gamified activity practicing phrasal verbs?

Firstly, the utilisation of points has been shown in previous research not to have much of an impact on students in terms of engagement (Brühmann et al. 2013: 70). This was also the case with this particular activity, as giving feedback to students via points did not seem to have any positive or negative effect on their engagement. There is a likely chance that this was due to the underdeveloped nature of the points system itself in this particular activity, but it is possible that it is also a flaw with points systems in general. Conversely, the instant feedback of immediately showing whether or not students entered the right answer and then displaying the correct answer when four consecutive incorrect answers were entered, was liked by the students. As suggested by Read and Reeves (2010) this kind of quick feedback intrinsic to games should lead to an increase in engagement, which the student interviews seem to support. To return to the research question, however, points seemingly had no tangible effect on students' engagement. As points are a widely used element in studies concerning gamification (Noor et al. 2018: 42), further research is required to ascertain whether the lack of effect of using points was due to the flawed way it was implemented in this specific activity or if it is a general problem.

Feedback on the time limit also confirmed some findings from prior research. Too

strict a time limit could potentially demoralise students (Botički et al. 2018: 455), while too lenient a limit would nullify the challenge aspect that such a time limit is supposed to provide (Huang and Soman 2013: 13). For some of the students, the time limit seemed too strict and affected negatively their experience. This seems to be in line with prior findings about stricter time limits having an adverse effect on students and actually negatively impacting their engagement with the activity (Botički et al. 2018: 455) and that balancing an activity to be just challenging enough without overwhelming students is crucial (Asbell-Clarke et al. 2016). The time constraints also seemed to negatively impact the cooperative element of the activity, something which should be kept in mind in future research. Seeing as a couple of students found the time limit to be too long, perhaps an adaptive time limit, similar to the one used in Botički et al.'s study (2018) could be a solution to this. Most students generally seemed to agree that the slight pressure caused by the time limit kept them more focused on the task as it forced them to constantly pay attention. In this regard, the time limit served its purpose and made the gamified activity more engaging and interesting for the students, which is in line with the literature on the subject (Nah et al. 2013: 103).

Finally, discussing the cooperative element of the activity led to mostly positive feedback from the students. The feedback echoed the proposed benefits of social elements in games highlighted by Bhargava and Demkah (2019) and Nah et al. (2013), such as encouraging analysis and evaluation but also increasing the level of engagement in participants. Particularly, students pointed out how being able to discuss their answers enhanced the experience for them by making the activity more fun and interesting. This reflects how one of the purported advantages of gamification is that it engages people on a social level (Chapman and Rich 2018: 320). Cooperating also supposedly helped them answer questions with greater efficiency and accuracy.

Combining the above with the teacher's remarks on how diligently students

immediately started cooperating indicates that the social element was the most successful of the three elements in terms of engaging students during the activity. It should be noted that this sentiment was not shared by all students and that one group felt that the social aspect made no real impact, with two students outright preferring to work alone. These students therefore missed out on the benefits of cooperation, like higher order thinking (Bhargava and Demkah 2019: 171) or heightened engagement on a social level (Chapman and Rich 2018: 320). Baydas and Cicek (2019: 282) also claimed in their study that less social students benefit less from gamification. In order to verify how this could affect students over time, once again, a longitudinal study is required. It should also be mentioned that the success of the cooperative element with the other students could also have been influenced by students being allowed to form their own pairs. It can be assumed that students paired up with those who were already their friends, which could impact their cooperation. Perhaps a future study could include randomised pairs, picked by chance, in order to observe what kind of impact that would have on cooperation.

One failing of the cooperative aspect was that the language students were required to communicate with was not explicitly specified beforehand and therefore pairs communicating in English was not strictly enforced. While cooperative gamified activities have had positive effects on students communicating in the target language (Nikulchev et al. 2015), the results from this activity can neither confirm nor deny whether this was the case.

