
REALM OF KNOWLEDGE: A QUEST FOR MOTIVATION

Analysing the effect of a Table-Top Role-Playing Game on learners'
motivation in a Dutch English as a Foreign Language classroom



Master thesis

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Abstract

The motivation of secondary school students is generally very low (OECD, 2016) and the Netherlands is no exception. In fact, the Netherlands scores very poorly when it comes to the motivation of secondary school students (Ministerie van Onderwijs, Cultuur en Wetenschap, 2019). Even the Dutch government has recognised the problem and set up a plan to try and improve students' motivation (Ministerie van Onderwijs, Cultuur en Wetenschap, 2019). After all, when motivation is high, learning becomes easier, but how do we increase motivation? The solution this thesis offers is gamification. Specifically, Table-Top Roleplaying Games tailored specifically to an English as a Foreign Language class. A game called *Realm of Knowledge* was created for this thesis; the game is based on research about gamification in EFL classrooms as well as scholarship on motivation. According to a report by the Dutch Ministry of Education, Culture, and Science (OCW), four core conditions need to be met in order for learners to be motivated. Those conditions are safety, connectedness, competence, and autonomy. The game was developed with these core competences in mind. A survey tested intrinsic and extrinsic motivation, as well as amotivation both before and after *Realm of Knowledge* was implemented. Each statement in the survey was additionally connected to one of the core competences. The results from the surveys show that the intrinsic motivation increased by almost 11%. Extrinsic motivation also saw a minor rise with approximately 1%. Amotivation, however, received about 2% more neutral replies. This shows that *Realm of Knowledge* has managed to successfully elevate the intrinsic motivation of the learners in this experiment group.

Keywords: gamification, motivation, intrinsic motivation, extrinsic motivation, amotivation, core conditions, safety, competence, connectedness, autonomy, Tabletop Role-Playing Games, English as a foreign language, Dutch secondary education, *Realm of Knowledge*.

Introduction

In 2015, the Organisation for Economic Co-operation and Development (hereafter: OECD) researched the level of motivation in secondary school students in its member countries. The results, which were published in 2016, illustrated that the Netherlands scored as one of the lowest countries. The *Ministerie van Onderwijs, Cultuur en Wetenschap* (hereafter: OCW), which is the Ministry of Education, Culture and Science, requested its Inspection of Education to conduct research in 2019 to find underlying reasons for this lack of motivation. The results of this research will be explored further in the theoretical framework, but, in short, they found four core conditions that influence the motivation of students. These are safety, competence, connectedness, and autonomy. All need to be met to create highly motivated students.

While both the OECD and the OCW have illustrated that the motivation of students needs to improve, ways to do so are not clearcut. The OCW gives advice on what to keep in mind as an education institution or teacher based on their core conditions, yet do not bring forth any specific solutions. According to a Dutch news channel, there has been a steady decline in motivation for the past 20 years (RTL Nieuws, 2019). In their article, a professor in Education and Pedagogy, Jan van Tartwijk, gives a general solution for this problem. Make classes more appealing by adding elements from games, for instance. However, he does issue a warning to not make education purely about entertainment and to make sure classes do not just become gimmicky. This demonstrates that simply improving motivation is easier said than done, but that gamification might be part of the solution.

The idea of using games to learn or practise certain skills or subjects is not new. For instance, in 1994 the Netherlands saw the arrival of the education software *RedCat*, which allowed children (or adults) to play games in order to improve certain skills like mathematics or topography. This game was for home use, but within formal education, games have also made their appearance throughout the years. However, this was not done frequently until recently.

During the COVID-19 pandemic teachers looked for alternatives to turn their online classes into more than just an explanation and letting the students do assignments. They stumbled upon websites like *Kahoot!* which have proven to be an effective way to improve engagement and even motivation (Licorish, George, Owen, & Daniel, 2017). Improving

motivation in secondary education through gamification is exactly what this thesis is about. The main question that will be answered is as follows: How can the use of Tabletop Role-Playing Games (hereafter: TTRPG) such as *Dungeons and Dragons* (hereafter: D&D) affect learners' motivation for English as a foreign language (hereafter: EFL) in Dutch secondary education classrooms? In order to research this, several questions need to be answered first: What affects a learner's motivation in a classroom? How can gamification in education affect learners' motivation? Which factors concerning the development of teenagers should be taken into account when developing a TTRPG that will be used in a classroom setting? How can a TTRPG be implemented in a classroom setting? And, finally, why use a TTRPG for this cause? The answers to these questions will be provided in the theoretical framework.

After the theoretical framework has given insight into these subjects, a series of lessons will be created together with a TTRPG based on the previous research. Then the game will be implemented in order to answer the following sub-questions: How do learners experience a TTRPG in a classroom setting? How does a TTRPG influence the experience of core conditions as determined by the Dutch Ministry of Education, Culture, and Science? How does the use of a TTRPG affect intrinsic motivation in EFL learners? How does the use of a TTRPG affect extrinsic motivation in EFL learners? And how does the use of a TTRPG affect amotivation in EFL learners? The hypothesis for this study is that the use of a TTRPG will improve fourth-year secondary school students' motivation in EFL classes. A second hypothesis is that the use of a TTRPG will improve the core conditions (as determined by the Dutch Ministry of Education, Culture, and Science) in a fourth-year secondary school classroom. The null hypotheses are that the use of a TTRPG will not affect students' motivation in EFL classes nor the core conditions.

Theoretical Framework

Motivation

Previous research has proven that motivation tends to decrease when children go to secondary school (Hortigüela Alcalá, Hernando Garijo, Pérez-Pueyo, & Fernández-Río, 2019), and the motivation among secondary school students is at an all-time low in the Netherlands (Ministerie van Onderwijs, Cultuur en Wetenschap, 2019; OECD, 2016). However, motivation is an important factor in whether a student will succeed in school or not (Ministerie van Onderwijs, Cultuur en Wetenschap, 2019; van Damme & Vansteenkiste, 2021; van der Steen, 2015). It is therefore essential that this factor improves. This section will discuss what affects a learner's motivation in a classroom. This is done to determine what needs to be considered when attempting to find a solution to this problem.

To start off, a definition of motivation must be established. According to the online version of the MacMillan dictionary¹, motivation is "a feeling of enthusiasm or interest that makes you determined to do something." This thesis follows this definition and adds the willingness to do something. It encompasses both intrinsic and extrinsic motivation as well as amotivation. "Intrinsic motivation refers to the execution of an [activity] by the enjoyment someone experiences and interests that someone has in the activity" (Sierens & Vansteenkiste, 2009, p. 21). Extrinsic motivation comes into play when there is pressure from others like parents or teachers or from the person themselves by giving themselves feelings of guilt, shame, or anxiety. Additionally, extrinsic motivation can occur when someone is enticed to do something by means of rewards or punishment (Sierens & Vansteenkiste, 2009). Amotivation is the unwillingness to do something. It is important to note that motivation is not fixed; it can change depending on internal and external factors, like a shift in interests or a family issue. It influences the intensity, duration, perseverance, and focus of behaviour (van der Steen, 2015).

While both intrinsic and extrinsic motivation can move a person to do something, intrinsic motivation is the type of motivation that is the most sustainable, especially in an educational setting (Clanton Harpine, 2015; Di Paolo & Pizziol, 2023; Sierens & Vansteenkiste, 2009). Clanton Harpine (2015) states that the use of rewards and prizes can be seen as a bribe

¹ <https://www.macmillandictionary.com/dictionary/british/motivation>

more than actual motivation and explains that this might have a negative effect on long-term motivation. Therefore, intrinsic motivation is the key to successfully completing activities and (longer-term) educational programmes (Clanton Harpine, 2015; Di Paolo & Pizziol, 2023).

Due to motivation playing such an important role for whether someone is willing to do something or not, many studies have been conducted about motivation. Concerning education, research concluded that the interpersonal relationship between teachers and students positively influences students' motivation and learning experience (Akiba, LeTendre & Scribner, 2007; Leary, 1957; van der Steen, 2015). Van der Steen (2015) studied the relation between students' motivation and their relationship with the teacher. The hypothesis was that the teacher's behaviour influenced the motivation of students. Specifically, the interpersonal behaviour from a teacher supposedly portrayed itself in specific teacher characteristics – Authenticity, Involvement, and Constructiveness – which are thought to be related to motivation in a positive way. However, Van der Steen's research could not conclude whether the interpersonal relationship actually influenced motivation for the better, suggesting there is more to strengthening motivation.

The 2019 OCW report gives more clarity on that. As mentioned before, the report identified four core conditions that need to be met to strengthen motivation in students: safety, competence, connectedness, and autonomy (Ministerie van Onderwijs, Cultuur en Wetenschap, 2019). Safety refers to a school creating a safe and orderly environment for its learners. Competence is about the goals education has, whether the subjects offered are challenging, and whether a learner can experience successes. When there is a positive relationship between the school and student, connectedness comes into play. Finally, autonomy signifies a learner's ability to take charge of their own learning processes and whether they have perspective for their own future. A teacher can influence all of these conditions.

Due to this, some researchers have stated teachers are not pro-active enough and do not do enough to create an environment that allows for motivated students (van der Steen, 2015). Akhtar, Iqbal, & Tatlah (2017) even demonstrated that a lack of motivation in a teacher, affects students as well. They go to the extent of saying that, "It was concluded that intrinsic motivation of secondary school teachers was having [a] statistically significant positive relationship with students' academic achievement" (p. 27). It is therefore not surprising that the report from the OCW (2019) focuses on what Dutch teachers and educational institutions

can do to increase motivation. The study's findings are that the core conditions of safety and connectedness are fulfilled on most Dutch schools. Nevertheless, there is still work to be done in the fields of competence and autonomy.

Concerning competence, the OCW refers to how the goal of classes in Dutch schools is usually unclear aside from getting a good grade or a diploma. Everything seems to revolve around tests and test results. Even feedback is often limited to the reviewing of tests. Experiencing feelings of success is generally only the case when a student gets a good grade. This means that Dutch learners rely heavily on extrinsic motivation rather than intrinsic motivation. The current situation illustrates that only extrinsic motivation is clearly not enough, or the motivation issue would be less of a problem.

The core condition referred to as autonomy is also addressed in the report. One of the options the OCW offers to increase autonomy, is by letting the students have options. Consequently, the role of the teacher would shift to a more guiding role. The learners themselves would have more say in what they do during a class, making them more autonomous. The report states that aside from this, students should get the opportunity to think about their future and come up with an appealing perspective for themselves to enable more autonomy. The teacher can help them with establishing that perspective.

While changing the way students are taught, the curriculum, and the school environment to ensure they meet the core conditions will help in improving motivation, solely focussing on teachers and learning institutions is not enough to solve the issue. In fact, Dutch teachers find it difficult to deal with demotivated students and even find them to be an annoyance (van der Steen, 2015), so they would have taken actions to motivate their students one way or the other to prevent this annoyance. Not to mention that two of the four core conditions are met in most Dutch schools, which improves motivation (Ministerie van Onderwijs, Cultuur en Wetenschap, 2019). Nevertheless, motivation among students in the Netherlands is still very low, illustrating that more is needed to improve the current situation.

The reason simply changing the way teachers work and act is not enough, is because learners' core being or personality also affects their motivation (Saito, Dewaele, Abe, & In'nami, 2018; van der Steen, 2015). In order to understand motivation fully, emotion has to be taken into account (Saito, Dewaele, Abe, & In'nami, 2018). Emotion affects motivation. Pressure or anxiety decreases motivation whereas learners who feel good about themselves

are more motivated (Saito, Dewaele, Abe, & In'nami, 2018; van Damme & Vansteenkiste, 2021). According to Saito, Dewaele, Abe, & In'nami (2018), a strong Ideal L2 Self, or the self-image of what a learner wants to become in terms of L2 usage, stimulates motivated behaviours. This means that these learners will be more likely to take up any opportunity to learn the L2 and actively look for these opportunities. Additionally, "L2 students with a stronger Ideal L2 Self [tend] to have less anxiety toward L2 learning" (p. 730) which has been connected to "more enjoyment [in] EFL learning" (p. 733). Joy of learning, according to van Damme & Vansteenkiste (2021), helps motivation due to learners experiencing a certain kind of satisfaction when they learn something new; it rewards students for overcoming challenges.

In conclusion, this means that in part it depends on the student themselves whether they are motivated during class. The other part is determined by the teachers and schools. Schools should create safe and orderly environments and do whatever it can to connect to their students. A teacher should have a good interpersonal relation with their students, they should be motivated for their subjects themselves and have a pro-active attitude, and they should provide challenging and diverse subjects for their learners. All of these aspects need to be taken into account when developing a series of lessons to increase motivation. This thesis will focus on the core conditions given by the OCW – safety, competence, connectedness, autonomy – as these encompass all of the aforementioned aspects.

Gamification in Education

One of the options given to improve motivation is gamification and it is the chosen tool for this thesis. Therefore, this section will explain how gamification affects motivation and what needs to be considered when gamifying the classroom. Before more can be said, a definition of gamification has to be established. While every researcher seems to have their own definition, this thesis' definition is as follows: Gamification is making use of knowledge about the intricacies of games in order to add game elements in non-gaming environments (Chun, 2019; Figueroa, 2015).

There have been many studies about gamification in education and all have had varying results. One of the uses most research seems to agree on about gamification in education is that it can help increase motivation in the classroom (Boetje, 2017; Boudadi &

Gutiérrez-Colón, 2020; Garland, 2015; Licorish, George, Owen & Daniel, 2017; Westera, 2017). Which type of motivation is tested, however, is not specified in many studies. Based on the definitions given earlier, it can be said that most research on gamification in education is about extrinsic motivation as “[m]ost gamification systems use reinforcement elements (points, levels, badges, leaderboards, etc.) to promote engagement and motivation in users” (Boudadi & Gutiérrez-Colón, 2020, p. 59). No specific explanation is given for this, but it might be because these forms of gamification are easy to use and implement².

Other than heightened motivation, gamification in education adds a positive learning experience (Boetje, 2017; Carter, 2011; Licorish, George, Owen & Daniel, 2017). The students get to play during class, bringing them back to their childhood, which adds a positive memory to the learning process (Boetje, 2017). Even though learning experience is not something studied in this thesis, it is still important to note considering positive feelings towards a subject can lead to more motivation (Saito, Dewaele, Abe, & In’nami, 2018; van Damme & Vansteenkiste, 2021). Furthermore, it ties in with one of the core conditions the OCW considers adamant to a motivational environment: connectedness.

In contrast, there have been studies that illustrated that gamification resulted in a decrease of motivation (Garland, 2015). In his meta-study in which he analysed previous studies and presented an overview of them, Garland refers to a study conducted by Hanus & Fox in 2015 which produced students in the experimental group that were less motivated than the students in the control group. According to the researchers themselves, this might have been due to the limitations in their research. They had tied the gamified aspect to grades, which demotivated the students. While it was optional to earn coins and climb on the leaderboards, it was mandatory for learners to earn badges. This takes away from the aforementioned positive learning experience as it forces the students in the same way regular education does. Garland (2015) explains that “they gamified the outcomes instead of attempting to alter students’ behaviours, the attempt at gamifying the course was unsuccessful” (p.21).

Another such example is a study by Domínguez et al. (2013) where gamification had a positive effect on performance in practical assignments, but ended up with the students

² Based on information given during the course *Ludodidactiek* at the Radboud University from May 15, 2023 to June 2, 2023.

scoring lower on the final test than the students from the control group. However, that study saw successes with gamification in other areas, like it having the potential to increase motivation during the course.

These two examples demonstrate the importance of implementing gamification carefully and that it is essential to think it through before utilising it in a classroom setting. When it comes to the gamification of education, the design has to align with the goals and objectives that will eventually be formally tested (Figueroa, 2015) and grades should not be tied in with the gamified work as this will cause the students too much stress (Garland, 2015). Garland's meta-analysis has brought forth several variables that play an important role in successfully implementing gamification in education. These variables are length of instruction, competitive aspects, instructional medium, age level, and the time learners are allowed to complete tasks.

A common way of implementing game elements in the classroom, is through leader boards and badges. This is an effective way of applying gamification as it motivates students to collect all the badges and allows students to see their progress (Garland, 2015). Additionally, games with a story in which the learner has to complete challenges or quests with a character are effective, especially when it comes to foreign language acquisition (Garland, 2015).

While not all studies have concluded gamification has had the desired effect, the positives far outweigh the negatives, especially when the aim is to increase motivation. In fact, the times gamification has had a negative effect on motivation could be explained by poor implementation (Garland, 2015). Therefore, gamification is a good tool to attempt to increase motivation, as this thesis aims to do.

Development During Adolescence

As described above, many aspects need to be considered when implementing a motivation improving game in a classroom. This study focuses on middle adolescents (14 to 17 years old), meaning that the learners' brains are still in full development. The changes in their brains need to be understood in order to design a game that can be implemented in their classes successfully. Therefore, this section will answer the question of which factors concerning the

development of (middle) adolescents should be considered when developing a game to improve motivation in a classroom setting.

One of the most prominent factors in adolescent development that influences whether an activity in the classroom is a success, is whether they can socialise during it. “[Adolescence] is a time of social reorientation, during which adolescents spend more time with peers and peers increasingly affect adolescents’ self-concept, wellbeing and behaviour” (Foulkes & Blakemore, 2018, p.315); they are susceptible to peer influence. While everyone develops differently, in general peers influence an adolescent’s risk-taking, risk perception, and even reasoning. Additionally, adolescents are hypersensitive when it comes to social exclusion (Foulkes & Blakemore, 2018). During middle adolescence, they start to wonder what people think of them and how they fit into the group (Jolles, 2016). This affects their behaviour and their willingness to do things in the classroom. If it is something they can be judged for or they think will make them look stupid, they are not likely to do it.

Other than social factors, there are organisational factors. Adolescents become more and more able to organise and plan as they grow older (Jolles, 2016). As they progress from early adolescence to middle adolescence, teenagers become able to plan ahead. They manage to plan per day, but still have to learn how to plan per week. They are generally impulsive and – while they can make their own decisions during this stage – have difficulty foreseeing the consequences of their actions (Jolles, 2016).

Both factors are important to consider during the design phase of a game for education. Peer influence affects motivation directly as it can create a safe or unsafe environment, which the OCW report (2019) defined as a core condition. The ability to plan ahead and organise affects the content of the game and how materials are distributed. This has to be taken into account when creating the game.

Table-Top Role-Playing Games

This thesis has chosen to use a TTRPG to see whether motivation among students increases if used in the classroom. There are multiple reasons for this, which will be explained in this section. While doing so, how a TTRPG can be implemented will be addressed. First, however, what a TTRPG is will be clarified.

As stated earlier, TTRPG stands for table-top role-playing game. The definition of this type of game in this thesis is the following: A TTRPG is a form of role-playing game (RPG) in which participants create a character to play with. This creation process has predetermined rules. One of these rules could be, for instance, a human character has a standard bonus for the charisma stat. During a play session, players describe the actions of their characters which are based on stats and characterisation. There are set rules and guidelines that are determined by the Game Master (GM) during a session, but there is room to improvise. TTRPGs have no set length and can be played in single or multiple sessions. The collection of sessions with an overarching story is called a campaign. While this can be done in an analogue and digital format, in origin a TTRPG is analogue, played on the top of a table.

Due to its versatile nature, a TTRPG can be integrated into a classroom in many different ways. Using a TTRPG means that no technology is needed, unless the teacher decides to use an online version like Nakasone (2020) did. This makes it suitable for any type of classroom and not just those classrooms that have a smartboard or where all students have laptops available to them.

An additional benefit of using a TTRPG is that students develop their creative skills (Girsén, 2021). After all, they not only have to create their own character, but also have to think of how that character would act in certain situations. Carter (2011) furthermore illustrates that it integrates multiple fields – the subject itself, social studies, literature, reading, and writing – and forces students to use several skills like interdisciplinary problem finding, problem solving, collaborating, communication, and persuasion. When combining TTRPGs with traditional educational methods, taught concepts can be applied and supported in varied ways and this helps students retain information (Carter, 2011). Since materials are offered in different ways, students engage with more enthusiasm with the subject (Carter, 2011). As Nakasone (2011) explains, when learners are engaged and enthused, they can learn more effectively and retain information easier. Other than that, Girsén (2021) explains that a TTRPG provides a way to implement organic learning, which will help the students retain information further. This is something that is important for any subject, but in an EFL class in secondary school setting especially.

One of the critiques foreign language learning gets in general, is that students get single, loose lessons during the week (Saito, Abe & In'nami, 2018). This is also the case in the Netherlands. One class they might practise a grammatical structure, the next they might

practise reading comprehension. Every class has its own didactic goal. It can feel disjointed for teacher and students alike (Carter, 2011). However, as mentioned previously, adolescents' organisational skills are still in development (Jolles, 2016) and this can make it even more difficult to clearly tie these separate goals to other didactic goals.

Furthermore, there is generally little opportunity to speak the target language, meaning that learners need to seek out their own ways to practise the language (Saito, Abe & In'nami, 2018). As a TTRPG relies on good communication (Gírsen, 2011), this creates ample opportunity to practise speaking skills. Additionally, when a campaign is used, classes will have an overarching story and theme, addressing the critique that EFL classes are just loose lessons. Moreover, it has been illustrated that "[c]reating an ongoing project for the students [helps] foster conceptual continuity, reinforce the material, and provide students with a record of their work" (Carter, 2011, p.329) and progress. A TTRPG is perfect to create an ongoing project as it is flexible in length, so it can be tailored to a curriculum.

Another aspect as to why a TTRPG is great for in a classroom setting, is the fact that the learners have to create characters. This takes away introversion and shyness since learners can hide behind the character (Figueroa, 2015). Additionally, in this way students can explore their opinions and ideas without fear of upsetting the status quo or having to deal with peer pressure, creating a safer environment which is essential to get motivated learners. Furthermore, the characters will develop during the campaign, allowing the students to keep track of their progress; this improves motivation (Garland, 2015).

However, there are some things to keep in mind, such as the aforementioned gamification variables of length of instruction, competitive aspects, instructional medium, age level, and the time allotted to complete tasks (Garland, 2015). All of these can be adjusted to suit the class when using a TTRPG.

Another aspect that needs to be taken into account is that, in order to make a TTRPG effective, the Game Master has to be competent. The role of the GM is important (Hergenrader, 2014). Some studies have chosen to assign the teacher as GM (Carter, 2011; Hergenrader, 2014; Smith & Cole, 2019), others have chosen to assign students to fulfil this role (Girsén, 2021). Both have pros and cons. These will be discussed more in-depth in the materials section, but one of the examples is that it can help students develop story-telling skills. However, the experience other students have depends on the GM's story-telling skills, so if a learner is bad at it, it will take away from the game's effectivity (Hergenrader, 2014).

Either way, TTRPGs allow cooperative learning. By using cooperative learning, students learn from, with, and even for each other (Hortigüela Alcalá, Hernando Garijo, Pérez-Pueyo, & Fernández-Río, 2019). One of the benefits of this is that it increases motivation (Hortigüela Alcalá, Hernando Garijo, Pérez-Pueyo, & Fernández-Río, 2019). This way of learning relies on five elements: positive interdependence, promotive interaction, individual accountability, interpersonal and small group skill, and group processing. All of these are important when playing a TTRPG. By using a TTRPG, cooperative learning can easily be implemented in a class, thus benefitting the students' ability to learn and motivation.

Additionally, the two core conditions that are usually not met according to the OCW can be accommodated by using a TTRPG. Concerning the competence condition, clear goals are added to a class when a TTRPG is used. Not only is the goal to communicate effectively with your party members, the goal of using the learnt material to progress and complete the story is added. Moreover, they get instant feedback from the story. For instance, it can be made so that an assignment has to be completed correctly to progress the story. Other than that, the students can experience feelings of success during the story by completing assignments and battles with monsters.

The autonomy condition is also met when using a TTRPG, as learners get many options during a session. Not only can they create a character however they want, they follow the story as determined by their choices. The teacher is merely a guide while the students follow their own paths, thus falling into the coach role.

In summary, a TTRPG is a versatile form of gamification which has many benefits. Multiple fields can be implemented, it gives learners the opportunity to speak the target language, a campaign makes it an ongoing project which helps students be more engaged and allows them to retain information better, and the learners activate their creativity. Other than that, the adolescents get to hide behind a persona, making the environment safer because they will be "safe" from peer pressure; their character is not them. Additionally, a TTRPG is generally played in small groups of three to five players. So, even though the game is played by everyone in the class, the learner only has two to four peers to show their character to, adding another layer of safety. All core conditions as described by the OCW can be met by using a TTRPG. Furthermore, cooperative learning can be integrated into the class. Nevertheless, careful considerations need to be made between digital and analogue, and

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teacher GMs or learner GMs, as all options have advantages and disadvantages to them. Furthermore, the length of instruction might be longer than usual initially, but this will decrease as students become acquainted with a TTRPG.