Overall, out of the three game elements utilised in this activity – points, time constraints, and cooperation – cooperation seemed to have the strongest effect on making the activity more engaging. It encouraged the students to evaluate their answers more carefully, and supposedly improving their performance. A few students, however, did not experience these benefits and would have allegedly been equally satisfied if the social cooperative element had been omitted. The time constraints had the effect of providing

students with a challenge to keep them focused and thereby engaging them. It also negatively impacted some students by making the process slightly too stressful, which in turn impacted the cooperative element. For one pair of student, the time limit was not strict enough, nullifying the challenge. The inclusion of points was considered the most superfluous element, having no real effect on the students. It should be highlighted that even with a small sample size of only 16 students, there were still major disagreements about the effectiveness of the game elements present in the activity. This is noteworthy as it shows that differences between students have to be taken into account also in gamification.

There were also a couple of other noteworthy findings. The students showing interest in more activities utilising digital tools could be tied to the report by the Telia Company concerning young people's interest in computer games (2009: 33). Presenting gamified activities on computers such as this one could therefore potentially lead to students being more involved with them. While it is unrealistic to assume that teachers should start designing their own gamified activities such as the one used in this thesis, it is still something to keep in mind. Activities that incorporate modern technology in some gamified fashion into the classroom would likely still be a welcome alternative, although once again, further research into the subject matter is required.

While phrasal verbs have been characterised as quite difficult for English as a Second Language or English as a Foreign Language learners (Liu 2018: 2), this did not seem to be the case with the participants in the present study. The reasons for this can only be speculated, but it is most likely due to the fact that they had recently revised the subject. It could also be due to the vocabulary used still being relatively simple (A2) and that difficulties could manifest later in the students' education. It should be noted that the research conducted into the difficulty of learning phrasal verbs has overwhelmingly been conducted with non-Estonian students, which could serve as an explanation as well.

One shortcoming of this study was the questionnaire. Statements 4-6 were too similar to other statements, leading to students not being able to add anything meaningful they had not expressed during previous points in the questionnaire. Perhaps the questionnaire should have been altered further to avoid such redundancies. While the scoring system was separately discussed, it should probably have been a separate statement on the questionnaire itself instead of some of the more superfluous statements.

Another possible drawback was doing group interviews with students rather than individual ones. While group interviews were chosen to save time, to possibly alleviate any anxiety students might be feeling, and to enable them to discuss ideas amongst themselves, there is a possibility that peer pressure could have affected the students' opinions. This was noticeable due to the fact that some groups were very uniform in their answers. Further research might consider doing individual interviews with students. However, it should be noted that students did expand on each other's ideas during group interviews, so this approach has its benefits as well.

Based on the feedback from the teacher and the students, there are a couple of changes that could be made to make this activity more effective. One is revamping the points system into something less arbitrary. Since this was the only element of gamification that did not have much impact on the students, there are ways to make it more engaging and easier to understand. Perhaps awarding certain badges, medals or in-game grades depending on one's score would give the points more weight. This would make the end result somewhat more easily quantifiable for the students and this way the bonus points that the students receive for answering fast and without mistakes remain relevant. Another solution is to simply remove the points system in favour of something like simply showing students a percentage of correct answers at the end or replacing the final score with a more detailed feedback at the end showing which questions students got right and how many times it took

them to do it. The next change would be to integrate a dynamic time limit that adapts to the students' speed. The faster the student is, the faster the timer counts down, and vice versa. While this is an imperfect solution, since it essentially punishes faster students, it would ensure that all of the students feel sufficiently challenged, without needlessly pressuring students who work slower. With these changes, the gamified activity could potentially be even more engaging for students.

For this thesis, the activity was used to help students practice a topic they had already covered several months prior and had then recently revised. There are, however, other ways a teacher, proficient in the use of GameMaker: Studio, could integrate this activity into their lesson plan. For example, rather than utilising the activity after students have already learned everything about a given topic, it could be used as a memorable introduction. The group interviews revealed that students found the gamified activity more memorable than standard exercises. Students could therefore be presented with the activity after their first exposure to a new topic. Later, students could do the activity once more to see what they have learned and how much they have improved. As long-term use was something that was suggested by students during the interview, this is one possible way of doing that. The activity could also be used as an alternate way of testing students. Since it is entirely possible to do the activity individually, it could be modified to grade the students at the end. This would require minor adjustments, such as removing the time limit on each question, as there is enough pressure when the work affects the student's grade. It is also possible to make the activity more competitive. The teacher could have the students compete with each other by trying to see who can score the most points. Like mentioned above, a teacher needs to be creative and there are several ways to utilise this fairly simple activity, provided a few modifications are made.