The Study

Method

The current study's aim is to research whether a TTRPG will affect learners' motivation in an EFL classroom. In order to achieve this, this thesis employs a qualitative approach with quantitative support to answer the research questions. It makes use of previous research to not only create a theoretical framework, but also a framework for the educational TTRPG which is at the centre of this thesis. To gather data about learner experiences, surveys and focus group interviews are used. Finally, teacher observations are registered in logs to provide insight in the learners' behaviour. A more in-depth explanation can be found below in the Data Collection section.

For this thesis, an analogue version of a TTRPG will be used. An analogue version of gamification was decided on in order to be able to implement the lesson series in any classroom and to not be dependent on the availability of screens and computers. Although it requires some preparation, the concept can be used repeatedly, only requiring a few adjustments to fit the class it is given to or the subject it needs to explain or test.

Participants

The participants for this study are fourth year secondary school students at a school in the East of the Netherlands. This school provides both regular and bilingual education. Due to this being a master thesis and not large-scale research, the possible pool of participants was restricted. The curriculum additionally limited the pool. To prevent the subject matter of the lessons playing a part in experience, classes that had been taught similar subjects this schoolyear were selected.

Initially, the idea was to have four regular HAVO₄ classes and two VWO₄ classes. While the levels of education are different between HAVO and VWO, the subjects covered in the curriculum were the same, so the exact same game could be implemented. However, due to another student also wanting to research motivation in HAVO₄, this could not be realised. Therefore, it was decided that only one HAVO₄ class and two VWO₄ classes would be used. Before the experiment was well on its way, it became apparent that HAVO₄ would not be

able to complete the series of lessons as they were not able to correctly handle the materials given to them, so that class became a control group instead as they had already filled in the initial survey.

All in all, the experiment group consists of 37 participants and the control group has 19, accumulating 56 learners in total. They are all within the range of 15 to 17 years old. In one VWO₄ class (hereafter: VWO_{4a}) there are six (6) males and fourteen (14) females, making a total of twenty (20) students. In the other VWO₄ class (hereafter: VWO_{4b}) there are seventeen (17) students in total, nine (9) males and eight (8) females. HAVO₄ (or control group) has 19 students, of which fourteen (14) are male and five (5) are female. None of the students identified as non-binary. This means the study has 29 male and 27 female participants. All participants filled in the survey prior to and after the series of lessons had been taught. VWO_{4a} and HAVO₄ are the author's own classes, VWO_{4b} a colleague's (hereafter: Mr D) class.

The three focus groups consisted of 3 male students and 8 female students in total, of which 10 participants were from VWO_{4a}, and one from VWO_{4b}. Even though participation was requested several times in VWO_{4b}, no other student was willing or available. Since only 3 male students were a part of the focus group interviews, the male perspective might get lost in these. However, it does somewhat reflect the gender ratio of the experiment group (15 males and 24 females).

Data Collection

In order to collect the necessary data, a survey is developed in Dutch (see Appendix A). The survey is based on the Academic Motivation Scale high school version. Aside from intrinsic motivation, extrinsic motivation, and amotivation, each question is linked to one of the four core conditions the OCW determined are necessary for a higher motivation: safety, competence, connectedness, and autonomy. The students fill in this survey through a website called *Thesistoolspro*, which ensures data is encrypted so it cannot be accessed by anyone else. As stated above, the survey is filled out twice: once before the series of lessons and once after. This is to see if there is a change in their motivation. The post-lessons survey also contains questions about the game itself to see which effect it has had and whether the game could be used in the future. In order to be able to link comments from prior to the

project to comments after the project, the participants will be asked for their names. These are given on a voluntary basis. The students will be told it is greatly appreciated, but not mandatory if they do not feel comfortable giving their name. To make it more enticing for the learners to fill in their names, the surveys will be anonymised by two non-Dutch speakers (one Scottish and one Portuguese nationality) and this will be explained to the students clearly prior to the survey, both verbally and in the survey itself. Additionally, the participants will be ensured that their teachers will not see their answers with their names attached to them, only a number.

Additionally, focus groups will be used in order to go more in depth about the impact the game has had on the students and to determine whether the game can be used again. The base for these focus groups will be the answers given in the post-test survey and teacher observations, which will be tracked in a log. While these logs are not scientific, they will provide valuable insight in student behaviour during the game. The combination of these two will result in an interview protocol (Appendix B) which will be used during the focus group interviews. In these interviews, the students will be asked about the game, how it affected their motivation, and what the positives and negatives were. This is not only to benefit future research and the development of the game, but additionally gives insight into the aspects that influence motivation as described by the OCW.

Dutch will be spoken in these groups to ensure full understanding and the ability to speak freely without having to think of how to say something in English. These focus groups will be on a voluntary basis. The issue with focus groups, however, is that the results can be skewed if only those who were excited about the game join. Therefore, less motivated students will be asked to join specifically to balance out these groups if necessary. Nevertheless, no learner will be forced to take part. This has worked in VWO_{4a}, but not VWO_{4b}, as only one VWO_{4b} learner was willing to participate. In VWO_{4a}, two unmotivated students joined the focus groups.

Materials

A project like this requires materials. The method materials consist of a survey (Appendix A) and an interview protocol for the focus groups (Appendix B). These will shed light on the students' experiences. Additionally, there are the teacher logs that give a teacher's

perspective on student behaviour and provide a possible explanation for certain outcomes. At the very least, they will influence the questions asked during the focus groups.

The didactic materials³ are the game, a guide for the teacher, lesson plans, character sheets (Appendix C), tutorials for the students, and campaign-specific materials (Appendix D). The latter includes assignments, story progression cards, and folders to keep everything together. Since the pilot for this project was on a school with digital screens, PowerPoint presentations were made to support the story and explanations (Appendix E). The teacher guide will contain all the information about the game and the rules as well as the campaign specific story, assignments, answers to the assignments, and the available progression options. Before this all could be made, however, the game needed to be developed. This – as well as which considerations were made – is discussed below.

Development of the Game: *Realm of Knowledge*

Why a TTRPG is effective in a classroom has already been discussed in the theoretical framework. This section focusses on the game created for this study. Not only will it explain the game itself, but also which choices were made while developing it.

It all started with an idea: using a TTRPG like D&D in the classroom to motivate students for class. However, after much research and looking into educational versions of this existing game, the intricacies seemed to be too complex. It would require a lot of explanation. One of the variables to turn gamification into a success in a classroom setting according to Garland (2015) is length of instruction. It cannot be too long unless it is very engaging. This would be difficult to do if D&D was utilised for this study.

Therefore, a game was developed specifically for this thesis. It has simpler rulesets and a less complex character creation process. This new game plays in a world full of magic, deities, and monsters and tests the students' knowledge through challenges and riddles. The chosen name for this new game is *Realm of Knowledge*.

This does not completely take away the length of instruction concern, however, as it is a completely new way of doing things in a classroom. The students need to be prepared for the series of lessons properly so they will not need the same instructions every class. To

³ All materials for the game were made by the author of this thesis to avoid possible copyright issues in the future.

achieve this, the first class this TTRPG is introduced might take more time than is desirable initially, but as learners become acquainted with the method, length of instruction will decrease significantly. Additionally, since this game is created solely for the purpose of education, the instruction is designed to have interactive moments to break up the amount of time spent listening with exercises, for instance by letting the students underline descriptive words, which was one of the themes for the first class in this game.

As the plan is to continue using the world and mechanics created for *Realm of Knowledge* if it is successful⁴, a specific campaign was developed for this pilot: *A Quest for Wisdom*. In this storyline, the learners play as adventurers seeking the Rosetta Tome. The campaign was initially made to span five lessons, the first lesson serving as a tutorial to get the basics of the game and provide time for character creation, and the other classes to go through the story itself. However, due to an unforeseen issue, my series of lessons was pushed back, leaving me with too little time to be able to do five classes. Therefore, the two first classes were merged so that the campaign would only take four classes. Other than the general skills a TTRPG helps practise like speaking and reading comprehension, all classes had another main subject based on the subjects the students had been taught throughout the years. This is to ensure the goals of the game are in concordance with the goals set for the tests, which is a prerequisite for a successful implementation of a game in the classroom (Figuroa, 2015). The first three classes were themed around descriptive words, past tenses, and future tenses in that order; the fourth would serve as a final check for understanding, combining these three themes.

As stated before, an analogue version of a TTRPG was decided on for this thesis, so *Realm of Knowledge* was designed to be analogue. However, this brings its own set of complications. Should physical materials be given to the teenagers, chances are they will lose it because they cannot plan ahead nor see the consequences of losing it (Jolles, 2016). Giving all of them a folder to keep those materials could help with this (Carter, 2011), but is not a guarantee they manage to keep their materials safe. However, if these two factors are accounted for in the design, it increases the possibility for success. Therefore, the students will be given folders to keep their materials in as a group. Those folders will then be handed

⁴ Find the game and its development on <http://www.rhuviel.com/realm-of-knowledge>

to the teacher at the end of the class for safekeeping. At the start of the next class, these can easily be given back to the learners.

Furthermore, it being an analogue TTRPG means that all materials need to be physical as well. Everything except the PowerPoint presentations which can be used as visual support for the learners. This means a teacher needs to have good organisational skills in order to not lose track of which assignment or progression of the story they need to give the students next. To help with this, all materials will be provided in envelopes with the class number as well as which assignment and story progression part it has. Additionally, they will be numbered in the order they have to be given out.

Another aspect that needed to be considered during the creation process of *Realm of Knowledge* was the competitive aspects (Garland, 2015). *Realm of Knowledge* does not have leaderboards or other forms of collectibles is that the focus lies on improving intrinsic motivation, rather than extrinsic motivation, as this is more sustainable for longer-term projects. Nevertheless, there is still a competitive element within the game: monster battles. The players fight against monsters and have to try to stay alive. Since players can always come back and gain additional experience points (which they need to level their character and make them stronger) by doing a resurrection assignment, the prospect of possible dying should not cause them any form of stress. This is similar to when a player dies in a game and goes back to other areas to train, thus adding an element of familiarity to an unfamiliar concept – at least for the gamers in the experiment group.

Moreover, the time learners are allotted to complete tasks (Garland, 2015) and that the goals and that objectives align with the ones that will be formally tested (Figueroa, 2015) are other aspects that need to be taken into consideration. Concerning the time allotted, this differs per challenge. An appropriate time is selected beforehand for all assignments. This time is based on previous lessons with similar exercises, but can be adjusted if students finish them quickly or if less time is left during class. Some of it had to be guessed, as brainteasers and picture puzzles were not used as practice materials before. Nevertheless, these assignments did align with the objectives that will be tested at the end of the year. Reading comprehension (and with that vocabulary) will be their final graded test. Furthermore, the grammar assignments in the game all related the grammar they were taught during the year, which makes it a check for understanding.

Additionally, no form of grading is attached to the game. This would cause them stress (Garland, 2015), which will demotivate learners (Saito, Dewaele, Abe & In'nami, 2018). It must be clear from the beginning that the learners will not receive a grade based on their performance during the game. As stated in the previous paragraph, it is used as a check for understanding; a way to see what students can and cannot do well.

One more consideration while developing *Realm of Knowledge* is who fulfils the role of GM. As stated before, there are benefits and disadvantages to having students be the GM, but the same goes for letting the teacher be it. Having a few students be the GM lets those students develop their story-telling skills among other things, but this also means the other students are dependent on this GM's skills. Hergenrader (2014) illustrates that this can take away from the experience for other students. When the teacher is the GM, everyone gets the same experience. This can also be a constraint: *everyone* gets the same experience to a certain extent. It will be harder to react to the actions the characters take, yet when multiple options are given, there will be a little customisation even if played in multiple smaller groups at the same time. However, the teacher can create assignments and plot twists that allow students to practise the skills they need to meet their end terms, something learner GMs will have a harder time doing. This is why a teacher GM was chosen for the game. Additionally, a teacher knows their class and can therefore create the best experience for the learners.

Lastly, the four core conditions for motivation – safety, competence, connectedness, and autonomy – are taken into account. The theoretical framework already illustrated that a TTRPG can be used to increase safety as it allows students to use a persona and hide behind it when they are expressing themselves, thus removing the possibility of social exclusion. This is no different in *Realm of Knowledge*. Students create their own character on a character sheet specifically designed for *Realm of Knowledge*. They pick their race and class from a guide provided during the character creation process. The races are Human, Elf, and Dwarf. The classes are Knight, Paladin, Ranger, Druid, Sorcerer, Cleric, and Rogue. Each class comes with their own perks and abilities and each race also provides a bonus.

In true RPG fashion, it was decided that each character would also have certain stats that will help them throughout their journey. For this thesis these stats are classified as "traits" and are based on the traits in D&D with the idea that this has been a tried-and-true concept. The traits consist of Strength, Dexterity, Intelligence, Wisdom, Charisma, and Constitution. These are explained in the guide the learners get when they start the creation process. All of

this allows the learners to be creative, but also gives them autonomy and allows them to connect to the game.

Speaking of the autonomy core condition, the way *Realm of Knowledge* is set up lets the players do things in small groups on their own. They decide their journey to a certain extent. Additionally, the cooperative learning aspect of the game meets the need for socialising middle adolescents have. The key is to not make the groups too big to take away safety.

Finally, there is the competence condition. Students complete challenges in order to progress the story. They get immediate feedback by the GM, each other, or the story since they will return to the original challenge when they get something wrong or they start a battle with less health. The latter option makes it so that the players are more likely to die and when they die, they get a new challenge with the same subject as the challenge before so they practise it more. With every challenge they do, they quickly get the opportunity to remedy their mistake when they made one, increasing the opportunities to experience success, which in turn increases their sense of competence.

Every variable discussed in the theoretical framework, has been taken into consideration during the creation process of *Realm of Knowledge*, both for the implementation of games in a classroom setting as well as the core conditions the OCW identified. Therefore, *Realm of Knowledge: A Quest for Wisdom* is a perfect starting point to test whether a TTRPG can help motivate students in an EFL class.

Analysis of the Results

In this section, the data from the surveys and the focus groups will be used to determine changes in intrinsic motivation, extrinsic motivation, and amotivation and to find possible explanation for these changes. Additionally, the core conditions will be looked at. The results for the closed questions in the surveys, have been separated in pre-project results (n=53) and post-project results (n=49). The discrepancy in the number of participants comes from absentees during the conducting of the post-project survey. All students were sent a message to fill it in if they had not already, but not all responded. Furthermore, one participant from the post-project was excluded as they only filled in that they totally agreed with every question, even contradicting ones such as "I like English class" and "I don't like English class".

Next to the general survey questions, the statements about *Realm of Knowledge* were analysed as separate data (n=33). Only students in VWO_{4a} and VWO_{4b} answered these, so the group of participants is smaller than the general post-project survey.

To get an overview of the types of motivation and to easily determine how they have been affected during the course of the lesson series, the average of the answers on all questions with the same type of motivation were determined and converted into percentages. These were then used to create charts. In order to calculate whether a type of motivation has increased or decreased, the following sums were used:

$(\text{Totally disagree pre} + \text{Disagree pre}) - (\text{Totally disagree post} + \text{Disagree post}) = \text{level of disagreement};$

$\text{Neutral pre} - \text{Neutral post} = \text{level of neutrality};$

And $(\text{Totally agree pre} + \text{Agree pre}) - (\text{Totally agree post} + \text{Agree post}) = \text{level of agreement}.$

All percentages mentioned below are calculated with these sums unless stated otherwise. This is done to have a comprehensible total of (dis)agreement, which in turn makes it simpler to see whether participants experienced more or less of a specific type of motivation. The same technique was used for the core conditions in order to see whether

learners' experience of these increased or decreased after *Realm of Knowledge* was implemented.

Furthermore, answers from the focus groups will be used to provide more context and information about the survey results. There were three focus groups, FG1, FG2, and FG3. FG1 had two participants, FG2 had five participants, and FG3 had four participants. As mentioned before in the method section, only FG3 had a student from VWO4b, the rest was all from VWO4a. Most answers will be summarised, but not all. When a direct quote is given, it has been translated by the author and the original can be found in a footnote.

First, intrinsic motivation will be discussed. Second, extrinsic motivation will be looked at. Third, amotivation will be analysed. Last the core conditions will be evaluated.

Intrinsic Motivation

To start off, the statements (Appendix A) about intrinsic motivation were determined. These were 1, 2, 3, 5, 10, 13, and 19, and encompassed questions about enjoyment during English classes and whether the classes they have had for English fits with their interests. Additionally, it has a statement about enjoying English in general; not as a subject in school.

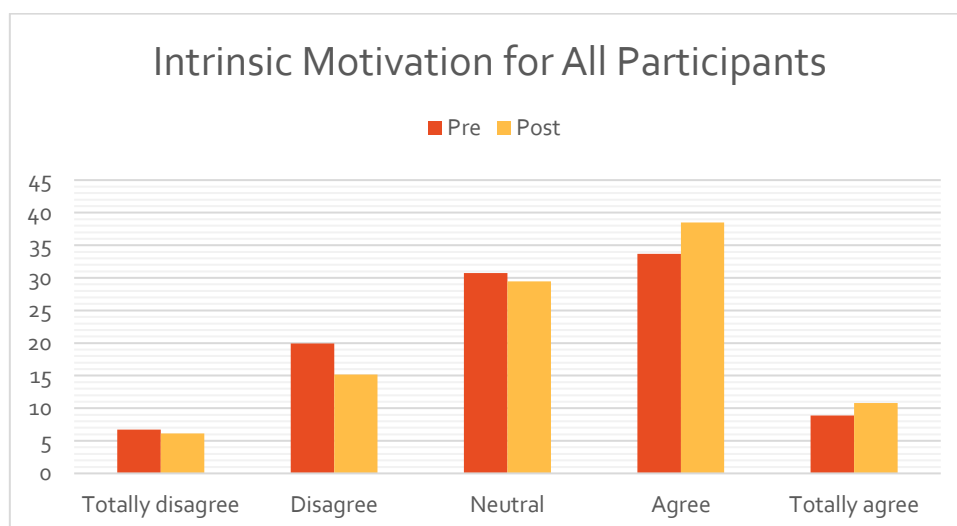


Figure 1: Intrinsic motivation (%) among all participants before (n=53) and after (n=49) the project.

Figure 1 illustrates the differences in the answers before *Realm of Knowledge* was implemented and after. In general, a shift to the right can be seen, with only the bars for Agree and Totally agree being higher in the post-survey than the pre-survey. This means that

intrinsic motivation improved among the students during the course of the experiment. However, in order to be able to answer the sub-question of how *Realm of Knowledge* has affected intrinsic motivation, the different groups need to be looked at to ensure this increase in intrinsic motivation is not mostly caused by HAVO₄ – the control group.

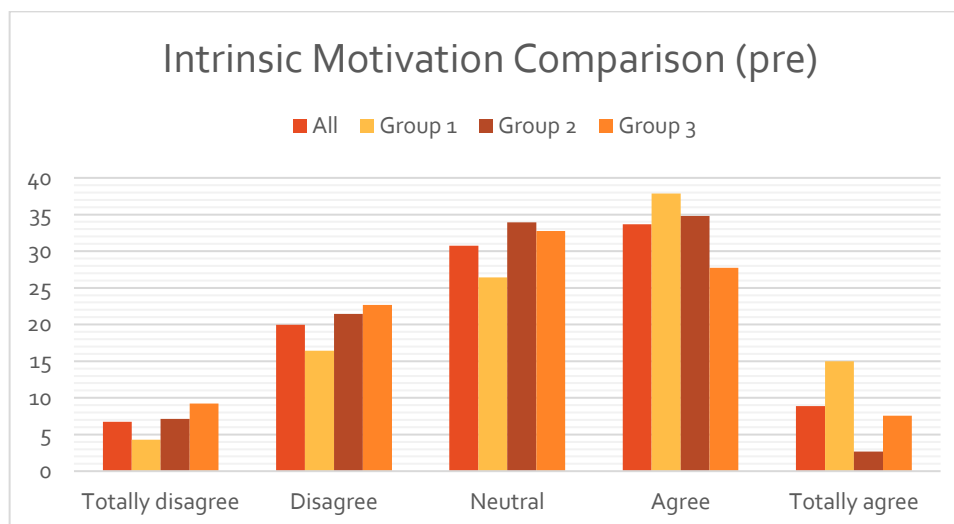


Figure 2.1: Comparison of intrinsic motivation (%) among the different groups before the project.

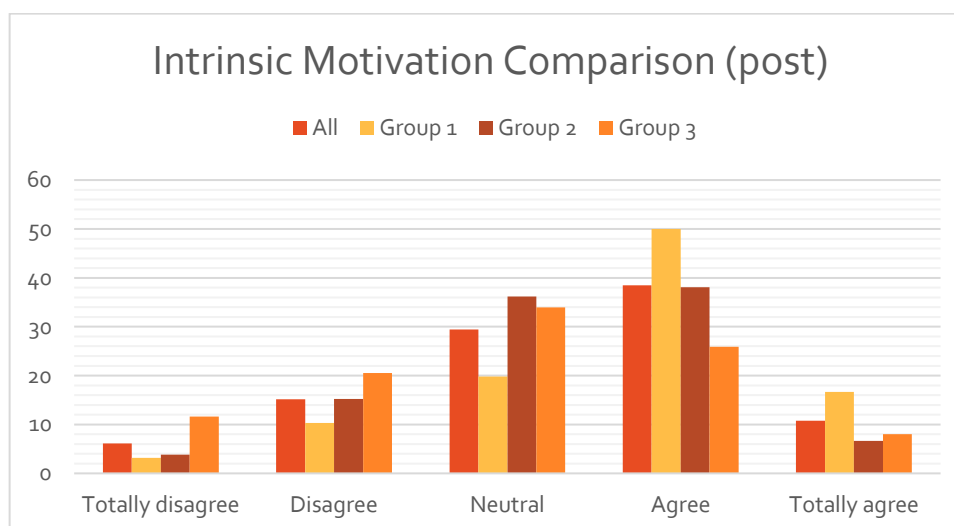


Figure 2.2: Comparison of intrinsic motivation (%) among the different groups after the project.

In Figure 2.1 and 2.2, all groups have been separated and put next to the overall results as displayed in Figure 1. This makes it fairly easy to see how the different groups influence the average. Based on the size of the bars, VWO_{4a} was the most agreeing class, while HAVO₄ was the most disagreeing class before the project took place. VWO_{4b} was the most

neutral group. This division remains the same after the project. Therefore, it is highly unlikely that the positive changes in the intrinsic motivation category are caused by HAVO₄. To ensure this is the case, the experiment group as a whole has been looked at.

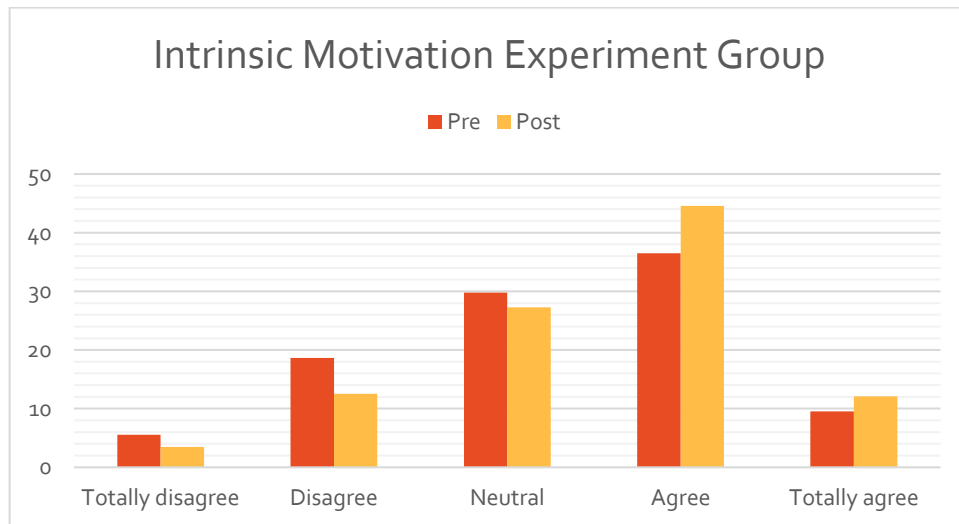


Figure 3: Intrinsic motivation (%) of the experiment group before (n=36) and after (n=33) the project.

Figure 3 demonstrates the changes in intrinsic motivation for the experiment group as a whole. The shift to Agree and even Totally agree is evident. In fact, the increase in intrinsic motivation has been calculated to be 10.68%, going from 46.03% in total to 56.71%. All other categories have seen a loss in percentages, with 8.19% less for disagree and 2.49% less in neutrality.