CONCLUSION

Gamification is one of the many proposed solutions to the serious problem in schools worldwide: the lack of engagement from students. Lack of engagement has shown to be a contributing factor to drop-outs and underperforming students (Huang and Soman 2013: 5) and is therefore a vitally important issue to tackle. Previous research on the subject of gamification has shown that inserting the various game elements intrinsic to it into education should lead to heightened engagement in students (Karagiorgas and Niemann 2017: 501) and a better learning environment (Bhargava and Demkah 2019: 170-171). However, research into gamification and its effect on the engagement of younger students, particularly in their early teens, seems to be in the minority, especially in Estonia. The aim of this thesis was to examine whether a gamified activity to practice phrasal verbs would lead to heightened engagement in younger students and to analyse how three game elements – points, time constraints, and cooperation – affected the engagement of these students.

The first chapter defined and explained the origins and evolution of the term gamification and outlined the elements considered intrinsic to it. It then contrasted gamification with the term game-based learning (GBL) and argued how the gamified activity created for this thesis falls into the category of gamification rather than GBL. The chapter then detailed gamification's role in education, highlighting its benefits, drawbacks, and what to consider when implementing it. Literature on the subject of gamification in education was also analysed. Among other things, it detailed how technology and games have become more prevalent in the lives of younger people. Lastly, the chapter focused on three game elements analysed in this thesis: points, time constraints, and cooperation.

The second chapter introduced the design of the gamified activity created for this thesis and showed the results of the small-scale study. Students were presented with a gamified activity to practice phrasal verbs and were later asked to share their thoughts

concerning their experience with the activity. The gamified activity itself was a gamified version of a standard fill-in the gaps exercise that could commonly be found in EFL workbooks. The activity utilised three game elements: points, time constraints, and cooperation. In addition, the activity was presented on a computer, making it reminiscent of a computer game. Feedback was gathered through a combination of using a questionnaire and conducting group interviews simultaneously. Additionally, a teacher who observed the students while they were engaged with the gamified activity was subsequently interviewed to get data from a more adult, objective perspective.

The discussion analysed the results gathered from the questionnaire and interviews in the context of the literature reviewed for the thesis. It was found that students seemed to benefit from heightened engagement based on the responses from the students and the teacher, which seemed to be in line with the literature on the subject (Deterding et al. 2011: 4). Of the three game elements incorporated into the activity, it was found that cooperation had the strongest effect on student engagement. It enabled most students to discuss their answers, made them perceive the activity as more enjoyable, and supposedly answer questions with greater accuracy. The element of time constraints had a less prominent effect on engagement. While the slight pressure it added did encourage students to focus more, it also hampered the experience for some students by making the experience too stressful. The aforementioned stress also negatively impacted cooperation as some students felt they did not have enough time to consult their partner. Lastly, points did not seem to have any real effect on the students, positive or negative. This could have been due to the points system in this particular activity not being well implemented. In the end, it was pointed out that broad generalisations could not credibly be made as the study was fairly limited in its scope (small sample size, short-term study) and relied heavily on the self-reflection of students in their early teens. Further research into this age group is therefore called for.

The study also provided findings unrelated to the research questions. One such finding was that students seemed to respond positively to the activity's presentation as some kind of a computer game. This would be in line with the trend that technology and games are becoming a more ever-present facet of young peoples' lives. Gamified activities using digital tools could therefore be appealing to younger students.

While phrasal verbs have been characterised as a difficult topic for ESL or EFL students, this did not seem to be the case with the students interviewed for this thesis, as none of them found the topic to be difficult. This could have been due to the students having recently revised the topic, the vocabulary used being rather easy, or the fact that previous studies on the topic of phrasal verbs has largely been conducted with non-Estonian speaking students.

The study is lacking in a few areas and can be improved upon. These improvements include: modifying the points system of the activity to be less arbitrary, creating a dynamic time limit that changes depending on the student's skill level, making changes to the questionnaire to better fit the aims of the thesis, conducting a longitudinal study and including topics other than phrasal verbs, strictly enforcing that students communicate in English, and having student pairs be assigned randomly.