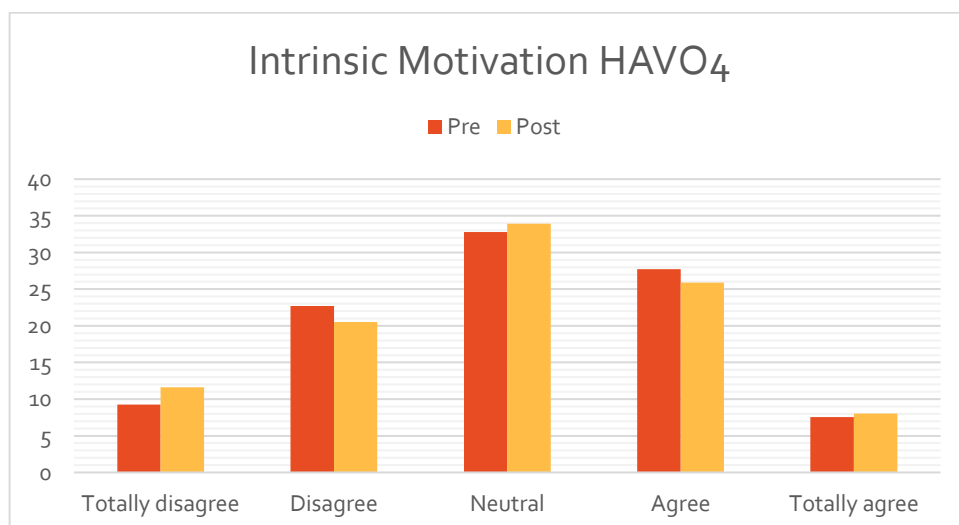


Figure 4: Intrinsic motivation (%) of the control group before (n=17) and after (n=16) the project.

Contrary to Figure 3, Figure 4 hardly sees a change. The shift for the control group is more to the left than to the right, implying their intrinsic motivation has gone down on average by 1.36%, divided over neutrality (+1.15%) and disagree (+0.21%). The change in intrinsic motivation for HAVO₄ is significantly less than the change in the experiment group.

In order to identify how the discrepancies between the pre-project and post-project answers for the experiment group (Figure 3) have manifested, it is essential to look at the two experiment groups individually. Especially since these groups had different circumstances. VWO_{4a} was taught by their own teacher, whereas VWO_{4b} was taught by another teacher. Nevertheless, their own teacher, Mr D, was there to support as well.

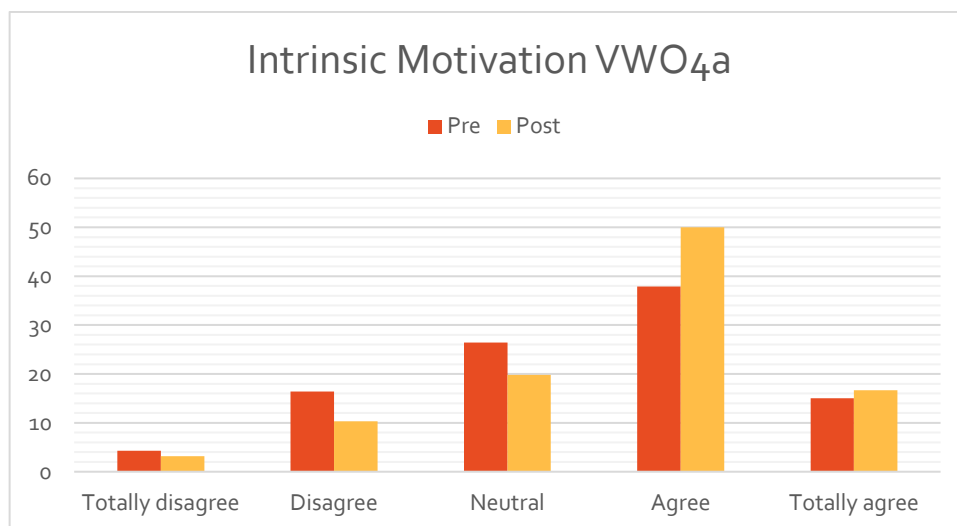


Figure 5: Intrinsic motivation (%) of VWO_{4a} before (n=20) and after (n=18) the project.

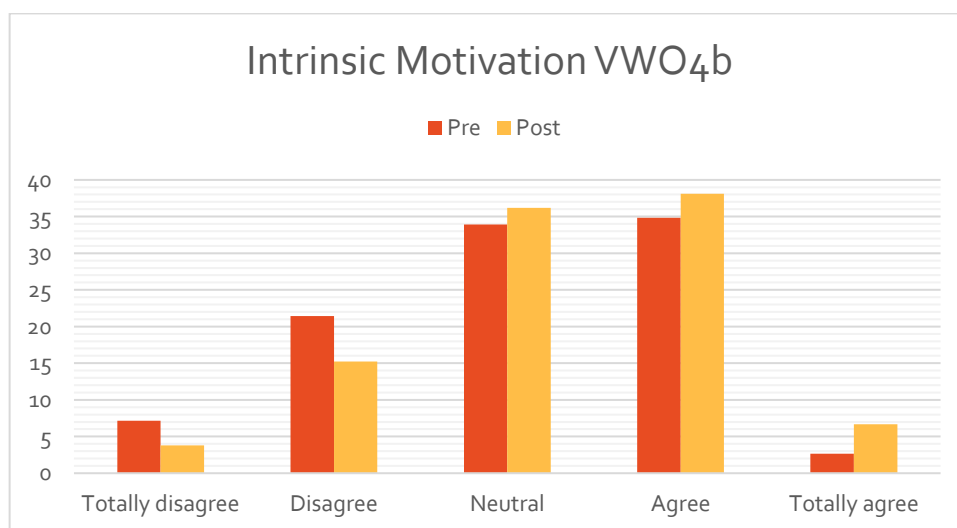


Figure 6: Intrinsic motivation (%) of VWO₄b before (n=16) and after (n=15) the project.

VWO₄a's changes resemble that of the experiment group as a whole. However, the increase in intrinsic motivation for VWO₄a is 13.81%. This illustrates that VWO₄a is mostly responsible for the high increase in intrinsic motivation. Nevertheless, VWO₄b (Figure 6) also has a heightened intrinsic motivation (+7.26%) and an increased neutrality (+2.26%).

Looking at the comments given in the open question asking about their motivation, this shift is also visible. Whereas seven participants commented on motivation prior to *Realm of Knowledge*, only two did after. Both of these last two were positive comments ("RoK is great"⁵ and "I found *Realm of Knowledge* great fun <3"⁶), while the comments in the pre-survey were mostly about the lack of motivation, for instance "I just don't have any motivation for my own life"⁷ and "It's nice when class get cancelled"⁸. The student who said *Realm of Knowledge* is great, commented prior to the game as well: "English is very easy to me and I don't do much for tests."⁹ Going from an apathetic attitude to enthusiasm, illustrates *Realm of Knowledge* was able to intrigue this particular male learner and with that improve his motivation.

Furthermore, the comments that were positive in the pre-project survey, were about games they had done in class. Going from four negative comments, one suggestion and two positive comments to no negative comments, no suggestions and two positive comments demonstrates a change in motivation.

Additionally, during the focus groups there was one student in FG2 said, "I wanted to finish the story,"¹⁰ as a reply to the question of what kept them going even if it was difficult or boring. The others in her group agreed, showing that they wanted to know where it was going and they were spurring themselves on without need of external forces.

While all this illustrates that implementing a TTRPG influences the intrinsic motivation of EFL students in a positive way, more data is needed to fully answer sub question 5, how the use of a TTRPG affect intrinsic motivation in EFL learners. The comments from the focus group mentioned above were a start, but the data from the *Realm of Knowledge* survey needs

⁵ Rok is geweldig.

⁶ Ik vond de realm of knowledge erg leuk <3

⁷ Ik gewoon geen motivatie voor mijn eigen leven.

⁸ Uitval is ook leuk.

⁹ Engels vind ik erg makkelijk ik doe altijd weinig voor toetsen.

¹⁰ Ik wilde het verhaal afmaken.

to be analysed together with the answers from the focus groups to determine how the learners saw the TTRPG specifically and what this has done for their intrinsic motivation.

Concerning the *Realm of Knowledge* survey, the following questions were about intrinsic motivation: 1, 4, 7, 9, and 11 (see Appendix A). These statements were about the enjoyment of the game and whether they saw its usefulness and were in essence the same as the statements about intrinsic motivation in the general survey. An added intrinsic motivation theme was if they would like to play it more often.

The chart for the *Realm of Knowledge* survey in comparison to the general post-project survey can be seen in Figure 7. The distribution of the percentages is very different in the two surveys. There are 13.68% more disagreeing answers in the *Realm of Knowledge* survey than the general survey. Additionally, there is 13.07% less agreement with the statements and 0.61% less in neutrality as well.

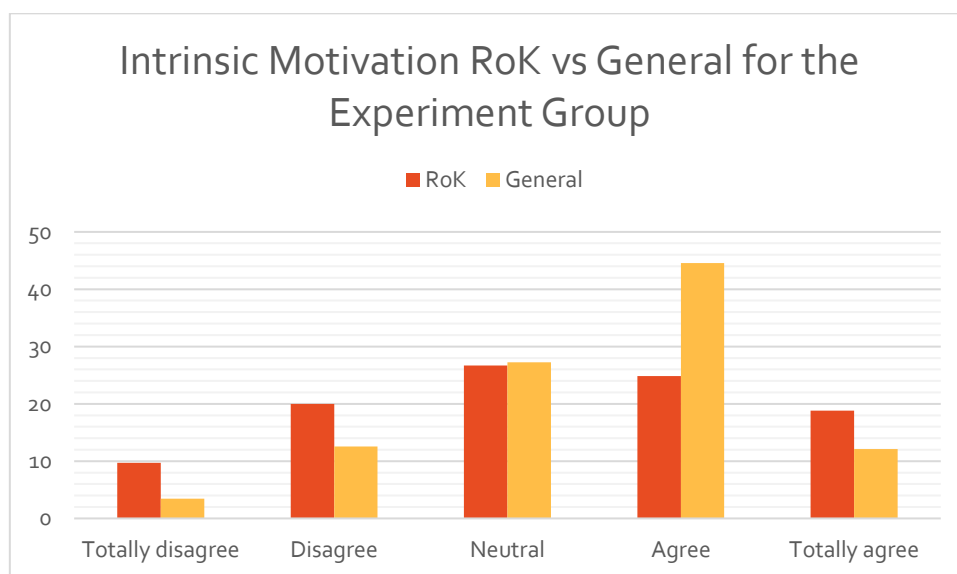


Figure 7: Comparison of intrinsic motivation (%) between the *RoK* survey (n=33) and the general post-project survey (n=33).

In order to determine why this chart looks so different, the individual questions have been looked at to see if a specific statement is the cause for this discrepancy (Figure 8). This way it becomes clearer what the students are disagreeing with.

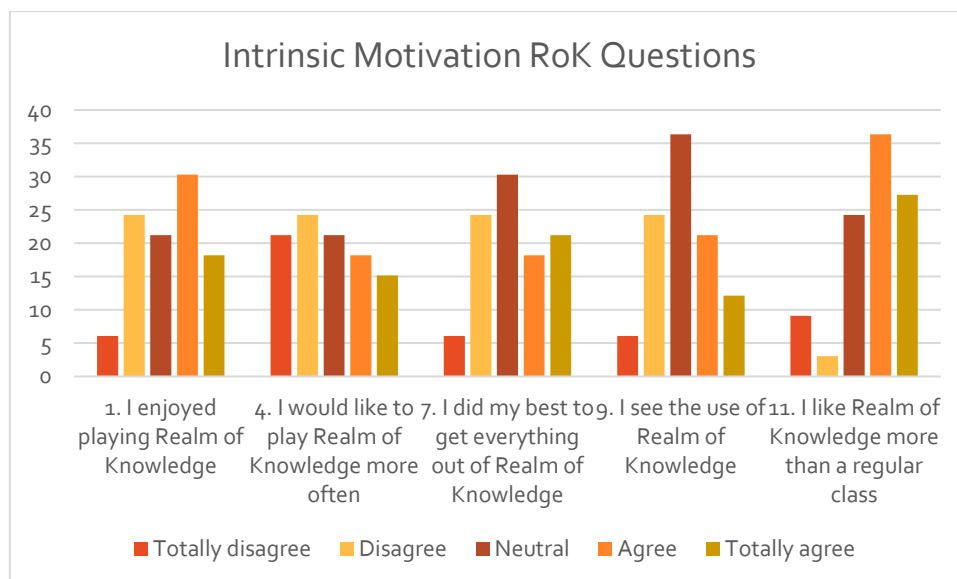


Figure 8: Answers (%) to the statements about intrinsic motivation in the *Realm of Knowledge* survey (n=33).

This chart (Figure 8) suggests three things: *Realm of Knowledge* was definitely enjoyed more than a regular class, the majority would not like to play *Realm of Knowledge* more often, and the purpose of the game was not clear enough. These first two are contrasting each other, but are not mutually exclusive. After all, something can be more enjoyable, but not something they would want to do again. Fortunately, the focus groups provide some perspective.

FG1 explained there should be more fun games and it should be less difficult (in the game mechanics). The second group said something similar, “It’s better than other classes,” but “it was sometimes boring.”¹¹ Their feedback was mostly about the game design as well: it was sometimes too much information or too repetitive. FG3 also suggested to have more game assignments and less assignments that required them to fill in the correct grammatical version of a word. From these answers it would appear that the design of the game was part of the issue, but not the format in itself. Especially since all groups responded with a resounding “yes” when asked if they would want to play this more often in class if it was adjusted. This includes the two students from FG1 who had stopped playing during the classes and the students from FG2 and FG3 who had initially said “The class was

¹¹ Het is beter dan andere lessen. [...] Soms was het wat saai.

mandatory”¹² and “I was there anyway”¹³ to the question of why they continued playing when things were difficult or boring.

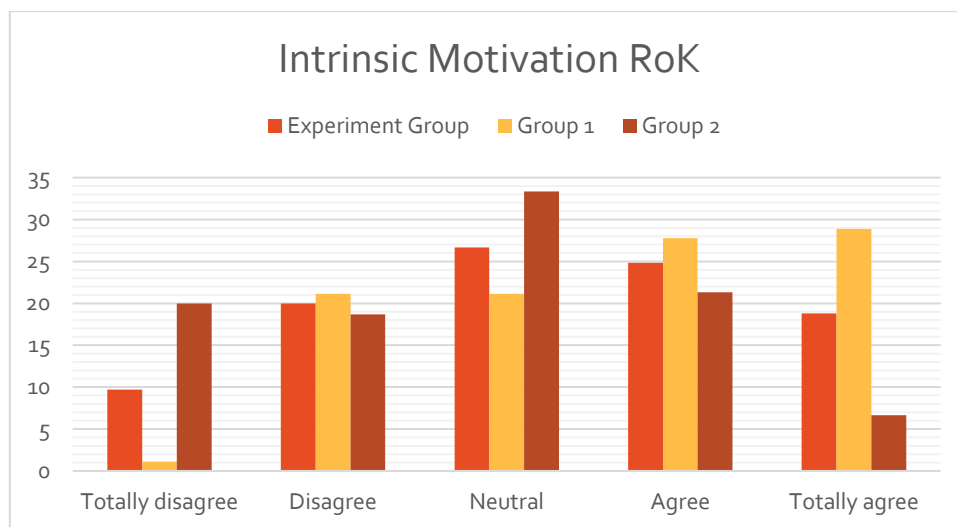


Figure 10: Intrinsic motivation for RoK (%) for the experiment group as a whole (n=33), VWO_{4a} (n=18) and VWO_{4b} (n=15).

The information given by the learners in the focus groups explains that there is more potential in the use of TTRPG than perhaps Figure 9 shows. Of course, this game format might not be for everyone as seen in the answers for statement 1 about enjoying the game, but changes could be made to get those bars shifting to the right. To demonstrate this is also backed up by the data, the two experiment groups were looked at separately (Figure 10). As stated before, VWO_{4a} and VWO_{4b} had different circumstances. VWO_{4a}'s teacher is the author of this thesis and therefore *Realm of Knowledge* was influenced in favour of this group. The bars for VWO_{4a} do not reflect the experiment group as a whole.

Figure 11 and Figure 12 illustrate this further. For VWO_{4a} (Figure 11), only question 4 has a bar in Totally disagree (n=1), whereas VWO_{4b} (Figure 12) has at least one person totally disagreeing in every question. Additionally, VWO_{4a}'s level of agreement is higher than the other levels for every statement. This is not the case for VWO_{4b}, which only has this for question 11 with 53.33% and, although it might not look like it, question 1 with a 0.01% difference in favour of agree. The rest of the statements score the most on disagree (4 and

¹² De les was verplicht.

¹³ Ik was er toch.

7) or neutral (9). These charts demonstrate that the experiences of the two groups were very different.

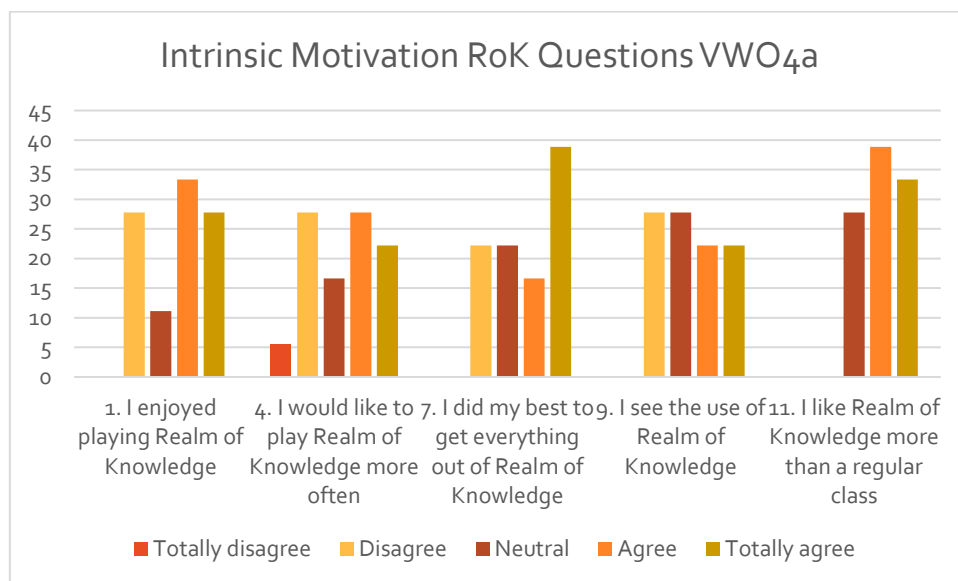


Figure 11: VWO4a answers (%) to the statements about intrinsic motivation in the *Realm of Knowledge* survey (n=18).

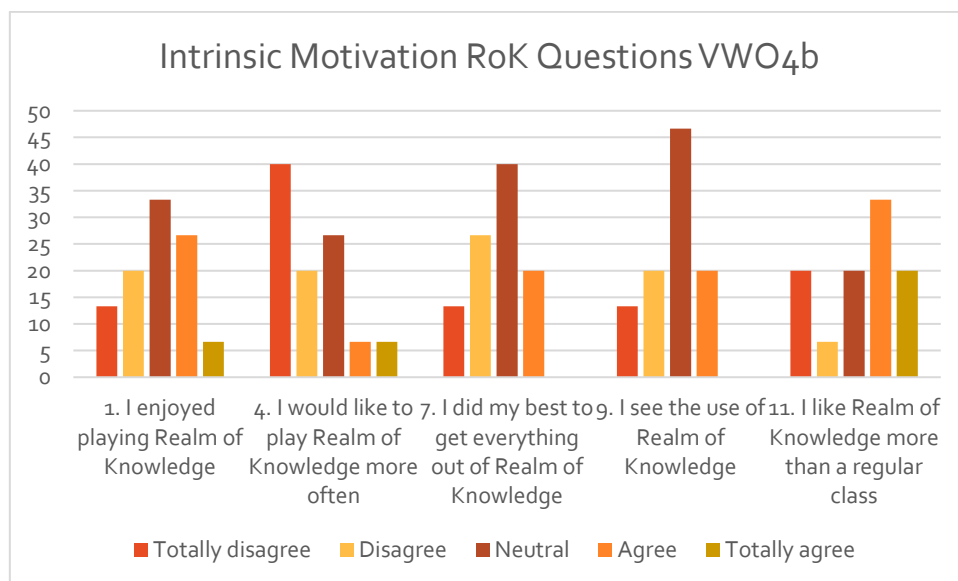


Figure 12: VWO4b answers (%) to the statements about intrinsic motivation in the *Realm of Knowledge* survey (n=15).

It is unfortunate that only one student from VWO4b was willing to join the focus groups, as they would have been able to provide a lot of feedback on how they experienced the game. During the lessons, some students did seem to really enjoy themselves and – as can be read in the teacher observations (Appendix F) – one group even spoke about it outside of class;

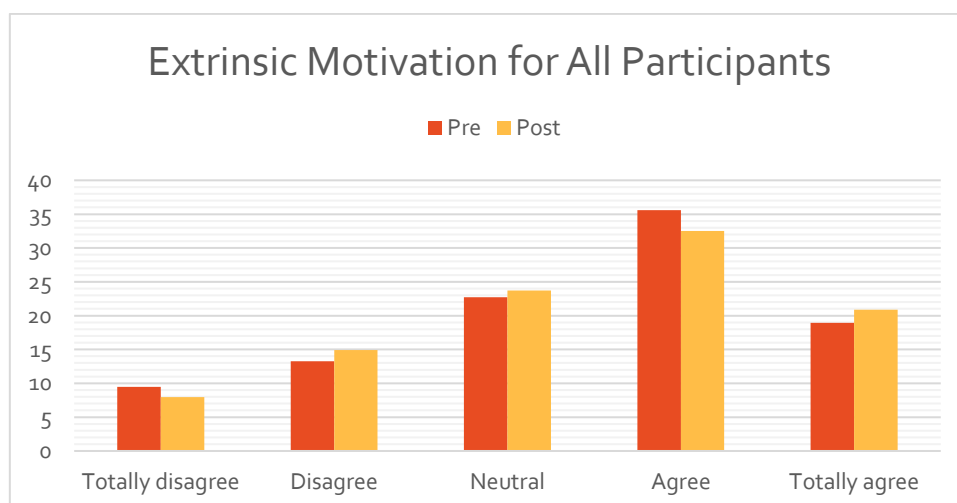
getting a friend to join the lessons because he had free hours then. Since he came back after the first time he played with his friends, it could be concluded he enjoyed it.

Nevertheless, even though the focus groups mostly consist of learners from VWO_{4a}, the feedback from the students during the focus group interviews does clarify how they felt about the game. When asked what they thought of *Realm of Knowledge*, FG₁ and FG₂ initially replied with “fun”¹⁴ and then followed up with additional comments. FG₃ explained that it was fun once they got the hang of it. Additionally, FG₁’s students said that “because it was fun, it was easier to keep going.”¹⁵ Finally, as stated before, they would all want to play it again if there were certain changes in the game itself.

All information from the charts in addition to the comments from the focus group participants demonstrate that intrinsic motivation can be increased significantly by using a TTRPG (+10.68%). However, it is key that the implementation of it is tailored to the group and the game has to have a solid design in order for it work well.

Extrinsic Motivation

As with intrinsic motivation, the statements regarding extrinsic motivation were isolated. These are 4, 7, 8, 11, 15, 16, 17, 18, 20, and 21 (see Appendix A). The statements were about getting good grades, feeling competent, and external factors like classmates and the teacher.



¹⁴ Leuk

¹⁵ Omdat het leuk is om te doen is het ook makkelijker om vol te houden.

Figure 13: Extrinsic motivation (%) among all participants before (n=53) and after (n=49) the project.

Figure 13 demonstrates the differences in extrinsic motivation before and after *Realm of Knowledge* was implemented. At first glance it is clear that the level of agreement has gone down (-1.17%). The level of neutrality has gone up by 0.99% and disagree received 0.18% more replies.

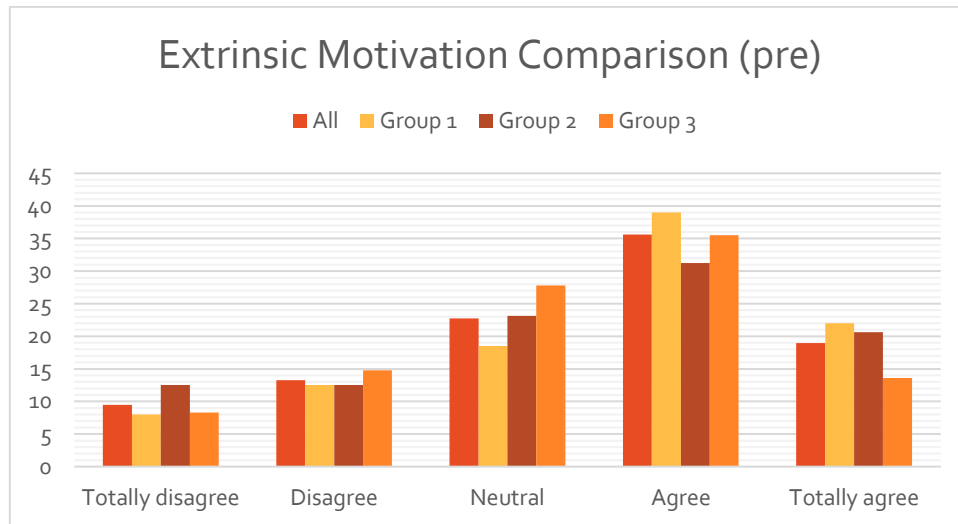


Figure 14.1: Comparison of extrinsic motivation (%) among the different groups before the project.

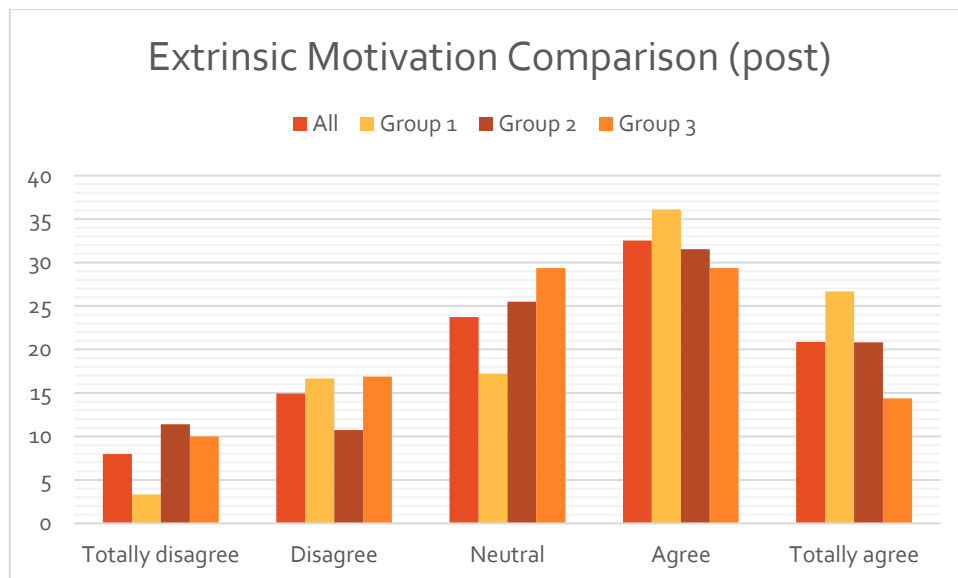


Figure 14.2: Comparison of extrinsic motivation (%) among the different groups after the project.

The charts above (Figure 14.1 and 14.2) show a slightly different distribution than intrinsic motivation. Before the project, VWO₄b was the most disagreeing group, whereas HAVO₄ was the most neutral. VWO₄a was again the most agreeing group. After the project, however, this changed. HAVO₄ went back to being the group with the highest level of disagreement, VWO₄b became slightly more neutral and agreeing, and while VWO₄a sees a shift in the level of disagreement, they were still the group with the highest level of agreement after the experiment.

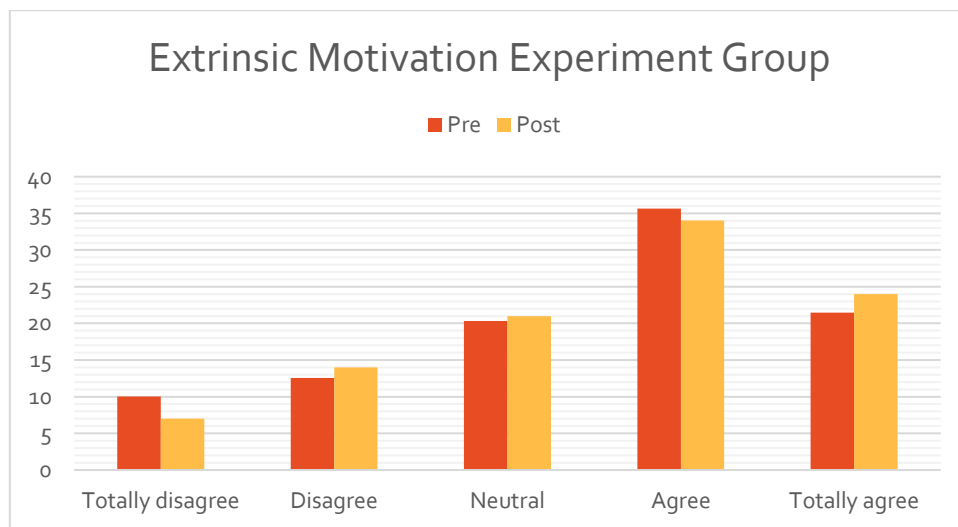


Figure 15: Extrinsic motivation (%) of the experiment group before (n=36) and after (n=33) the project.

Looking at the experiment group (Figure 15), the change is minimal at first glance. The level of disagreement has gone down by 1.59% and the other two have gone up. Neutrality has risen by 0.64% and agreement by 0.95%. Albeit little, the increase in motivation in the experiment group explains that HAVO₄ is the cause for the small decrease in extrinsic motivation that was seen in Figure 13 and this is reflected in Figure 16.

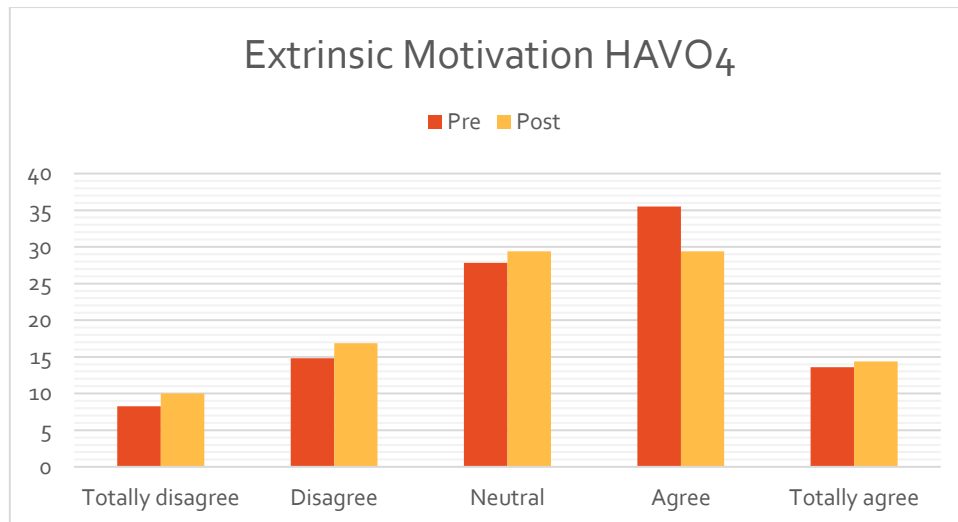


Figure 16: Extrinsic motivation (%) of HAVO₄ before (n=17) and after (n=16) the project.

Just as before, HAVO₄ sees a shift to the left (Figure 16). The level of disagreement increased with 3.8% and neutrality with 1.56%. Agreement sees a decrease of 5.36%. This means the extrinsic motivation in this group has decreased.

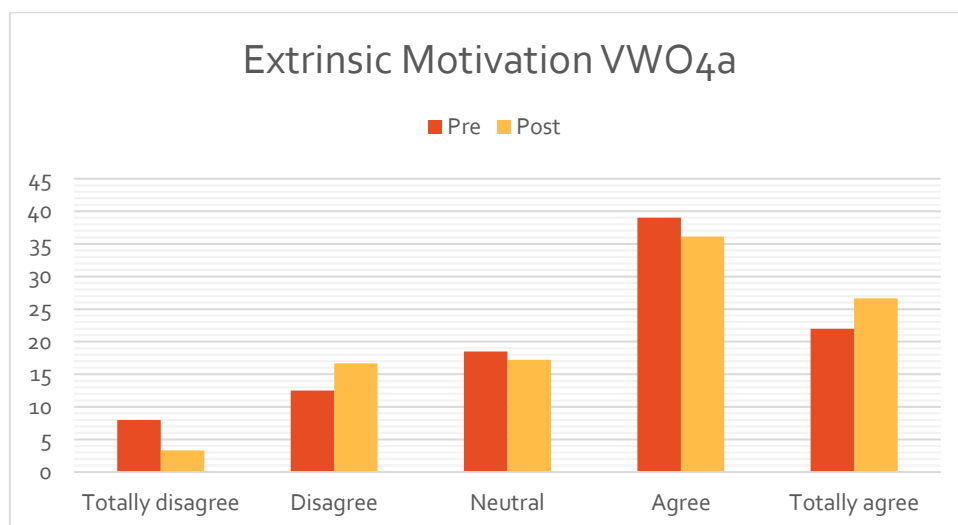


Figure 17: Extrinsic motivation (%) of VWO_{4a} before (n=20) and after (n=18) the project.

While it may look like the level of disagreement has increased in VWO_{4a}, it has actually gone down with 0.5%. Neutrality additionally sees a loss of 1.28%. The level of agreement increased by 1.78%. Nevertheless, the number of participants is low, so a 0.5% decrease in this case is a difference of 12 replies among all ten statements about extrinsic motivation.

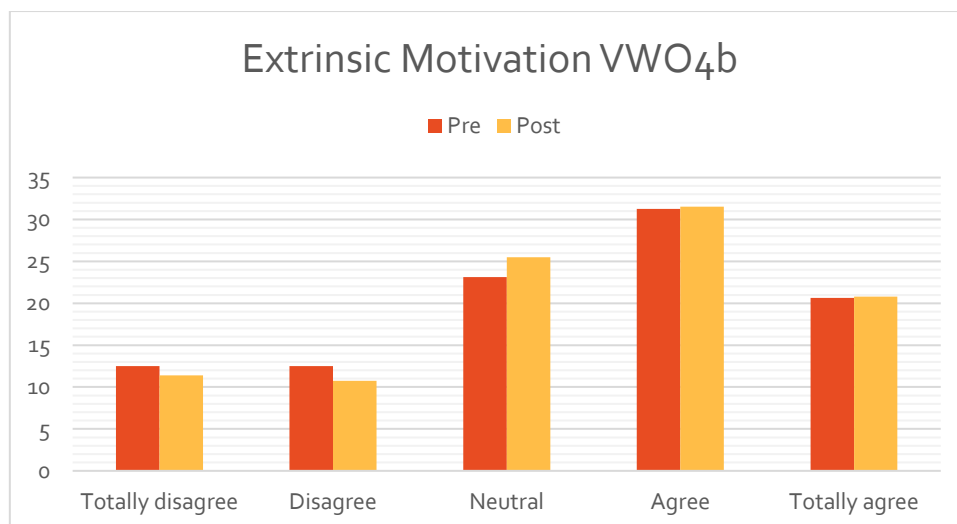


Figure 18: Extrinsic motivation (%) of VWO4b before (n=16) and after (n=15) the project.

VWO4b also sees a slight increase in extrinsic motivation (+0.47%). The level of neutrality, however, sees the biggest increase (+2.38%). This means that the participant disagreed 2.85% less than before the project. This is positive as whole as it illustrates that a step has been taken in the right direction to increase extrinsic motivation in this group.

To shed more light on extrinsic motivation, the survey had an open question about how passing or failing the current year affected students' motivation. Before the lesson series was implemented, 46 learners answered that they would pass the year and seven said they would not. After the project, this shifted to 39 participants stating they would pass and ten that they would not.

In general, the answers to the question of how it influences their motivation can be categorised in three divisions: it does not influence their motivation, they are more motivated to work hard, and they are less motivated to work hard. These are for both the participants who will pass this year and the students who will not pass this year. The percentage of students who say it does not affect their motivation has stayed relatively the same before (38% out of the 53 students) and after the study (41% out of the 49 students); both having 20 students. However, before the study, this was only said by learners who would pass and after two out of the 20 students were on fail.

When it concerns the percentages of the learners who say they work harder, there is a greater discrepancy. Before the project, it was 26% (n=14) of the 53 learners and after the study this percentage became 35% (n=17) of the 49 learners. This category also sees an increase of failing students and went from two to four students who will not pass.

Those who said their motivation has become less due to their pass or fail status, started out with 15% (n=8) of the 53 learners. These were five learners that would pass, and three that said they would fail. After the project, only 6% answered that their motivation had worsened thanks to their pass or fail. Two of the students said they would fail, while only one participant who said their motivation became less would pass.

These results illustrate that the effect passing or failing has on a person is very personal. To enforce this statement, some of the comments from the pre-project survey and post-project survey will be compared. While not all answers could be linked because not all students had filled in their names, there are some that provide insight. Student 41, for instance, stated they would pass in the pre-project survey. The comment this student wrote was that they had a few insufficient grades, but that they were going to get them to sufficient ones. For the post-project survey, they said they would fail, but their motivation was still there: "I will show [more] commitment and put in more effort"¹⁶. Student 21's status did not change, but their comments did. It went from that it did not really affect their motivation because they felt they were doing fine to them trying their best for subjects that had lower grades even though they were on pass for both surveys. The same goes for Student 42, who first said it did not affect their motivation and then explained he wanted to keep his grades up. Finally, Student 24 said in the pre-project survey that they were not really motivated to do anything for subjects they had a 7 or 8 (out of 10) for on average, but in the post-project survey they answered that they were going to try and do their best in the test week for English specifically because they had a lower grade for that subject.

It is not possible to determine whether *Realm of Knowledge* affects this specific aspect of extrinsic motivation since the answers were anonymous and could not be linked to the focus groups learners. To keep their anonymity, it was not asked if they would pass or not and whether the game might influence their motivation for the better in this regard. Nevertheless, what is implied by the answers is that it is mostly grade-related. "If I have high grades for some subjects, I don't have much motivation to put in effort for classes, especially this late in the year when there are only a few tests left"¹⁷ or "I want to go on to the next year

¹⁶ Dat ik met inzet ga tonen en veel moeite ga doen.

¹⁷ Als ik voor sommige vakken nu hoog sta heb ik minder motivatie om daar nog veel werk en moeite in te stoppen, zeker nu aan het eind van het jaar wanneer er nog maar een paar toetsen komen.

and if my grades aren't that great, that gives me the motivation to study more"¹⁸ envelop the general gist of the comments that either explained their heightened or weakened motivation.

However, even though it has not affected how students feel about passing or failing, the other results for the survey about the game demonstrate that it did have effect on other aspects of extrinsic motivation. Figure 19 compares the answers for the *Realm of Knowledge* survey to the answers given to the general post-project survey.

This figure is similar to Figure 7 about intrinsic motivation in the way that the bars for agreement in the *Realm of Knowledge* survey are lower than for the general survey and the rest is higher, except for totally disagree in this figure. By looking at the answers given to the individual questions, the reason for this can be explained.

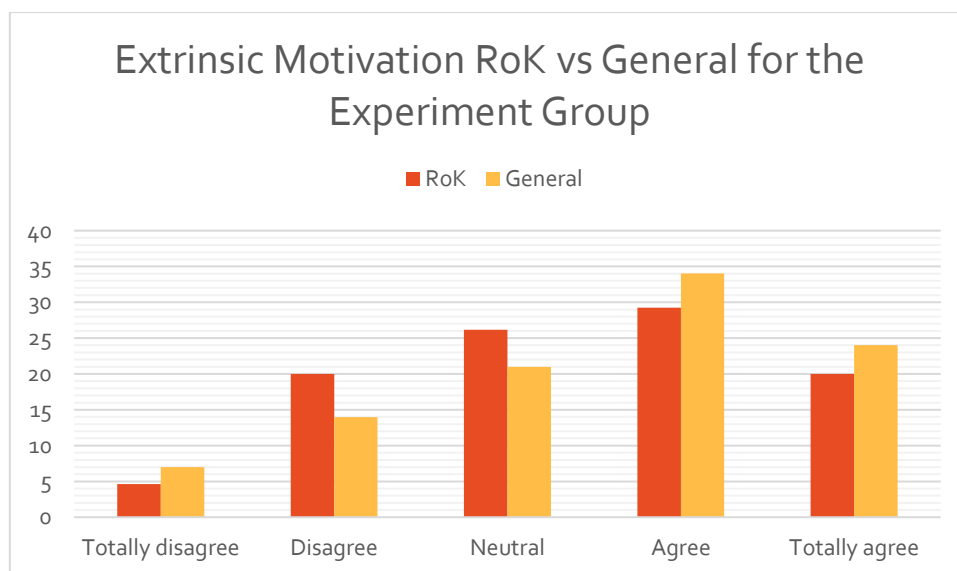


Figure 19: Comparison of extrinsic motivation (%) between the *RoK* survey (n=33) and the general post-project survey (n=33).

¹⁸ Ik wil graag over en als mijn cijfers niet zo goed zijn, krijg ik motivatie om meer te leren.

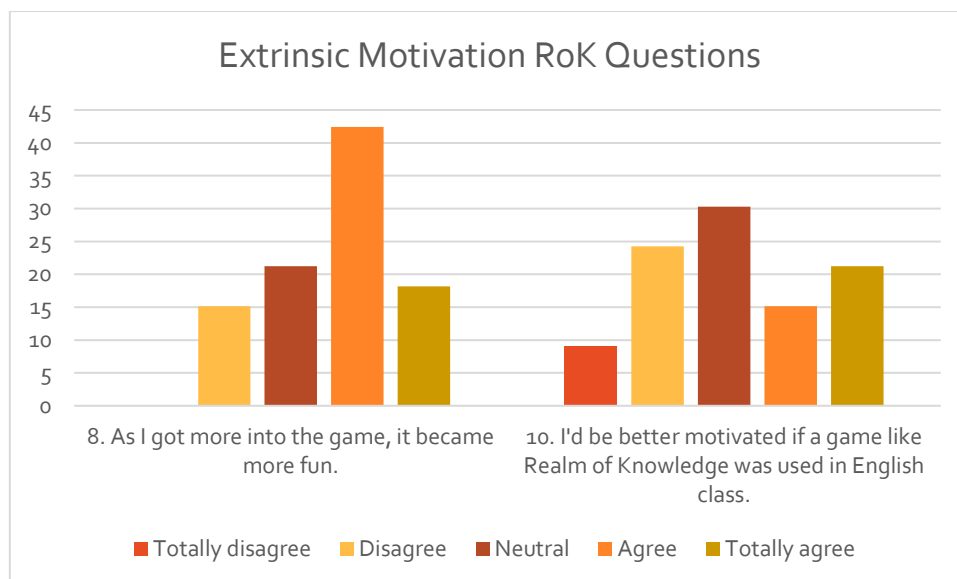


Figure 20: Answers (%) to the statements about extrinsic motivation in the *Realm of Knowledge* survey (n=33).

Figure 20 has the answers to the two extrinsic motivation statements in the survey for the experiment group as a whole. The first statement illustrates that once the initial hardships during the startup were dealt with, most students found it fun (60.6%). In other words, when it becomes less difficult, it enhanced motivation. Nevertheless, participants' opinions are divided on whether or not they would be more motivated if a TTRPG was used in the EFL classroom.

As expected from the general survey, VWO_{4a} was once again the group with the highest level of agreement (Figure 21), but the bars are slightly closer together overall than was the case for intrinsic motivation, reflecting the smaller increase in extrinsic motivation.

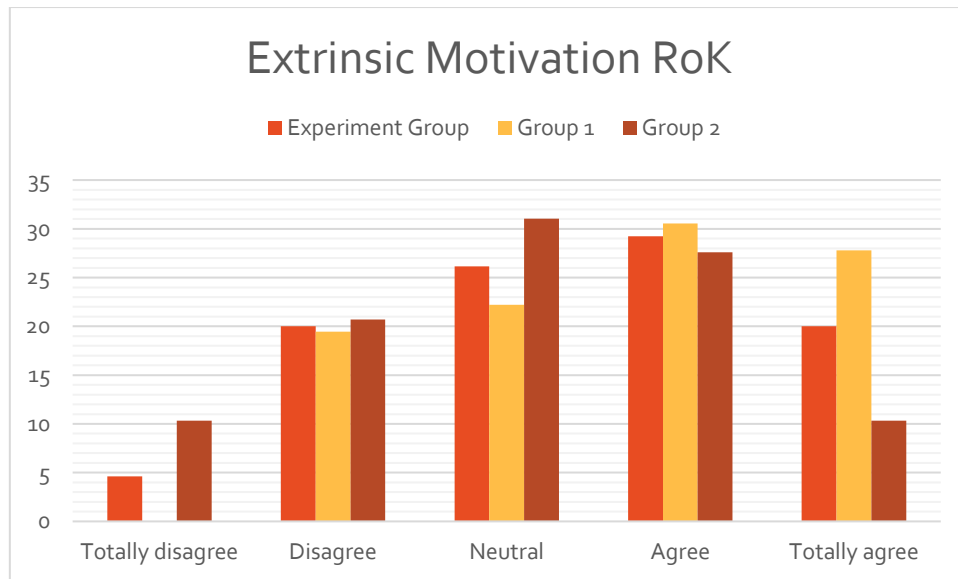


Figure 21: Extrinsic motivation for RoK (%) for the experiment group as a whole (n=33), VWO4a (n=18) and VWO4b (n=15).

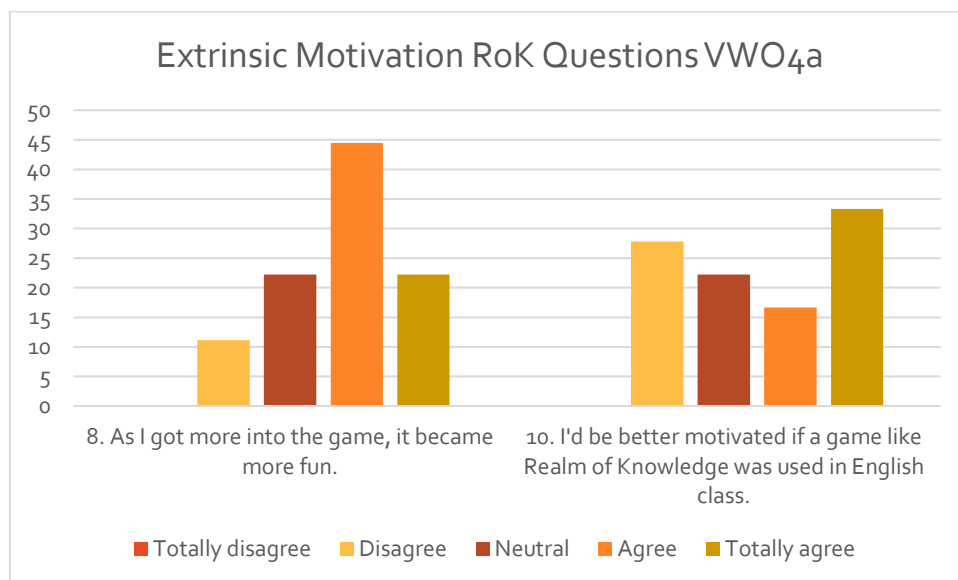


Figure 22: Answers (%) to the statements about extrinsic motivation for VWO4a in the *Realm of Knowledge* survey (n=18).

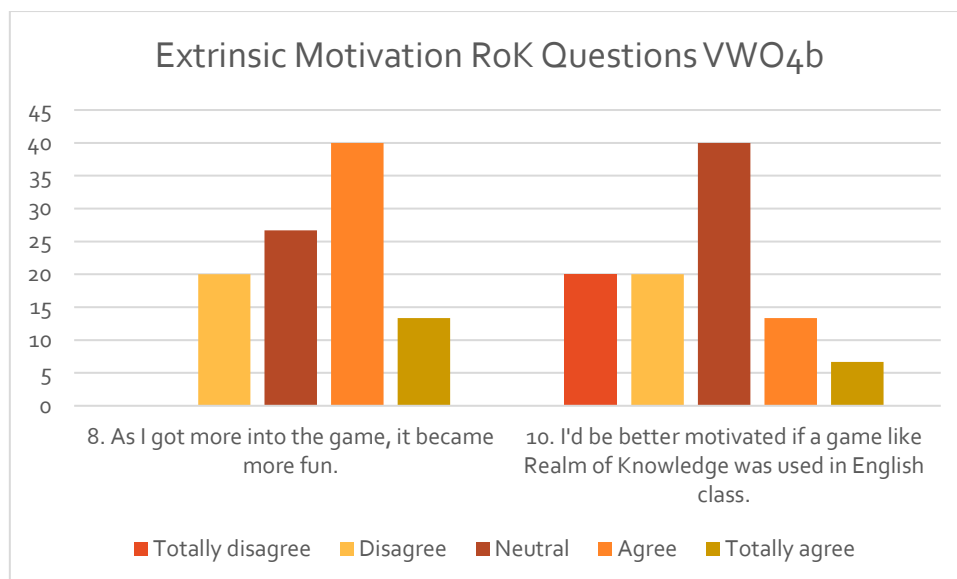


Figure 23: Answers (%) to the statements about extrinsic motivation for VWO4b in the *Realm of Knowledge* survey (n=15).

The questions have been looked at individually in Figure 22 for VWO4a and Figure 23 for VWO4b. VWO4a has a clear preference for *Realm of Knowledge* over regular classes when it comes to extrinsic motivation, whereas VWO4b indicates it does not help with students' motivation more than having regular English classes. Nevertheless, VWO4b does agree that it got more fun as it became easier to understand how it worked. However, the answers to the survey do not provide a full picture as there are only two statements about extrinsic motivation. The focus group interviews that shed more light on their extrinsic motivation during the lesson series.

FG1 already gave insight as soon as they answered the first question. "Fun, but difficult."¹⁹ It was unfamiliar and they had to figure things out by themselves too much. Additionally, because there was only one supervisor, they sometimes had to wait for a longer period of time, which decreased their willingness to participate. Furthermore, they felt that they had too much freedom and the game was unclear at times. The games were fun, but some were too difficult for them, so they suggested to make them easier. Additionally, concerning the game design, they felt that an escape room type of challenge would work well and might even offer more of a challenge than the old assignments.