Even with a sample size as small as 16 students, significant differences in opinion towards the implementation of the game elements could be observed. This demonstrated that there really is not a single universally applicable method when it comes to gamifying schoolwork. It is important to keep in mind that different students and classes require different approaches and not all of these approaches will work in the end. To reiterate the quote by Lee and Hammer (2011: 4): "Some gamification projects will succeed, and others will fail. Gamification is not a universal panacea."

REFERENCES

Abenza, Pedro Pablo Garrido, Angel Grediaga Olivo, and Bernardo Ledesma Latorre. 2008. VisualJVM: A Visual Tool for Teaching Java Technology. *IEEE Transactions on Education*, 51: 1: 86-92.

Al-Azawi, Rula, Fatma Al-Faliti, and Mazin Al-Blushi. 2016. Educational Gamification vs. Game Based Learning: Comparative Study. *International Journal of Innovation, Management and Technology*, 7:4, 132-136

Alsawaier, Raed S. 2018. The effect of gamification on motivation and engagement. *The International Journal of Information and Learning Technology*, 35: 1, 56-79.

Alvarez, Julian, Damien Djaouti, and Jean-Pierre Jessel. 2011. Classifying Serious Games: the G/P/S model. In Patrick Felicia (ed). *Handbook of research on improving learning and motivation through educational games: Multidisciplinary approaches*, 118-136. IGI Global.

Arifin, Yulyani, Dicky Rawendy, Kelly Rosaline, Yi Yang. 2017. Design and Development Game Chinese Language Learning with Gamification and Using Mnemonic Method. Procedia Computer Science. 116: October, 61-67.

Asbell-Clarke, Jodi, Juho Hamari, David J. Shernoff, Elizabeth Rowe, Brianno Coller, and Teon Edwards. 2016. Challenging games help students learn: An empirical study on engagement, flow and immersion in game-based learning. *Computers in Human Behavior*, 54: January, 170-179.

Auer, Elena M., Richard N. Landers, Andrew B. Collmus, and Michael B. Armstrong. 2018. Gamification Science, Its History and Future: Definitions and a Research Agenda. *Simulation & Gaming*, 49: 3, 315-337.

Baydas, Ozlem & Mithat Cicek. 2019. The examination of the gamification process in undergraduate education: a scale development study. *Technology, Pedagogy and Education*. 28:3, 269-285.

Bhargava, Deepshikha and Mangeshkumar Demkah. 2019. Gamification in Education: A Cognitive Psychology Approach to Cooperative and Fun Learning. *Amity International Conference on Artificial Intelligence*, 170-174.

Bogost, Ian. 2011. Gamification is Bullshit. *The Atlantic*. Available at https://www.thesaurus.com/browse/nail%20down?s=t, accessed January 22, 2021.

Botički, Ivica, Tomislav Jagušta, and Hyo-Jeong Sob. 2018. Examining competitive, collaborative and adaptive gamification in young learners' math learning. *Computers & Education*, 125: October, 444-457.

Brühlmann, Florian, Elisa D. Mekler, Klaus Opwis, Alexandre N. Tuch. Do Points, Levels and Leaderboards Harm Intrinsic Motivation? An Empirical Analysis of Common Gamification Elements. *Proceedings of the First International Conference on gameful design, research, and applications*, 66-73.

Buckley, Patrick and Elaine Doyle. 2016. Gamification and student motivation. *Interactive Learning Environments*, 24: 6, 1162-1175.

Calado, Paulo, E.D. Canedo, Sergio Freitas, Arthur Lacerda, Thiago Lima. 2017. *Gamification in education: A methodology to identify student's profile. IEEE Frontiers in Education Conference*, 1-8.

Cambridge English. 2012. *KET Vocabulary List*. Available at https://www.cambridgeenglish.org/images/22105-ket-vocabulary-list.pdf, accessed October 26, 2019.

Chapman, Jared R. and Peter J. Rich. 2018. Does educational gamification improve students' motivation? If so, which game elements work best?. *Journal of Education for Business*, 93: 7, 315-322.

Cózar-Gutiérrez, Ramón and José-Manuel Sáez-López. 2016. Game-based learning and gamification in initial teacher training in the social sciences: an experiment with MinecraftEdu. *International Journal of Educational Technology in Higher Education*, 13: 2, 1-11.