The second focus group had different opinions. They felt that even though the game was fun, educational, motivating, and better than other classes, it was sometimes chaotic.

¹⁹ Leuk, maar moeilijk.

They agreed with FG₁ that there should be more game assignments. Unlike FG₁, though, they felt the freedom they had was a good thing. Additionally, they liked the mechanic that allowed them to assign points to their character themselves. Nevertheless, they would have liked it if there were recommendations for the distribution of the points to make it easier. Furthermore, they commented on the descriptions of the actions and that they should be uniform in its units and that there should be a better distribution of actions in terms of levelling up. It was demotivating for some that others got a new skill while they still had to wait a few more levels.

For FG₃ it was the difficulty of the game that affected their motivation. The answer to what they thought of the game was, "At the start it was difficult, but once you got into it, it wasn't."²⁰ They, however, commented on how playing with friends elevated the experience for them. They thoroughly enjoyed the brain teasers and picture puzzles, but would have liked to see even more game assignments, like the other groups.

All this answers the question of how a TTRPG affects extrinsic motivation in EFL learners. The current minor increase of 0.95% can be attributed to the changing atmosphere by working together with friends and the difficulty and setup of the game stagnated that growth. Based on previous research, it was to be expected that the results for extrinsic motivation would be smaller than intrinsic motivation. Extrinsic motivation could be improved more if certain game elements are changed, for instance by providing rewards if they complete challenges or the campaign itself.

Amotivation

Four statements tested amotivation in the general survey: 6, 9, 12, and 14 (see Appendix A). They are about seeing the point of English lessons and not enjoying classes or English in general and not as a subject. Figure 24 has a comparison between the pre-project survey results and the post-project survey results. There is a 2.63% increase in the level of disagreement and a 0.43% rise in neutrality. This means that there is a 3.06% decrease in the level of agreement, which demonstrates participants were experiencing less amotivation than before *Realm of Knowledge* was played.

²⁰ De opstart was moeilijk, maar als je er eenmaal inzit niet.

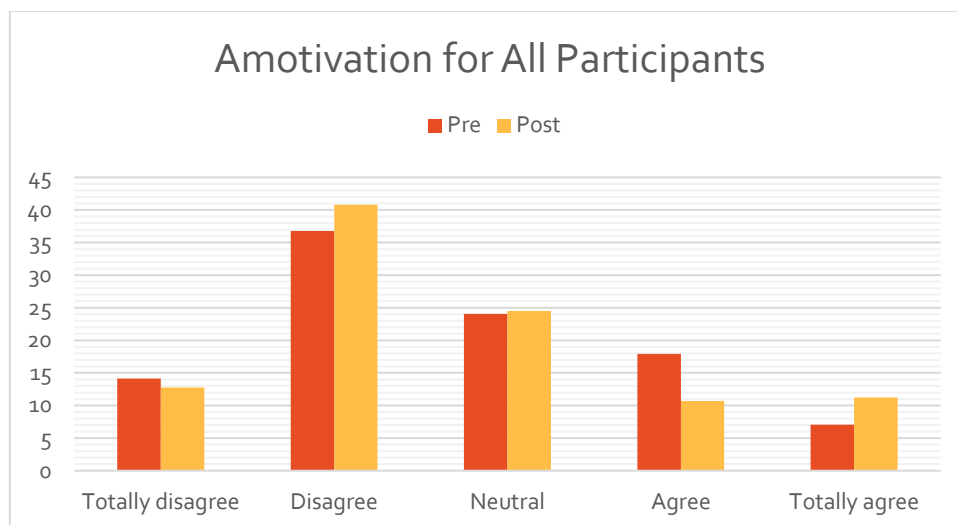


Figure 24: Amotivation (%) among all participants before (n=53) and after (n=49) the project.

Concerning the groups individually, VWO_{4b} was the most disagreeing group (59.37%), followed closely by VWO_{4a} (58.75%), as can be seen in Figure 25.1. HAVO₄ was the most agreeing (38.23%). This shows that VWO_{4a} and VWO_{4b} have less amotivation than HAVO₄, meaning that their motivation has improved.

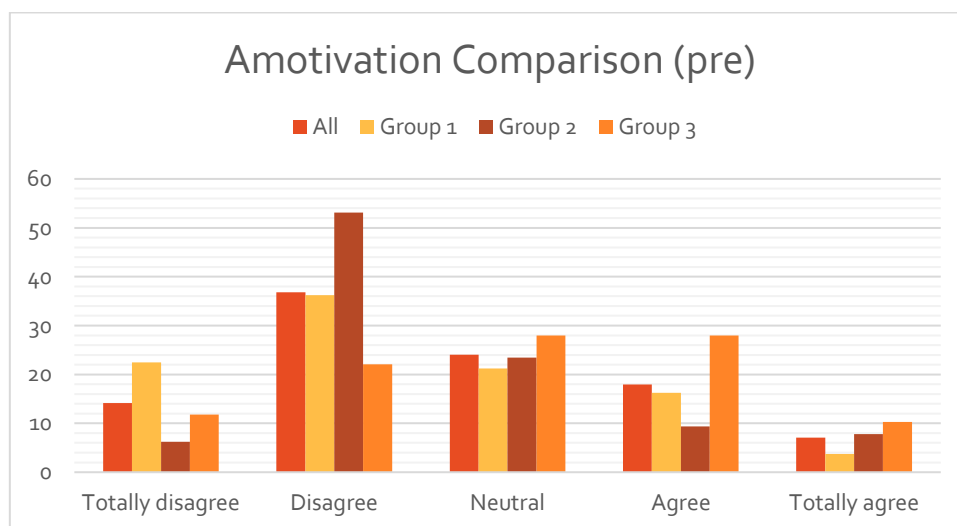


Figure 25.1: Comparison of amotivation (%) among the different groups before the project.

This distribution shifted after the project. VWO_{4a} became the most disagreeing group (61.11%) and VWO_{4b} went down to 55% for the level of disagreement. HAVO₄ sees a clear rise in the disagree section as well. Their level of disagreement went from 33.82% before the period of the project (Figure 25.1) to 43.75% after the period of the project (Figure 25.2).

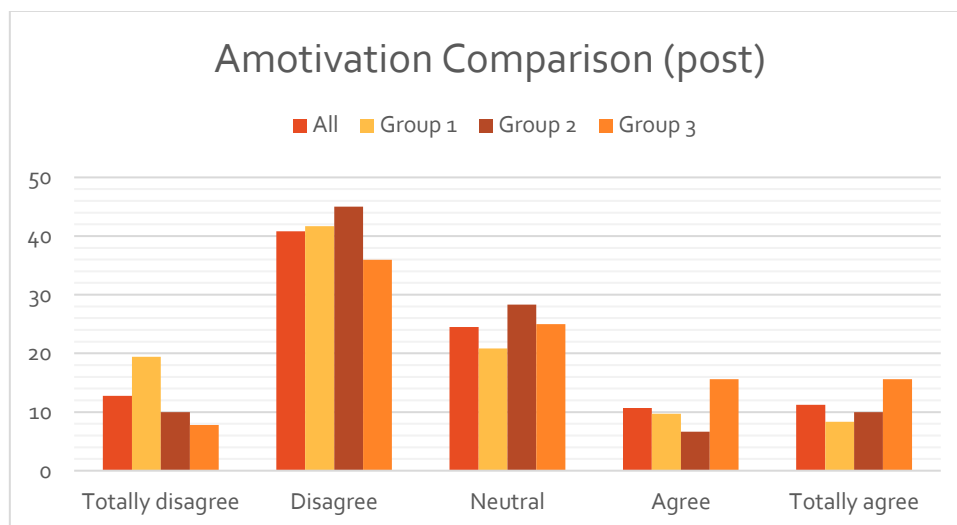


Figure 25.2: Comparison of amotivation (%) among the different groups after the project.

However, HAVO₄ was a control group, meaning they continued regular EFL classes. Nevertheless, there was a change in their lessons: they were now given the option to choose one of three assignments every class to prepare them for their tests. This may have had something to do with the change in amotivation for HAVO₄ that is clearly visible in Figure 26, but as this is a change in the core condition of autonomy, that will be discussed in the core condition section.

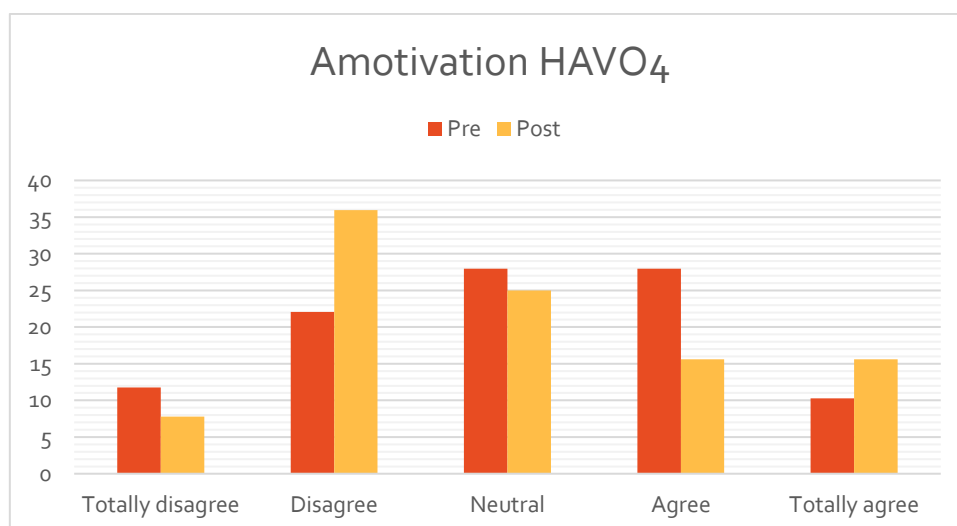


Figure 26: Amotivation (%) of HAVO₄ before (n=17) and after (n=16) the project.

For the experiment group, the chart looks slightly different (Figure 27). This group has become more neutral in the amotivation category. The majority of the participants still disagree with the amotivation statement after *Realm of Knowledge* was implemented

(58.33%), but there is a decrease there of 0.69%. The level of neutrality has gone up with 2.02%, whereas agreement has decreased by 1.32%. The decrease in the percentage of participants who agreed indicates that there is less amotivation in the experiment group, but the decrease of the percentage of people who disagree illustrates there is slightly more amotivation as well.

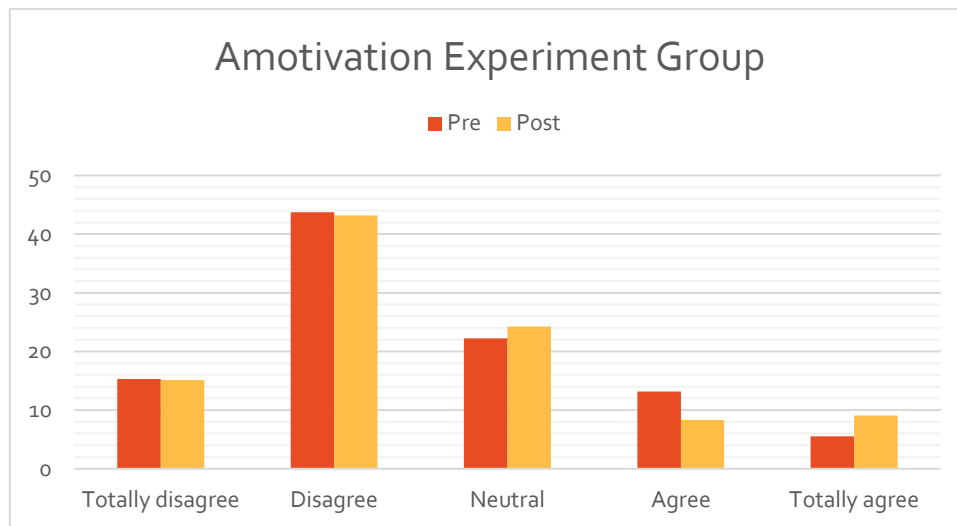


Figure 27: Amotivation (%) for the experiment group as a whole before (n=36) and after (n=33) the project.

These minor changes can be explained by the answers given during the focus group interviews. FG2 and FG3 both mentioned continuing the game because they were there anyway, indicating a lack of motivation. It was one of the students from FG3, however, who specifically said, "It felt useless at times."²¹ This promotes amotivation and this specific aspect of amotivation was tested in both the general and the *Realm of Knowledge* survey. The answer to those statements (6 and 9 in the general survey, 5 in the *Realm of Knowledge* survey) are illustrated below (Figure 28, Figure 29 and Figure 30 respectively). Figure 28 demonstrates a more neutral attitude towards the statement that they once had a good reason to follow class, but not anymore.

²¹ Het voelde nutteloos soms.

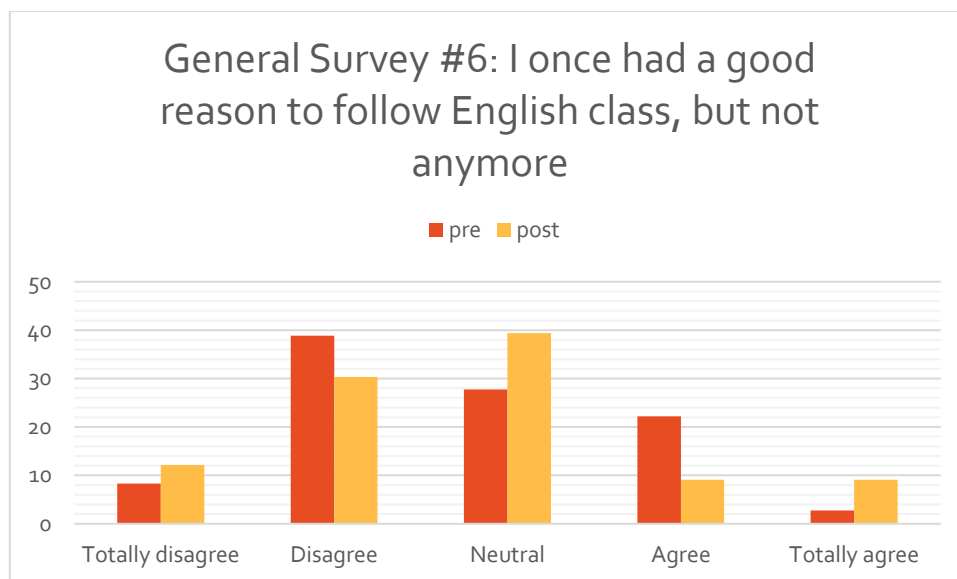


Figure 28: Answers (%) to statement #6 in the general survey for the experiment group before (n=36) and after (n=33) the project.

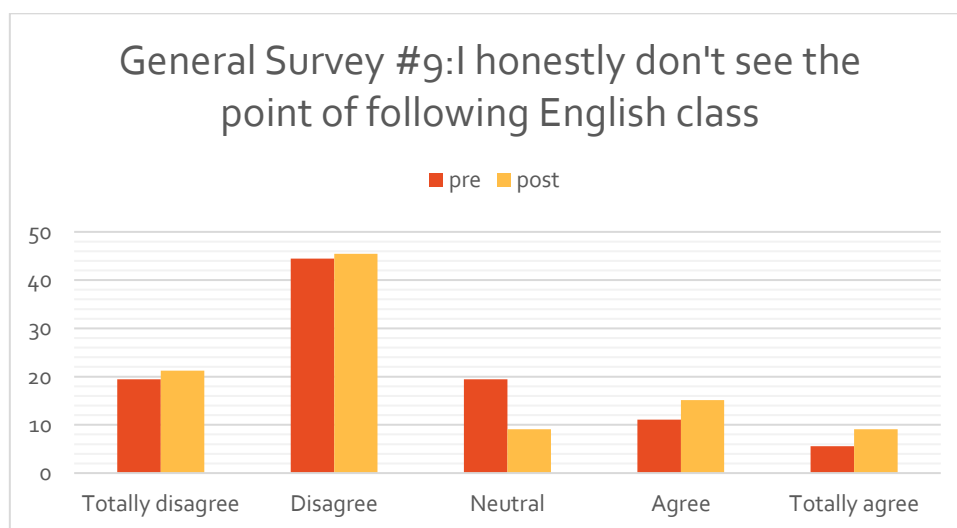


Figure 29: Answers (%) to statement #9 in the general survey for the experiment group before (n=36) and after (n=33) the project.

Figure 29 illustrates that some participants understood the use of and EFL class less, as the student from FG3 also mentioned. A similar result is visible in Figure 30 for statement 5, except that neutral peaks as well as having a high level of agreement (33.33%) compared to the other statements.

While this already demonstrates a reason for the shift in amotivation, the rest of the *Realm of Survey* will still be evaluated. Figure 30 has all four questions that dealt with amotivation (2, 3, 5, and 6). The first two statements do not really contribute to the neutralising of amotivation. However, the latter two clearly do. The most obvious is 5, which

peaks at neutral and has the highest level of agreement out of all amotivation statements. While 6 has a lower level of agreement, it still much higher than the other two statements. Adding that to the 21.21% neutrality and relatively low level of disagreement (51.51% compared to 69.7% for 2 and 72.72% for 3), it is clear that 6 also helped the shift to neutral.

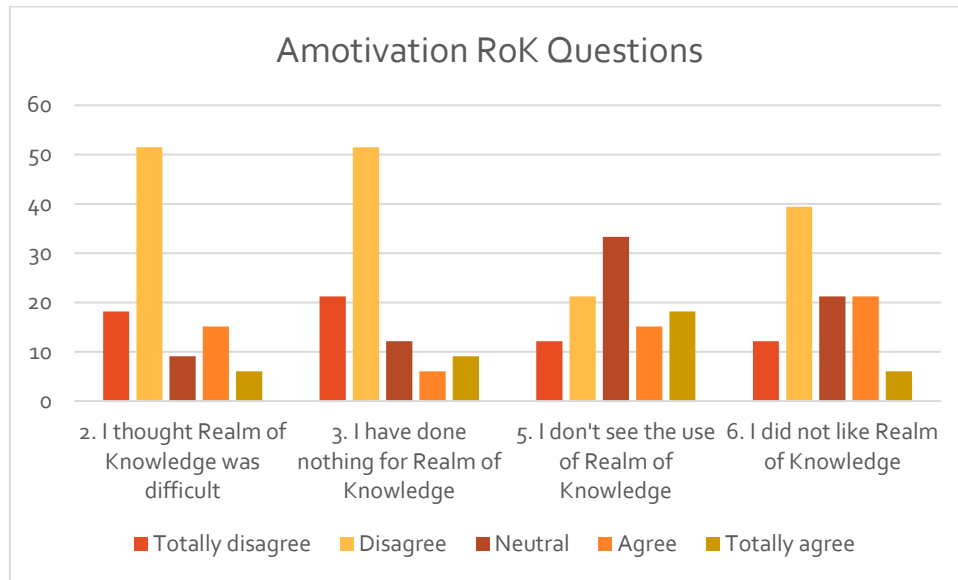


Figure 30: Answers (%) to the statements about amotivation in the *Realm of Knowledge* survey (n=33).

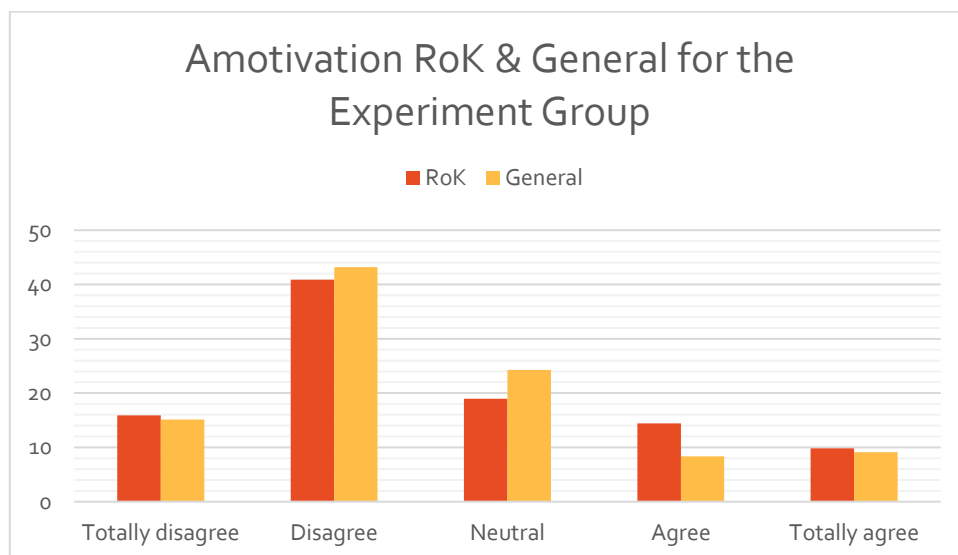


Figure 31: Comparison of amotivation (%) between the *RoK* survey (n=33) and the general post-project survey (n=33).

Figure 31 has a clear overview of the discrepancies between the *Realm of Knowledge* survey and the general survey. By looking at the chart, it is obvious that the participants experienced slightly more amotivation concerning *Realm of Knowledge* itself. As explained

earlier, this has to do with the sense of usefulness. Looking at Figure 30, it is also apparent that statement 6 had a higher level of agreement and neutrality than the other statements (except 5). This means that a factor in the discrepancy between the two surveys was the enjoyment of the game. However, the focus groups all said they would want to play it again, indicating they enjoyed it. As stated before, almost all participants in the focus groups were from VWO_{4a}, so it is important to look at the two groups separately.

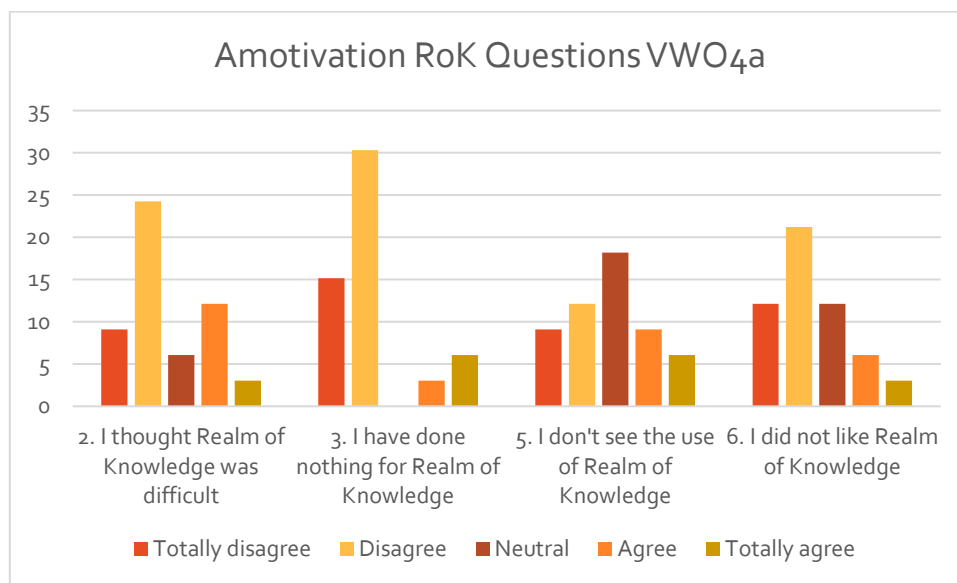


Figure 32: Answers (%) to the statements about amotivation for VWO_{4a} in the *Realm of Knowledge* survey (n=18).

From Figure 32 and Figure 33, it becomes clear that VWO_{4b} (Figure 33) felt *Realm of Knowledge* was easier than VWO_{4a} (Figure 32) and they also understood its use better. A reason for this might be that VWO_{4b} was the second class it was taught to. Any rough parts during the teaching of VWO_{4a} could be polished before VWO_{4b} was taught. Nevertheless, VWO_{4a} evidently enjoyed the game more than VWO_{4b}, explaining why the students all said they would want to play the game again at the end of the focus group interviews. The one student from VWO_{4b} could have belonged to the 18.18% that disagreed with statement 6, or she could have changed her mind knowing that the game would be adjusted to become less difficult, less repetitive and have more game assignments.

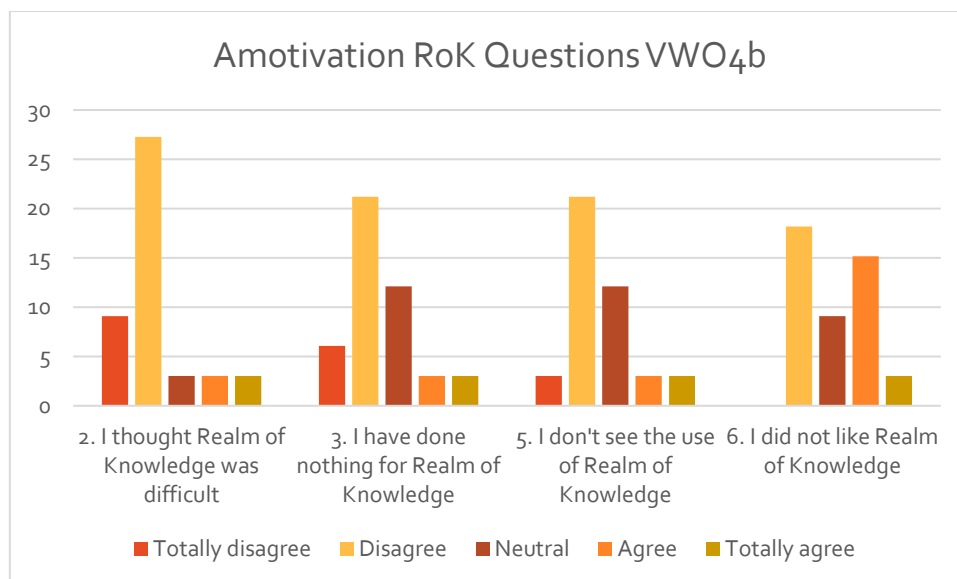


Figure 33: Answers (%) to the statements about amotivation for VWO4a in the *Realm of Knowledge* survey (n=15).

In conclusion, amotivation was affected minutely by the difficulty of the game, partially by the enjoyment of the game, but mostly by how useful it felt – or the lack thereof. This has caused a slight neutralisation of amotivation (+2.02%), thus answering the question of how a TTRPG affects amotivation in EFL learners, although it is only a slight change.

Core Conditions

According to the OCW, the core conditions determine the motivation of students (2019). That is why these will be looked at in this section. Any changes could help explain the discrepancies in motivation explained above. First safety will be evaluated, then connectedness, autonomy, and last will be competence. This will answer the sub-question of how a TTRPG influences the core conditions.

Safety

In the general survey, there were four statements about safety (13, 15, 16, and 20). Those questions are about how they feel in class and whether they are afraid to ask questions or not. Looking at Figure 34, this core condition was clearly met before the project started, but lessened slightly after the project. However, looking at it as a whole (Figure 35.1 and 35.2), it is apparent that this change comes from the control group and not the experiment group.

Nevertheless, generally speaking, the safety condition still seems to be met as the level of agreement (72.82%) is significantly higher than the other.

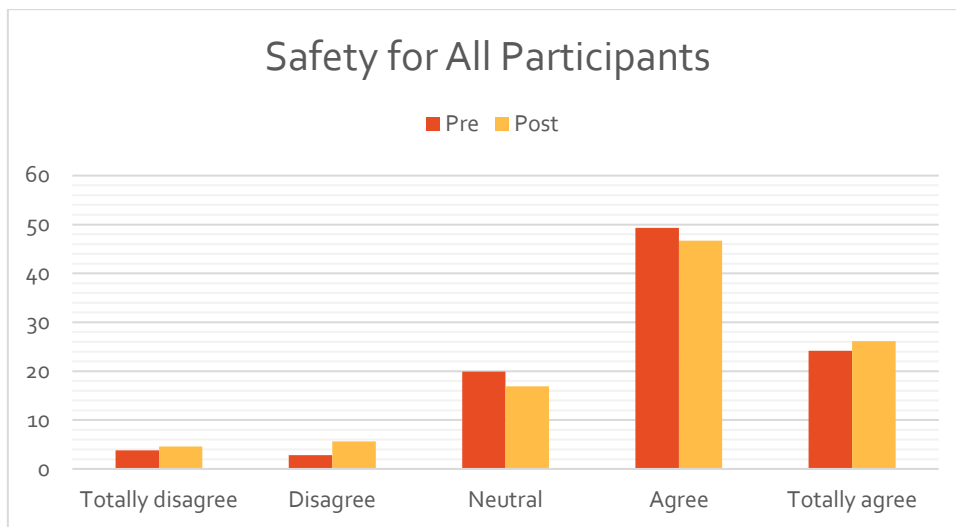


Figure 34: Safety (%) among all participants before (n=53) and after (n=49) the project.

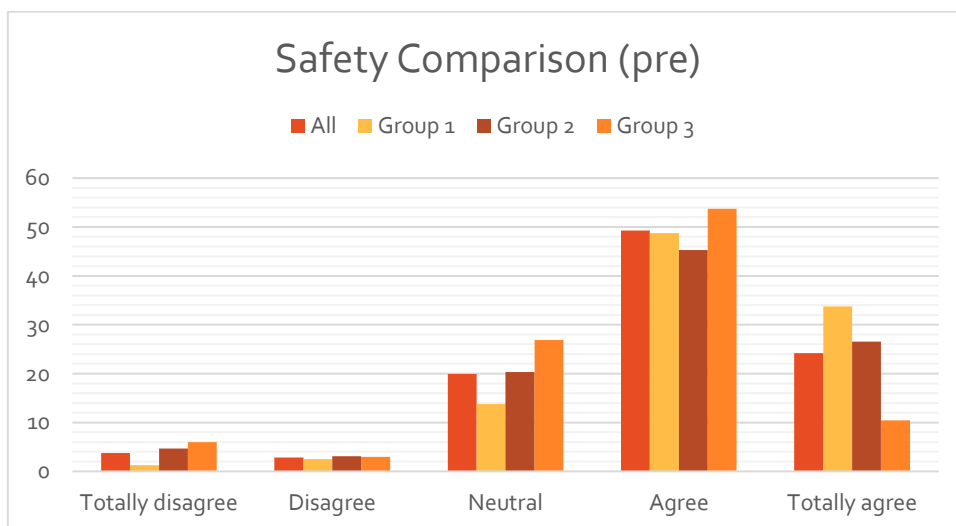


Figure 35.1: Comparison of safety (%) among the different groups before the project.

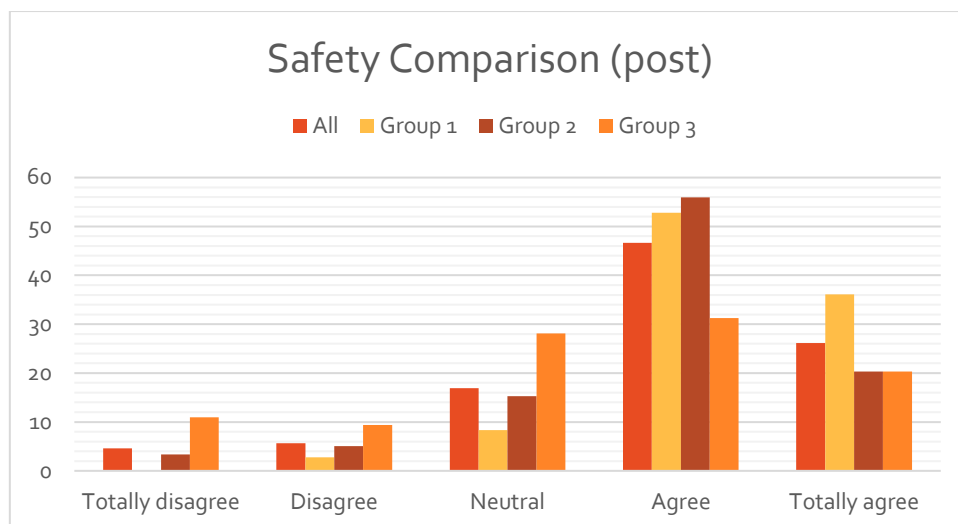


Figure 35.2: Comparison of safety (%) among the different groups after the project.

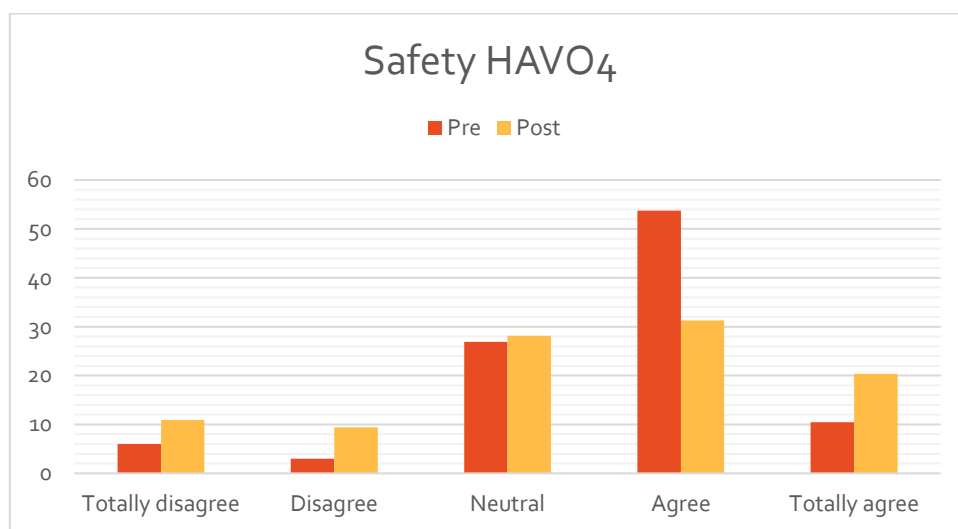


Figure 36: Safety (%) for HAVO₄ before (n=17) and after (n=16) the project.

Looking more closely at HAVO₄ (Figure 36), the shift is obvious. The bar for agree is almost halved and every other bar has gone up. The answers given to the statements about safety (Figure 37) shed light on the situation. While the answers for 13, “I ask my teacher when I need help during English class”, have stayed relatively the same, the other answers have shifted to the left partially (Figure 37). These other questions have to do with how they feel in class and whether they get along with their classmates. It suggests there was a shift in the relationships within the group.

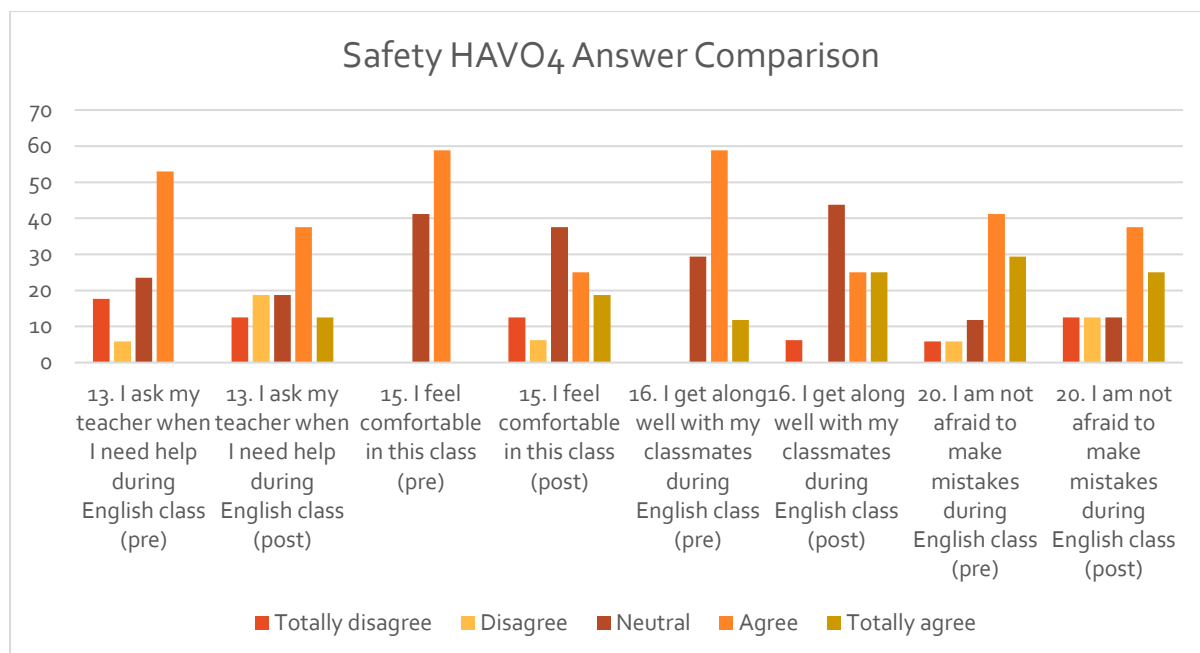


Figure 37: Answers (%) for HAVO4 concerning the safety statements before (n=17) and after (n=16) the project.

The experiment group sees a different change (Figure 38). The level of agreement has increased by 5.43%. This illustrates the students experienced more safety after the experiment than before the experiment. It can therefore be concluded that a TTRPG is effective in raising this specific core condition.

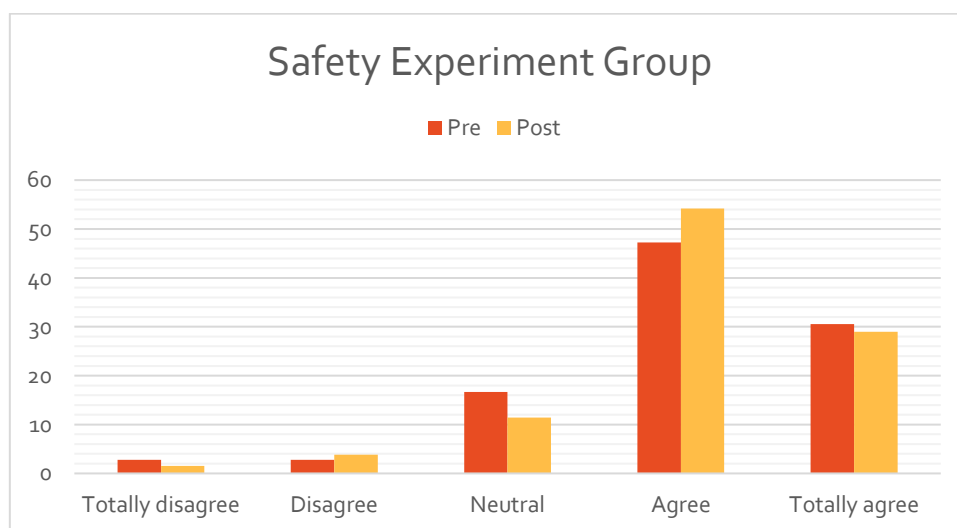


Figure 38: Safety (%) for the experiment group as a whole before (n=36) and after (n=33) the project.

Students from VWO4a, have benefited from the project for this core condition the most. The level of disagreement has gone down slightly (-0.97%) when it was already low

(3.75%). While 0.97% is not much, especially not with a small sample size like this one, the shift in agreement illustrates the feeling of safety increased (+6.39%).

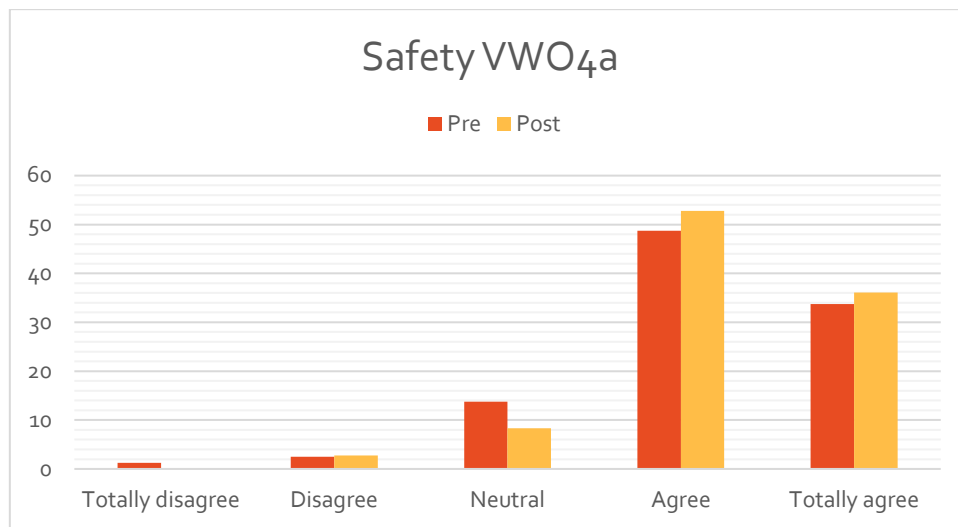


Figure 39: Safety (%) for VWO4a before (n=20) and after (n=18) the project.

This is less so the case for VWO4b (Figure 40), yet there is still an increase of 4.4% in the level of agreement. Nevertheless, the level of disagreement also went up by a little (+0.66%). It is an overall shift in the right direction.

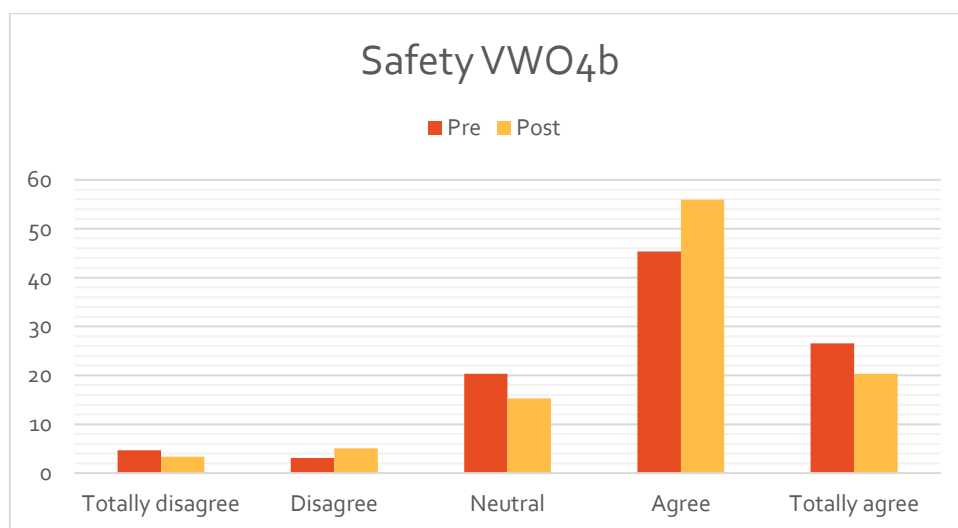


Figure 40: Safety (%) for VWO4b before (n=16) and after (n=15) the project.

The charts demonstrate that the safety condition have improved for the experiment group. This also came forward in the feedback from the learners during the focus group interviews. When asked whether it was easy to speak as their character, FG2 and FG3 said it was, but that some of them did have difficulty thinking of a past for them (which was one of

the assignments). FG1 admitted they did not really speak as their character, but they did speak in English for the entirety of multiple lessons to avoid being reprimanded for doing nothing.

After analysing the data, it can be concluded that a TTRPG influenced the safety core condition, albeit slightly.

Connectedness

Connectedness can be found in 2, 5, 6, 9, 14, 19, and 21 (see Appendix A). These questions relate to students' feelings about English classes and English in general. Additionally, they check whether the classes connect with their interests and if their teacher's teaching motivates them or not.

This core condition was also evaluated in the *Realm of Knowledge* survey. Statements 1, 4, 5, 6, 9, 10, and 11 are about connectedness. Like the general survey, they are about their feelings, but in this case towards *Realm of Knowledge* instead of English.

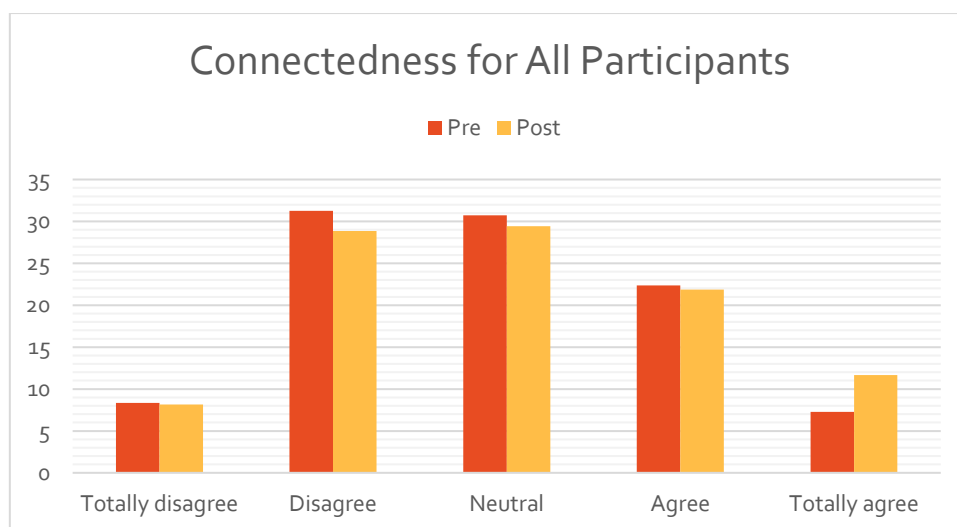


Figure 41: Connectedness (%) among all participants before (n=53) and after (n=49) the project.

Figure 41 shows a decrease in all bars except Totally agree, demonstrating an increase in how connectedness was experienced. Even the control group (Figure 42) sees a very slight rise in the level of agreement (+1.27%). Nevertheless, this is paired with a 9.3% rise in level of disagreement for HAVO4, thus totally negating the growth. This can be attributed to the fact that they no longer had work adjusted for them and only had test preparations to do.

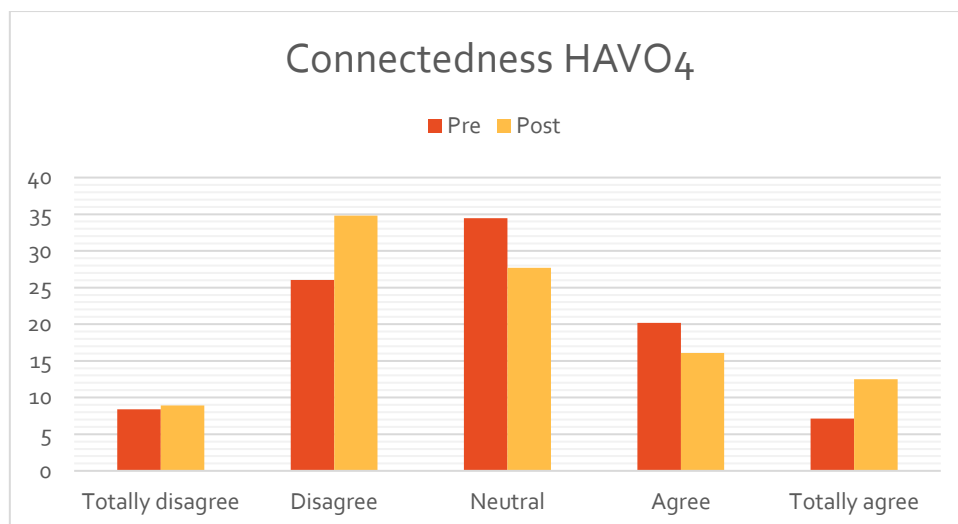


Figure 42: Connectedness (%) for HAVO4 before (n=18) and after (n=17) the project.

The opposite is true for the experiment group. There is a clear reduction in the level of agreement (8.3%), a slight increase in neutrality (1.33%) and a decent rise in agreement (6.97%). This illustrates that the experiment group connected more with the classes than before for the most part.

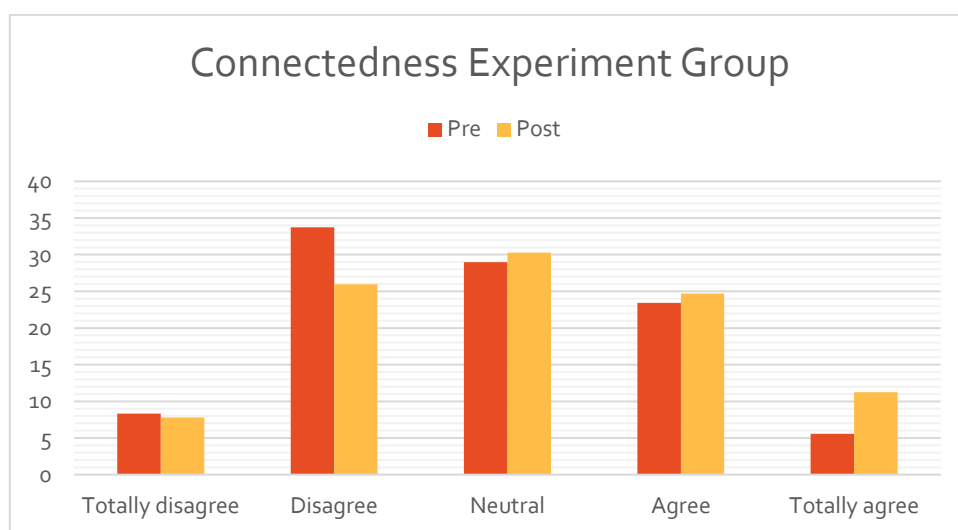


Figure 43: Connectedness (%) for the experiment group as a whole before (n=36) and after (n=33) the project.

The figures for the individual experiment groups (Figure 44 and 45) demonstrate that the increase in neutrality comes from VWO4b, as the level of neutrality in VWO4a went down. On the other hand, the increase in level of agreement comes mostly from VWO4a, as this rose by 11.95% versus the 3.46% growth from VWO4b.