Dagut, Menachem and Batia Laufer. 1985. Avoidance of phrasal verbs: A case for contrastive analysis. Studies in Second Language Acquisition, 7: 1, 73-79.

Deterding, Sebastian, Dan Dixon, Rilla Khaled, and Lennart Nacke. 2011. From Game Design Elements to Gamefulness: Defining "Gamification". *Proceedings of the 15th international academic MindTrek conference: Envisioning future media environments*, 9-15.

Domínguez, Adrián, Joseba Saenz-de-Navarrete, Luis de-Marcos, Luis Fernández-Sanz, Carmen Pagés, and José-Javier Martínez-Herráiz. 2013. Gamifying learning experiences: Practical implications and outcomes. *Computers & Education*, 63: April, 380-392.

Fox, Jesse and Michael D. Hanus. 2015. Assessing the effects of gamification in the classroom: A longitudinal study on intrinsic motivation, social comparison, satisfaction, effort, and academic performance. *Computers & Education*, 80: January, 152-161.

Gilquin, Gaëtanelle. 2015. The use of phrasal verbs by French-speaking EFL learners. A constructional and collostructional corpus-based approach. Corpus Linguistics and Linguistic Theory, 11: 1, 51-88.

Hacı, Hüseyin, Derviş Kayımbaşıoğlu, Bora Oktekin. 2016. Integration of Gamification Technology in Education. *Procedia Computer Science*, 102: August, 668-676.

Hamari, Juho and Jonna Koivisto. 2014. Demographic differences in perceived benefits from gamification. *Computers in Human Behavior*, 35: June, 179-188.

Hamari, Juho, Jonna Koivisto, and Harri Sarsa. 2014. Does Gamification Work? — A Literature Review of Empirical Studies on Gamification. *47th Hawaii international conference on system sciences*, 3025-3034.

Hammer, Jessica and Joey Lee. 2011. Gamification in Education: What, How, Why Bother?. *Academic Exchange Quarterly*, 15: 2, 1-5.

Homer, Bruce D., Jan L. Plass, and Charles K. Kinzer. 2015. Foundations of Game-Based Learning. *Educational Psychologist*, 50: 4, 258-283.

Huang, Wendy Hsin-Yuan and Dilip Soman. 2013. A Practitioner's Guide To Gamification Of Education. *Report Series: Behavioural Economics in Action 29*.

Kapp, Karl M. 2012. *The Gamification of Learning and Instruction: Game-based Methods and Strategies for Training and Education*. Zürich: Pfeiffer.

Karagiorgas, Dimitrios N. and Shari Niemann. 2017. Gamification and Game-Based Learning. *Journal of Educational Technology Systems*, 45: 4, 499-519.

Kim, Bohyun. 2015. Chapter 1: The Popularity of Gamification in the Mobile and Social Era. *Library Technology Reports*, 51: 2, 5-9.

Liivak, Liisa. 2018. *Gamification in Education: Game Design Elements in the Solutions Second Edition EFL Textbook Set*. Available at https://dspace.ut.ee/bitstream/handle/10062/59299/MA_thesis_Liisa_Liivak.pdf?sequence=1&isAllowed=y, accessed January 15, 2021.

Liu, Dilin and Daniel Myers. 2018. The Most-Common Phrasal Verbs with Their Key Meanings for Spoken and Academic Written English: A Corpus Analysis. *Language Teaching Research*. 22: 5, 1-22.

McBride, Melanie and Jason Nolan. 2014. Beyond gamification: reconceptualising game-based learning in early childhood environments. *Information, Communication & Society*, 17: 5, 594-608.

Nah, Fiona Fui-Hoon, Shashank Rallapalli, Venkata Rajasekhar Telaprolu, and Pavani Rallapalli Venkata. 2013. Gamification of Education Using Computer Games. In Sakae Yamamoto (ed). Human Interface and the Management of Infomation. *Information and Interaction for Learning, Culture, Collaboration and Business*. 99-107. Berlin: Springer.

Nikulchev, Evgeny, Ilya V. Osipov, Anna Y. Prasikova, Alex A. Volinsky. 2015. Study of Gamification Effectiveness in Online e-Learning Systems. *International Journal of Advanced Computer Science and Applications*, 6: 2, 71-77.