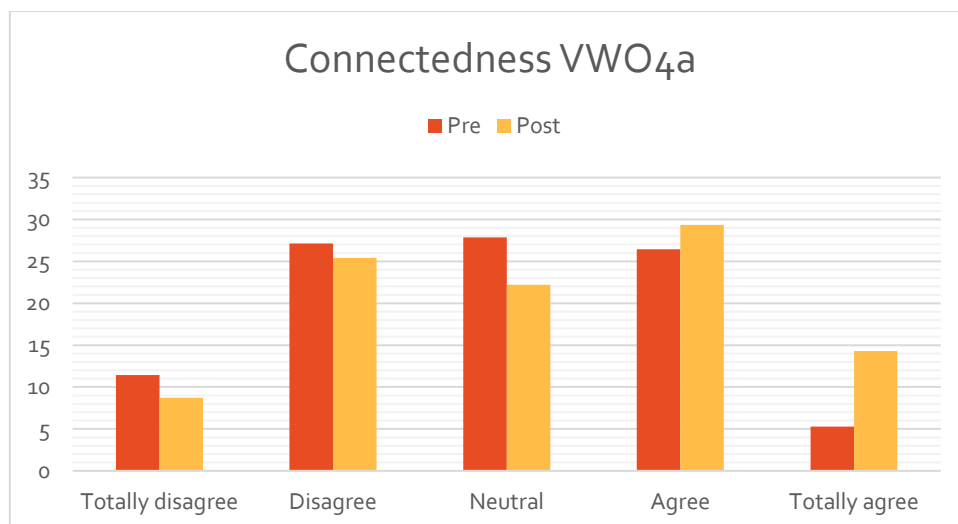


Figure 44: Connectedness (%) for VWO4a before (n=20) and after (n=18) the project.

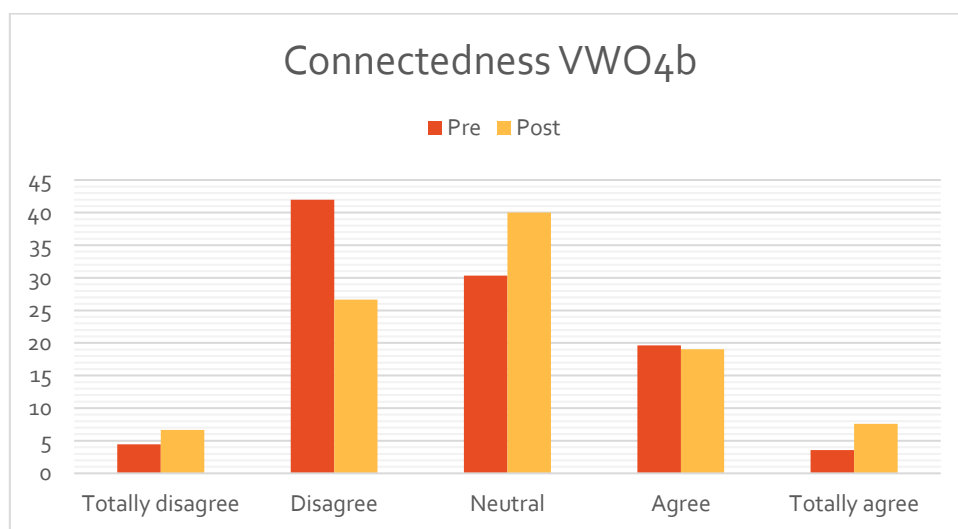


Figure 45: Connectedness (%) for VWO4b before (n=16) and after (n=15) the project.

What needs to be noted, however, is that VWO4b had a much higher level of disagreement before the project started (46.42% compared to VWO4a's 38.57%) and that has gone down to even less than VWO4a's post-project results (33.34% for VWO4b and 34.12% for VWO4a). This implies that there was a great shift and thus a definite increase in the feeling of connectedness even though the level of agreement is not as high.

Additionally, the focus groups further exemplified the increase of connectedness. They loved the games and challenges (as long as they were not too focussed on grammar) and the TTRPG element sparked some students' imagination and analytical skills (Appendix F, Lesson 1). This positive change in connectedness is also visible in Figure 46.

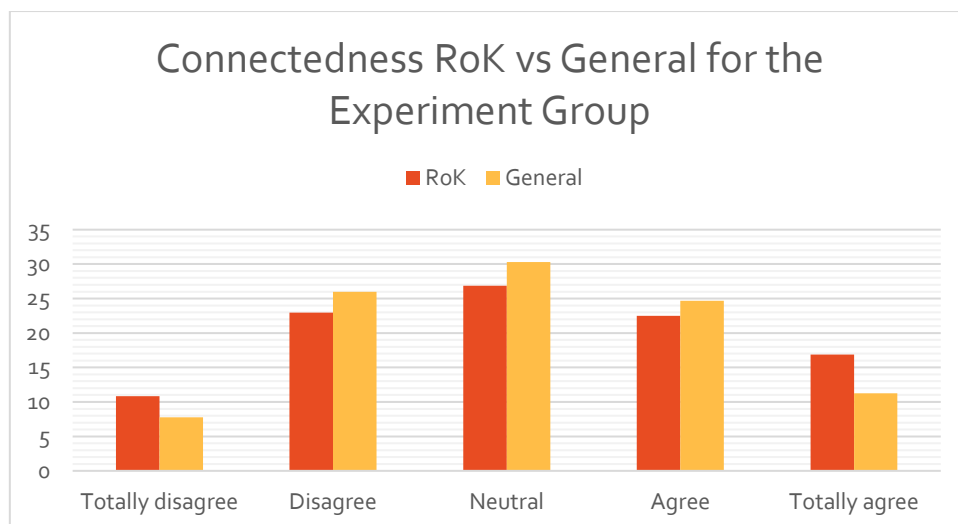


Figure 46: Comparison of connectedness (%) between the *RoK* survey and the general post-project survey.

The level of disagreement for both surveys is 33.76%. Adding to this the lower level of neutrality for *Realm of Knowledge* than in general and the percentages for agreement (39.38% for the *Realm of Knowledge* survey and 35.92% for the general survey), it can be said that *Realm of Knowledge* appealed to this core condition more than a regular class does.

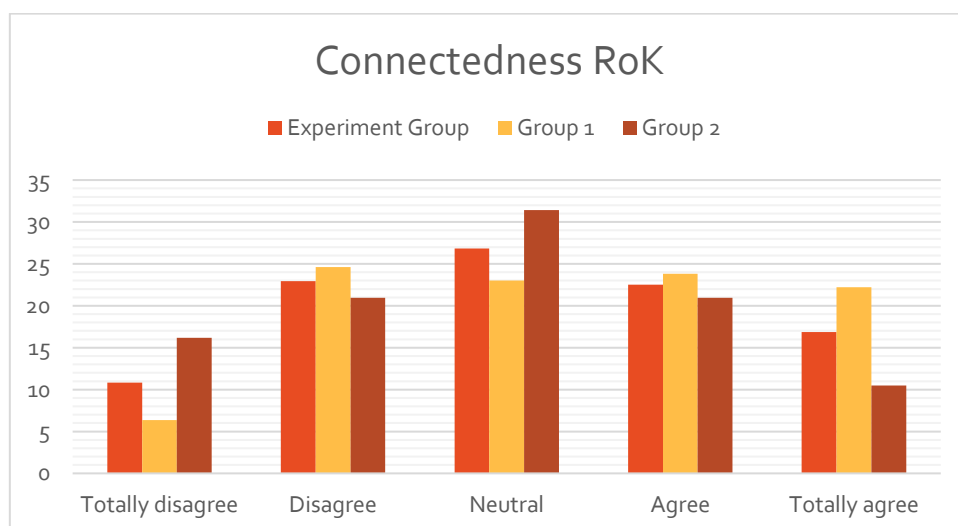


Figure 47: Connectedness for *RoK* (%) for the experiment group as a whole (n=33), VWO4a (n=18) and VWO4b (n=15).

Figure 47 illustrates the differences between the two groups and the total. Just like the general survey, VWO4a scores higher on the level of agreement and VWO4b on neutrality. As stated before, since VWO4a is familiar to the creator of the *Realm of Knowledge* and the

campaign *A Quest for Wisdom* was tailored to this group, it is to be expected that they would experience more connectedness than the other group.

The data provides an image that is positive even though it seems neutral. Connectedness improved, but the biggest difference for, for instance VWO_{4b}, was that the level of disagreement decreased significantly. This is a step in the right direction and helps illustrate the effect a TTRPG has on this core condition.

Autonomy

This core condition was already mentioned before, but this section will have an in-depth analysis. The statements in question are 7, 17, and 18 for the general survey and 3 and 7 for the *Realm of Knowledge* survey (see Appendix A). They entail statements about whether the students get to work on things they choose themselves and about the effort they put in respectively. As these statements are mostly from a desire perspective (“I want more options during English class”), a high level of agreement means they are not experiencing this condition. Therefore, the charts measure “Desired Autonomy” instead of just “Autonomy”.

Figure 48 demonstrates that this core condition was experienced more overall. However, something that was mentioned during FG₁ was that there was only one supervisor, which caused them to have to wait at some points in the game. This would suggest they experienced less autonomy. Before this is discussed more, it is important to look at the numbers for the experiment group and the control group (Figure 49.1 and 49.2).

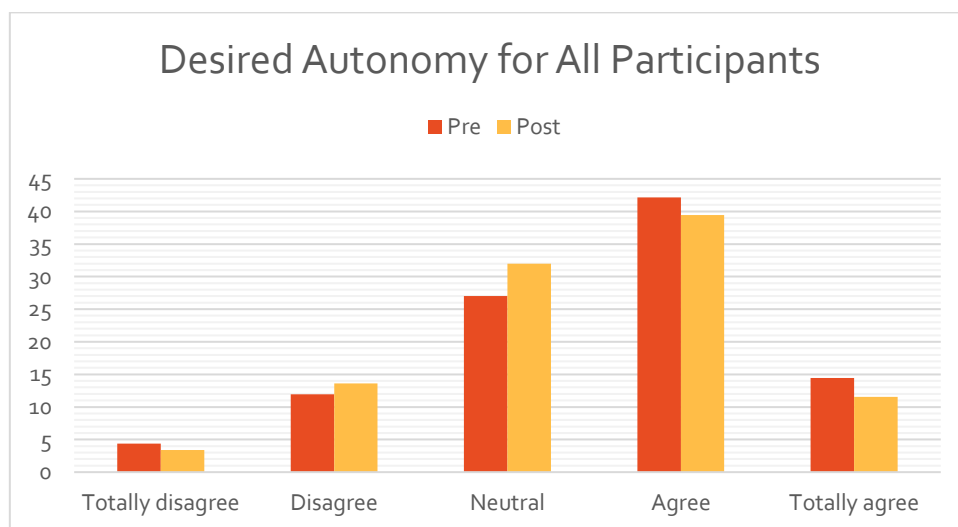


Figure 48: Autonomy (%) among all participants before (n=53) and after (n=49) the project.

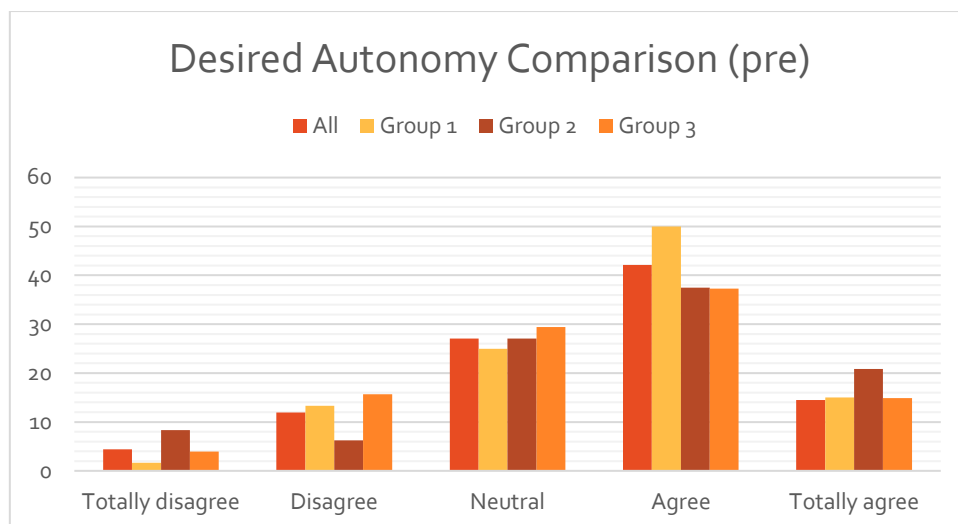


Figure 49.1: Comparison of autonomy (%) among the different groups before the project.

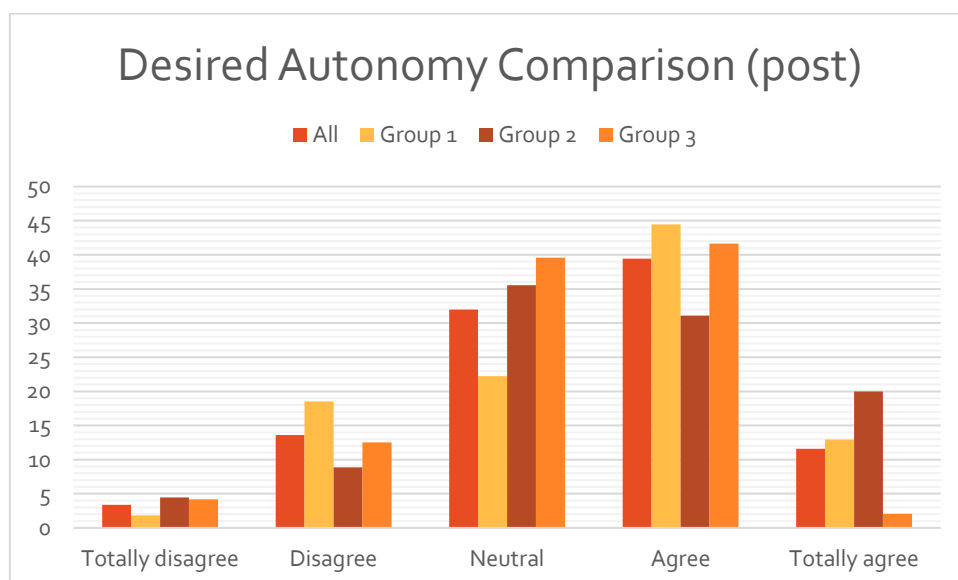


Figure 49.1: Comparison of autonomy (%) among the different groups after the project.

As speculated in the amotivation section, HAVO₄ sees a shift in how they experience autonomy. Neutrality goes up from 29.41% to 39.58%, taking away from both the level of agreement and disagreeing, thus illustrating that the multiple options during class increased their feelings of autonomy for some, while others experienced less autonomy. A reason for the increase in desired autonomy might be that certain students used to be able to ask for adjusted assignments, based on their interests and needs, and this option disappeared for them. However, since the surveys are anonymous, this is just a speculation.

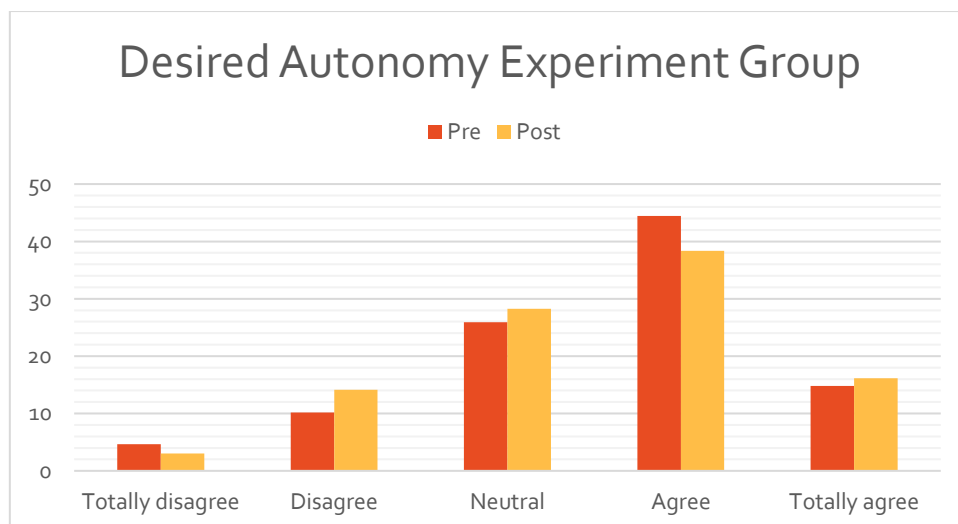


Figure 50: Autonomy (%) of the experiment group before (n=36) and after (n=33) the project.

It is not surprising after seeing Figure 48 to see that the experiment group also experienced slightly more autonomy. Figure 50 illustrates the changes for both experiment groups. One reason why the increase is minimal was already given, namely that participants sometimes had to wait for the supervisor before being able to continue. However, *Realm of Knowledge* allowed for a different form of autonomy that was not tested in the surveys, so any change caused by this additional form of autonomy will not be reflected in the results. The game had students create a character to their liking and add points as they saw fit. These are both forms of autonomy and were appreciated according to FG2 and FG3. Nevertheless, autonomy did increase by a little for both VWO4a (Figure 51) and VWO4b (Figure 52) when asked about it in the general survey.

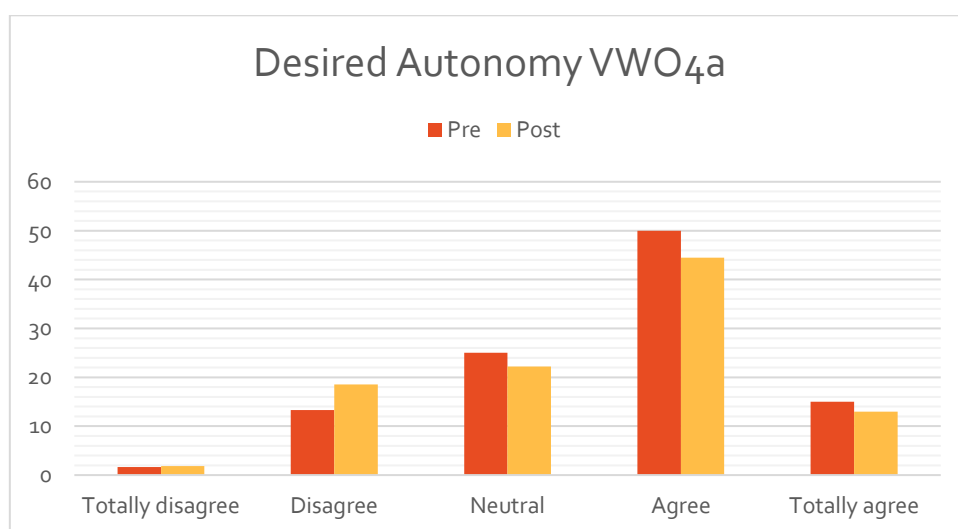


Figure 51: Autonomy (%) for VWO4a before (n=20) and after (n=18) the project.

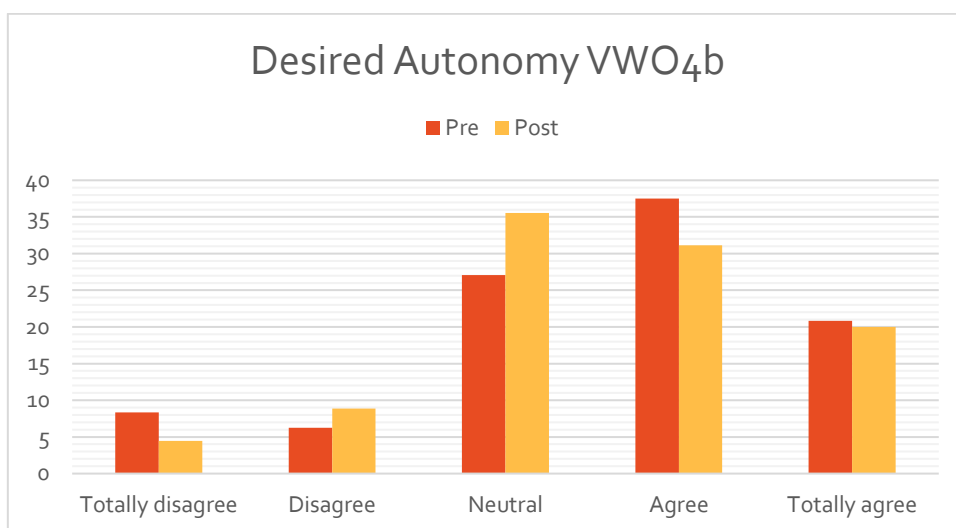


Figure 52: Autonomy (%) for VWO4b before (n=20) and after (n=18) the project.

Examining the results from the *Realm of Knowledge* survey itself, the results are mixed. As this concerned the effort put in or the lack thereof, it resulted in Figure 53. The chart is almost the opposite of the general survey. In order to properly explain this discrepancy, the individual questions need to be evaluated.

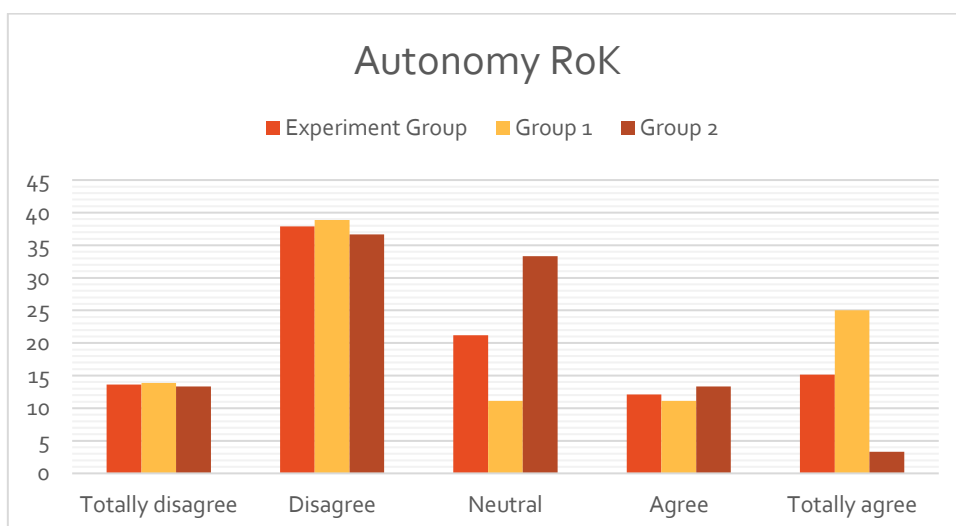


Figure 53: Autonomy for *RoK* (%) for the experiment group as a whole (n=33), VWO4a (n=18) and VWO4b (n=15).

Figure 54 looks at the individual questions. This illustrates that the high level of disagreement comes from the statement that they have done nothing for *Realm of Knowledge*. This is positive. However, the answers to 7 are not as positive. The levels are closer together, demonstrating that this is an area that still needs work.

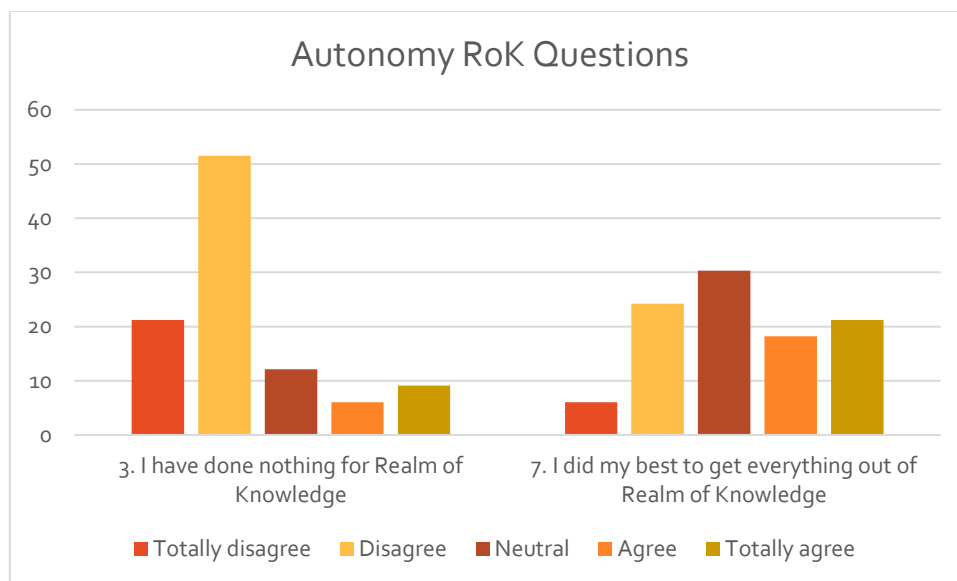


Figure 54: Answers (%) for the autonomy statements in the *RoK* survey.

In conclusion, the experiment group felt more autonomy in the areas questioned by the survey after the project. Additionally, the focus groups made it apparent that they appreciated other aspects of *Realm of Knowledge* that provided them with more autonomy, such as the distribution of points for their characters and the freedom they experienced.

Competence

In the general survey, competence was tested by 1, 3, 4, 8, 10, 11, and 12 (see Appendix A). For the *Realm of Knowledge* survey these were 2 and 8. The competence statements revolved about grades, how difficulty influenced them, and how they feel when they are learning new things.