Noor, Anida Zaria Binti Mohd, Ismail Yusuf Panessai, Mohd Hishamuddin Abdul Rahman, Nor Syazwani Binti Mat Salleh. 2018. Gamification Elements and Their Impacts on Teaching and Learning – A Review. *The International Journal of Multimedia & Its Applications*, 10: 6, 37-46.

Pelling, Nick. 2011. The (short) prehistory of "gamification". Available at https://nanodome.wordpress.com/2011/08/09/the-short-prehistory-of-gamification/, accessed November 11, 2020.

Prensky, Marc. 2007. *Digital game-based learning*. New York: McGraw-Hill.

Read, J. Leighton and Byron Reeves. 2010. Ten Ingredients of Great Games. Available at, http://www.cedma-europe.org/newsletter%20articles/misc/Ten%20Ingredients%20of%20Great%20Games%20(Apr%202010).pdf, accessed January 25, 2021.

Redondo, Rebeca Díaz, Jorge Simões, and Ana Fernández Vilas. 2013. A social gamification framework for a K-6 learning platform. *Computers in Human Behavior*, 29: 2, 345-353.

Ryoo, Mi-Lim. 2013. A Corpus-based Study of the Use of Phrasal Verbs in Korean EFL Students' Writing. *THE JOURNAL OF ASIA TEFL*, 10: 2, 63-89.

Schlechty, Phillip C. 2001. *Shaking up the Schoolhouse: How to Support and Sustain Educational Innovation*. San Francisco: Jossey-Bass.

Smith-Robbins, Sarah. 2011. "This Game Sucks": How to Improve the Gamification of Education. *EDUCAUSE review*, 46: 1, 58-59.

Telia Company. 2019. Mida Peaks Täiskasvanud Teadma Interneti-Mängudest? Laste Nõuandva Paneeli Uuringu Tulemused. Available at https://www.telia.ee/images/documents/pages/telia_toetab/est/cap-2019-final-report-gaming.pdf, accessed January 25, 2021

Toom, Sandra-Leele. 2020. The Use of Phrasal Verbs by Estonian EFL Learners: A Corpus-Based Study. Available at https://dspace.ut.ee/bitstream/handle/10062/69953/Toom_ba_2020.pdf?sequence=1&isAllowed=y, accessed January 24, 2021.

Vabariigi valitsus. 2011. Põhikooli riiklik õppekava, Lisa 2. Available at https://www.riigiteataja.ee/aktilisa/1290/8201/4018/141m%20lisa2.pdf, accessed January 25, 2021.

Van Eck, Richard. 2006. Digital Game Based Learning: It's Not Just the Digital Natives Who Are Restless. *EDUCAUSE Review*. 41: 2, 16–30.

Van Roy, Rob and Bieke Zaman. 2018. Need-supporting gamification in education: An assessment of motivational effects over time. *Computers & Education*, 127: December, 283-297.

Yoyo Games. 2018. Gamemaker: Studio (Version 1.4.1804).

APPENDICES

Appendix 1

List of phrasal verbs used in the activity (only the 'correct' answers are listed here, not the various combinations of words students can create):

1. Look for

2. Get up

3. Turn on

4. Find out

5. Put on

6. Write down

7. Wash up

8. Get off

9. Fill in

10. Take off

11. Look after

12. Lie down.

13. Look at

14. Get on

15. Sit down

Appendix 2

The 15 sentences used in the gamified activity:

1. The boy **looked for** his mother, but could not find her.

2. You must **get up** now or you will be late for school.

3. Can I **turn on** the TV? I want to watch the weather forecast.

4. Could you **find out** what time we need to arrive?

5. Please **put on** your coat, it's cold outside.

6. Could you **write down** your e-mail address so I can contact you?

7. He always **washes up** right after eating. He keeps the kitchen clean.

8. They **got off** the bus and walked to school.

9. Could you **fill in** this form, please?

10. It's warm inside. **Take off** your coat.

11. I cannot go out tonight. I have to **look after** my little brother.

12. I feel dizzy. I need to **lie down**.

13. Did the doctor **look at** your leg?

14. Quick! **Get on** the train! It's ready to leave.

15. Why don't you **sit down** and have a nice cup of tea with me?

Appendix 3

The questionnaire that the students filled out:

Loe läbi järgmised väited ja otsusta, kas sa nõustud nendega või mitte. Hinda, kui palju sa väidetega nõustud/ ei nõustu 5-palli skaalal (1 – üldse ei nõustu, 2 – pigem ei nõustu, 3 – nii ja naa, 4 – pigem nõustun ja 5 – täielikult nõustun).

1.   Õppevahendi kasutamise juhend oli arusaadavalt esitatud.

1   2   3   4   5

2.   See aitas käesolevat teemat paremini omandada.

1   2   3   4   5

3.   Mulle meeldis sellise õppevahendi kasutamine.

1   2   3   4   5

4.   Õppevahendi kasutamine oli minu jaoks lihtne.

1   2   3   4   5

5.   Õppevahendi kasutamine oli minu jaoks kasulik.

1   2   3   4   5

6.   Küsimuste arv harjutuses oli sobiv.

1   2   3   4   5

7.   Küsimustele vastamiseks oli piisavalt aega.

1   2   3   4   5

8.   Õppevahendi kasutamine oli kaasahaarav.

1   2   3   4   5

9.   See oli väärtuslik õppimiskogemus.

1   2   3   4   5

10.   Mulle meeldiks ka edaspidi harjutusi sellisel kujul teha.

1   2   3   4   5

RESÜMEE

TARTU ÜLIKOOL
ANGLISTIKA OSAKOND

Morten Mägi Ravn
Gamification in Education: Practising English Phrasal Verbs Using a Gamified Activity
Mängustamine hariduses: fraasiverbide harjutamine kasutades mängustatud tegevust
Magistritöö
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Lehekülgede arv: 62

Annotatsioon:

Käesoleva töö eesmärgiks on analüüsida, kas mängustatud tegevus tõstab noorte, 6. klassi õpilaste kaasahaaratust ning kuidas kolm mänguelementi: punktid, ajapiirangud ja koostöö mõjutavad õpilaste kaasahaaratust.

Töö koosneb viiest põhiosast: sissejuhatusest, kahest sisupeatükist, diskussioonist ja kokkuvõttest. Sissejuhatus annab ülevaate tööst ning esitab uurimisküsimused.

Esimene peatükk annab ülevaate erinevatest viisidest, kuidas mängustamist on defineeritud ning kuidas see definitsioon aja jooksul muutunud on; võrdleb mängustamist sarnase terminiga, mängupõhine õpe; uurib mängustamise rolli hariduses ja mida meeles pidada selle rakendamisel; tõstab esile mitmed varasemad uuringud sellel teemal; analüüsib erinevaid mänguelemente ning mängustamise positiivseid ja negatiivseid aspekte; ning uurib lühidalt, kuidas noored inimesed Eestis suhtuvad mängudesse.

Teises peatükis on antud ülevaade läbiviidud uuringust. Peatükk seletab kõigepealt lahti mängustatud tegevuse keeleaspekti, milleks on inglise fraasiverbid, ning põhjendab selle valikut. Edasi käsitletakse uuringu tulemusi. Õpilased osalesid mängustatud tegevuses ning pärast koguti neilt tagasisidet küsimustiku ja grupiintervjuude kaudu. Ka inglise keele õpetajaga, kes jälgis tegevuse käiku, tehti intervjuu, et saada rohkem täiskasvanulikku ja objektiivset tagasisidet.

Töö diskussiooni osas analüüsitakse eelnevas peatükis esitatud tulemusi ning vastatakse uurimisküsimustele. Õpilaste ja õpetaja intervjuudest võis järeldada, et mängustatud tegevus tõstis õpilaste kaasahaaratust. Töö tulemus näitas ka seda, et kõige paremini mõjutas õpilaste kaasahaaratust koostöö aspekt. Koostöö aspekt võimaldas neil omavahel vastuseid arutada, tegi tegevuse rohkem nauditavaks ja väidetavalt aitas neil paremini küsimustele vastata. Ajapiirang tegi tegevuse huvitavamaks, kuna see esitas õpilastele väljakutse, aga mõne õpilase jaoks oli see liiga stressirikas. Punktid ei mõjutanud õpilaste kaasahaaratust ei positiivselt ega negatiivselt.

Töö kokkuvõte võtab kõik eelnevalt kirjutatud sisutihedalt kokku.

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Tartus, 26.01.2021

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