By looking at Figure 55, it becomes apparent that the feeling of competence has increased after the project for all participants. This includes the control group. The level of disagreement diminished by 3.44%, neutrality grew by 1.25%, and agreeing by 1.19%. Removing the control group, creates Figure 56.

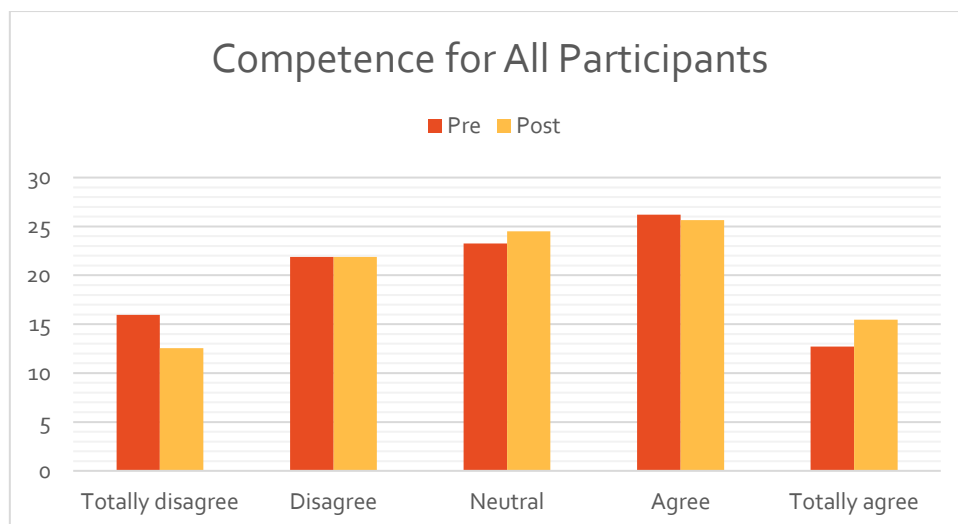


Figure 55: Competence (%) among all participants before (n=53) and after (n=49) the project.

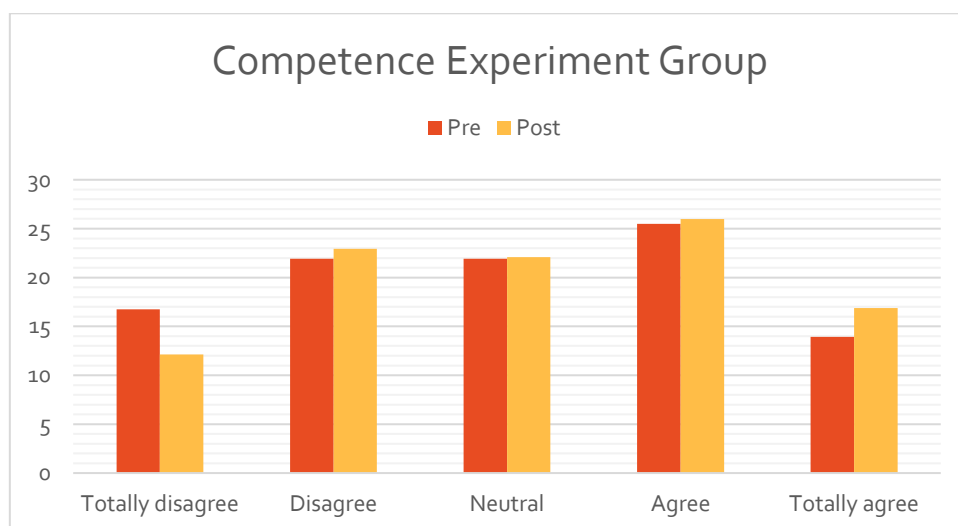


Figure 56: Competence (%) for the experiment group before (n=36) and after (n=33) the project.

Even though it looks similar to Figure 55, Figure 56 tells a completely different tale. The reduction in level of disagreement is 3.58%, but level of agreement has risen by almost the same amount (+3.42%), meaning neutrality has a very minor increase of 0.16%. This suggests HAVO₄ has influenced this core condition to be more neutral and this can be seen in Figure 57. Nevertheless, Figure 56 provides evidence that the students from the experiment group felt more competent after *Realm of Knowledge* had been implemented.

The chart for HAVO₄ illustrates that even for this group the feeling of competence grew to a certain extent. Neutrality increased by 3.41% and agreement by 1.92%. This shift for the control group might be explained by the fact that the learners were now able to pick

an assignment that fit their own needs. However, because this was not discussed in the group or tested in the survey, this is just speculation.

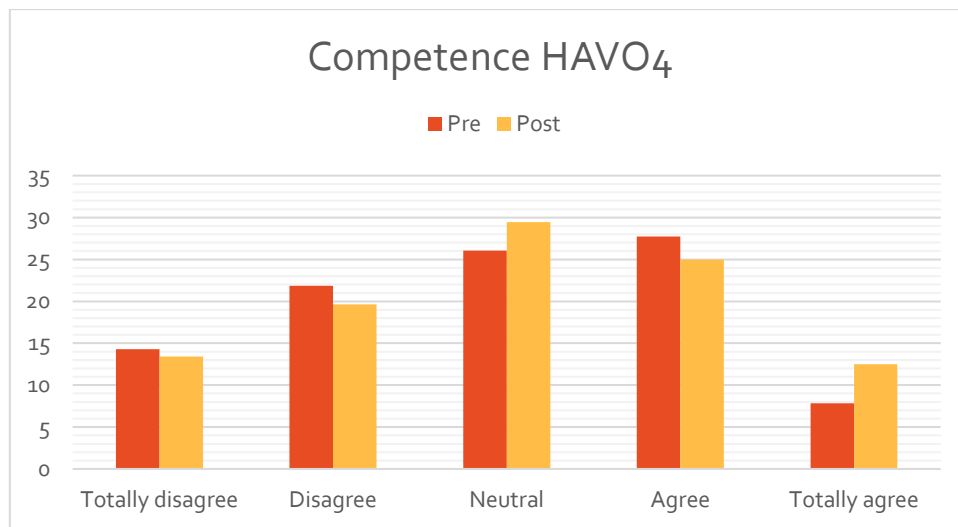


Figure 57: Competence (%) for HAVO₄ before (n=17) and after (n=16) the project.

For the experiment group, it is easier to point to a possible cause. FG₃ started by saying the game was difficult in the beginning, but then it was not anymore. This suggests that they learned something new and then benefited from it, thus adding to their feeling of competence. By looking at the individual groups, the growth in competence becomes more visible.

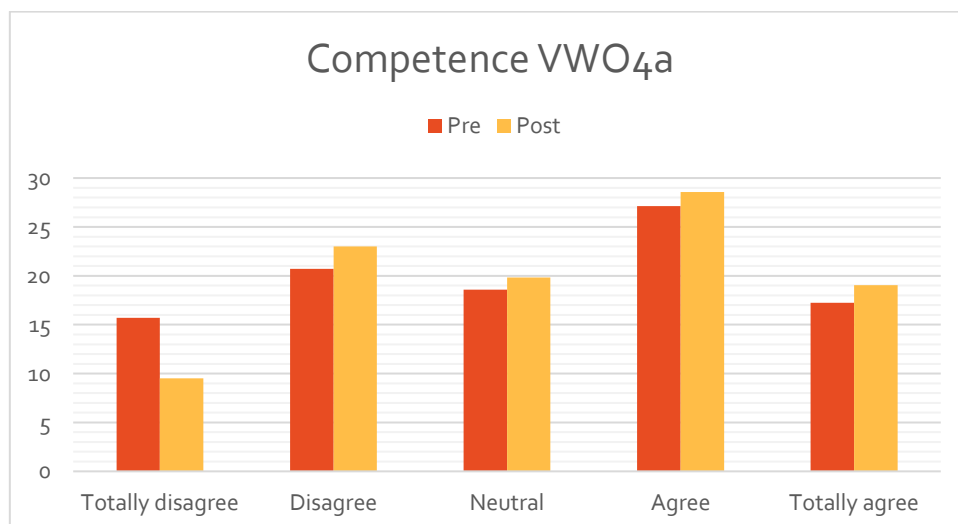


Figure 58: Competence (%) for VWO_{4a} before (n=20) and after (n=18) the project.

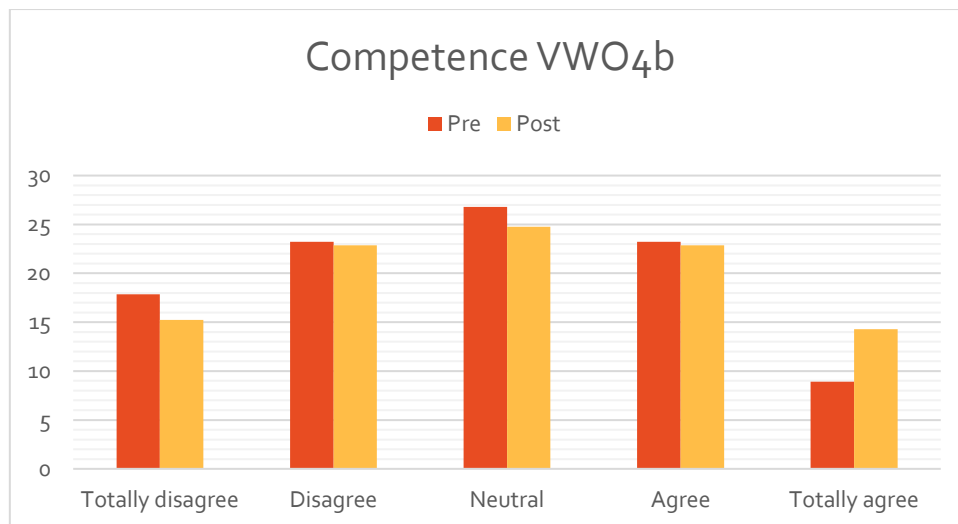


Figure 59: Competence (%) for VWO4b before (n=16) and after (n=15) the project.

The charts establish that VWO4b has seen a greater growth than VWO4a concerning competence (+5% and +3.24% respectively). The fact that both groups have seen growth is evidence that a TTRPG helps foster the experience of competence. Nevertheless, looking at Figure 60, it would suggest that *Realm of Knowledge* did not add to the feeling of competence at first glance. However, this can be explained by looking at the individual questions (Figure 61). These illustrate that the high level of disagreement mostly comes from the statement that they thought *Realm of Knowledge* was difficult. Additionally, it shows that most participants felt the game became more fun as they got more into it, what the students from FG3 also stated. This illustrates that proper guidance is needed; especially at the start.

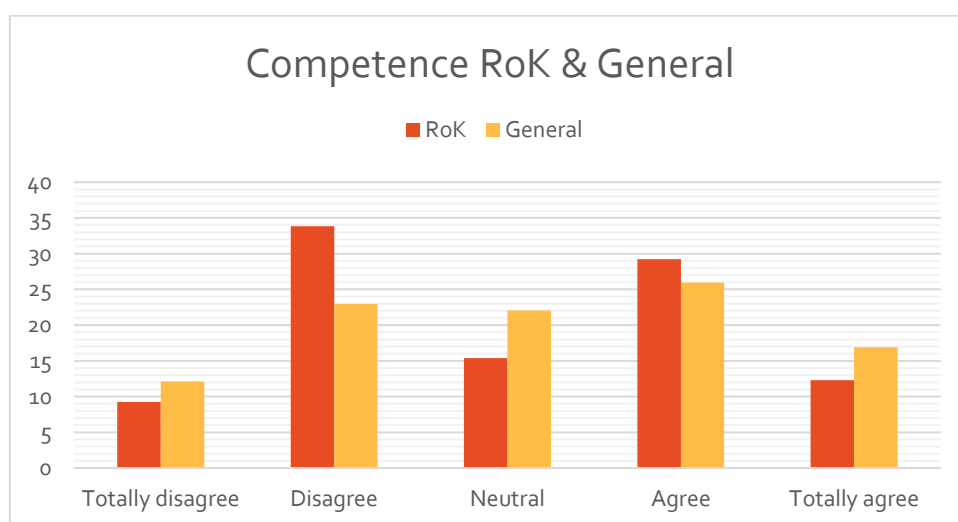


Figure 60: Comparison of competence (%) between the *RoK* survey and the general post-project survey.

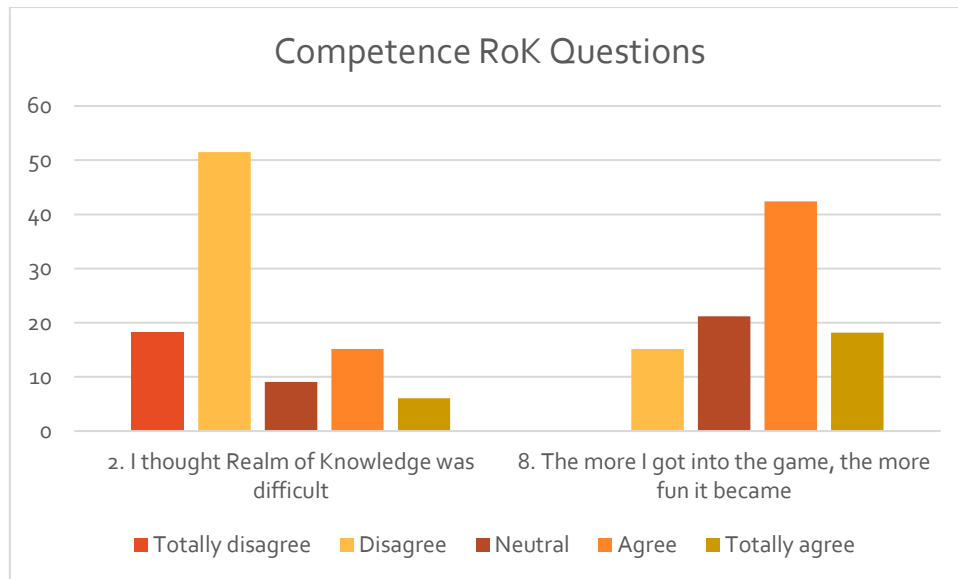


Figure 61: Answers (%) to the statements about competence in the *RoK* survey.

All in all, competence has seen an increase. With that, all core conditions have been discussed and the sub-question of how a TTRPG influences the core conditions as determined by the Dutch Ministry of Education, Culture, and Science can be answered. In general, a TTRPG improves the core conditions, but not all core conditions have gone up significantly. Especially autonomy and connectedness have room for improvement.

Discussion and Conclusion

In the theoretical framework, several aspects of motivation and gamification were discussed. For motivation, the differences between intrinsic, extrinsic and amotivation were explained. Additionally, which factors influence learners' motivation were determined, like the core conditions proposed by the Dutch Ministry of Education, Culture, and Science and the effect of teachers on students. Gamification touched upon motivation as this is one of the key reasons gamifications are used in educational settings. Furthermore, it adds a positive learning experience. Nevertheless, gamification should be implemented carefully, as previous research has illustrated it can have negative effects if used poorly (Garland, 2015).

Other than motivation and gamification, the development of adolescents was looked at. It was concluded that middle adolescents, which was the target group for this study, are easily influenced by peers and still lack the organisational and planning skills needed to recognise possible consequences of their actions (Jolles, 2016).

As a final subject in the theoretical framework, TTRPGs in education were analysed. This provided insight in what the benefits are of using a TTRPG. Among other things, students can practise different skills (Gírsen, 2011) and the format of an ongoing project helps with the retention of information (Carter, 2011).

In this section, the results reported in the previous section will be analysed in light of the theoretical framework. After the discussion and primary conclusion, the limitations of the research, the modifications for the game based on the feedback, observations and theories, and suggestions for further research will be explained.

Starting with the four core conditions, this study has had varying results in this experiment group concerning safety, connectedness, autonomy, and competence. Since *Realm of Knowledge* was created to optimise these conditions, changes were expected and – fortunately – seen in the previous section. Through a comparison with the control group, it can be concluded that the effects seen in the experiment group indeed result from the lesson series.

As the OCW report (2019) explained, Dutch schools generally comply with the safety and connectedness condition and this was seen in the pre-project results as well. The percentage agreeing with the safety statements already far exceed those answering with neutral or a form of disagree (77.77% versus 16.67% and 5.56% respectively). This illustrates

that the participants at this school felt safe in class and thus were in line with the report. Nevertheless, the condition could still be improved, it seems, as the experiment group felt even safer after the lesson series had taken place, with agreement rising to 83.21%. This demonstrates that *Realm of Knowledge* succeeded to improve the feeling of safety in these participants.

As stated before, connectedness is another condition that the OCW claims is met at Dutch schools. While the results were in line with the report for safety, this is not the case for connectedness. The results from the survey illustrates that most students felt no connection to the English class. A cause for this discrepancy between the report and the results might be that the report focusses on schools as a whole and not specific classes. Nevertheless, even if the atmosphere of a school is perfect for a learner and they feel connected to the school, the subjects themselves need to attempt to stimulate connectedness to the learners as well. Van Damme & Vansteenkiste (2021) stated, that joy of learning stimulates motivation. The more connected a student feels, the more joy they experience while learning.

The results of the pre-project survey demonstrate a need for an increase in connectedness for the learners in this experiment group, as the level of disagreement (42.06%) exceeded the level of neutrality (28.97%) and agreement (28.97%). While these percentages shifted in favour of neutral (30.30%) and agree (35.93%), more can still be done to improve this condition.

According to the OCW, autonomy was one of the conditions that was not experienced enough. The results from the pre-project survey illustrated the same. The students did not experience much autonomy. Nevertheless, this improved slightly for the experiment group *and* control group as both groups gained different forms of options during the classes. However, as the statements reflected a desire for more autonomy, an increase in experience of autonomy is seen as disagreeing with the statements in the results. Additionally, this means that the types of motivation tested with the questions linked to autonomy, ended up with slightly more negative responses than they perhaps would have if the statements were different. However, with 59.25% of the experiment group agreeing with statements about wanting more autonomy before the project took place and this percentage reducing to 54.54% after the project, it can be said that – while slightly improved – the autonomy condition is not met properly yet.

Furthermore, the OCW report (2019) states, “[M]ore freedom of choice can ... make a positive contribution to the motivation of students.” (p. 32). Based on the answers from the focus group interviews at my school, it seems that autonomy is appreciated to a certain extent, but that there needs to be moderation. Too much freedom in various areas of the project, like too many options during the character creation (FG2 and FG3), or in the assignments (FG1), will confuse the students.

Finally, competence and the feeling thereof is an important factor for motivation (Ministerie van Onderwijs, Cultuur en Wetenschap, 2019). Nevertheless, according to the OCW the lack of competence in Dutch schools is significant. This is also reflected in the results from the survey with a level of disagreement of 38.64% while neutral has 21.91% and agreement 39.44%. The level of disagreement and agreement are almost the same. The post-project results indicate an increased feeling of competence. Disagreement went down to 35.06% and agreement went up to 42.85%. However, these percentages could and should be improved in order to heighten learners’ motivation. Extrinsic motivation in particular could be improved by increasing this condition, as feedback and grades play a major part in the feeling of competence. Additionally, the more competent a student feels, the less anxiety they experience and the more enjoyment the learner experiences (Saito, Dewaele, Abe, & In’nami, 2018).

Regardless of connectedness, autonomy and competence having room for improvement, the lesson series seems to have had a beneficial effect on all core conditions albeit to varying degrees. According to the OCW report (2019), meeting the core conditions would increase students’ motivation. The results of this study are in line with this report. There is a (slight) increase in the experience of the core conditions and there have been shifts in the types of motivation. With a 10.68% increase, intrinsic motivation has increased the most. As this was the focus of *Realm of Knowledge*, this is a great result regardless of whether the number of participants is representative of the general populace. For this group of students in particular, *Realm of Knowledge* has had a significant effect. This increase comes from a combination of the changes in safety, connectedness, and competence, since statements linked to these conditions in the survey were also about intrinsic motivation.

Another improvement, though slight, is seen in extrinsic motivation (+0.95%). Influenced by all core conditions to a certain extent, it needs to be taken into account that

autonomy skews the results slightly as the statements were about desired autonomy rather than experienced autonomy.

Nevertheless, the minor increase in extrinsic motivation is unsurprising as none of the usual gamification elements like leaderboards, badges, or other collectibles (Boudadi & Gutiérrez-Colon, 2020) were used for *Realm of Knowledge*. This was a deliberate choice to see how a basic TTRPG would influence extrinsic motivation. For this group of learners, the gains were extremely limited. By adding external motivators like prizes or a leaderboard, these gains could easily be improved. However, doing so could take away from the feeling of safety as the students would start competing against each other instead of competing with each other. A suggestion to increase extrinsic motivation without taking away from the current gains in intrinsic motivation would be giving a certificate of completion at the end. This way students will have something to work towards other than just completing the story, which the focus group interviews illustrated was a reason to continue for several students participating in this study.

Amotivation is different from the other two types. It has decreased in both level of agreement and level of disagreement, becoming more neutral by 2.02%. This demonstrates that certain students felt more amotivation and others less. The numbers for amotivation were influenced by the connectedness condition, which is in need of more improvement. This type of motivation will decrease as students connect more to EFL classes, something that did not happen enough during the course of the study. Possible solutions will be discussed later, but one way to create a better connection and thus decrease amotivation is to have more fun exercises, as the students suggested in the focus group interviews.

All in all, *Realm of Knowledge* was successful in increasing the intrinsic motivation of the VWO₄ students of this particular school and managed to minorly increase extrinsic motivation. Ideally, amotivation would have seen more participants disagreeing rather than an increase in neutrality, but this is something to consider for a following iteration of the game.

Previous studies have shown that gamification can improve motivation if implemented well (Boetje, 2017; Boudadi & Gutiérrez-Colón, 2020; Garland, 2015; Licorish, George, Owen & Daniel, 2017; Westera, 2017). In this thesis the effect of gamification on motivation was tested by introducing *Realm of Knowledge*. Based on the results of the intervention, it can be concluded that gamification improved the motivation among this experiment group. Yet,

judging from the answers given by the focus group participants, there was still a lot of room for improvement concerning the game itself. Their feedback was mostly about game mechanics and will be discussed later in this thesis. Judging from these comments in combination with the aforementioned results, it could be stated that even when a game is not implemented perfectly, it can still increase motivation.

Finally, when it comes to a TTRPG specifically, this study demonstrates that this form of gamification improves motivation among the VWO₄ students of this school. Other research illustrated an increase in motivation through the implementation of a TTRPG as well (Hortigüela Alcalá, Hernando Garijo, Pérez-Pueyo, & Fernández-Río, 2019), so this was not entirely unexpected. While not tested in the surveys, the focus group interviews provided evidence for engagement and enthusiasm, which is in line with Carter's research (2011). Additionally, certain students displayed enthusiasm in class while playing the game. The fact that a student from another class came to follow the lessons with his friends (Appendix F) reveals that learners enjoyed the game. Furthermore, several participants said it was educational after the lessons and during the interviews, which ties in with existing insights from Gírsen (2011). Not only does it help develop students' reading, listening, and speaking abilities in English, it promotes organic learning (Gírsen, 2011).

Research has shown that adolescents have difficulty planning and organising (Jolles, 2016), are easily pressured by peers (Foulkes & Blakemore, 2018; Jolles, 2016), and that they love to socialise (Foulkes & Blakemore, 2018). *Realm of Knowledge* was designed with these insights in mind. To take away peer pressure, the learners created characters which could reflect themselves. Additionally, they worked in groups, promoting cooperative learning (Hortigüela Alcalá, Hernando Garijo, Pérez-Pueyo, & Fernández-Río, 2019), and allowing them to socialise. To circumvent the possibility of materials getting lost or participants forgetting them for class, folders were provided to all groups in which they could store their materials. The teacher collected these folders at the end of class. All in all, the students enjoyed working together with friends (FG₃), felt safe (as seen in Figure 38), and no materials were lost because they put everything in a group folder at the end of class which the GM collected.

Speaking of the GM, as stated in the theoretical framework, the GM plays an important role in TTRPGs (Hergenrader, 2014) and for *Realm of Knowledge* this is no different. Other than taking care of the group folders, the GM also provided the parties with the next

envelope containing information for the progression of the story. For this study it was decided that the teacher would be the GM so that students would not be dependent on the story-telling skills of their fellow learners. However, this also caused issues at times. As FG1 explained, they had to wait sometimes because there was only one person who knew what to do. In VWO4b, where there were two teachers, this was less of a problem. This demonstrates that a competent GM is indeed important as Hergenrader (2014) suggested, but additionally that a game needs to be designed in a way that allows students to depend less on the guidance of the GM.

An additional note on teachers which was brought forward in the theoretical framework and was mentioned during the development of the game, is that it is desirable for classes to be taught by their own teacher. This is due to them having an established relationship with the students, which influences motivation (Akiba, LeTendre & Scribner, 2007; Leary, 1957; van der Steen, 2015). For this study, Mr D was unable to teach his own class. This was because he had several personal emergencies which – naturally – took precedence over this study. However, this meant he was unable to prepare the lesson series and, in order to ensure it was taught properly, the author was asked to take on his class. The fact that another teacher taught VWO4b might account for discrepancies between VWO4a and VWO4b. However, as this was not researched, this remains a speculation.

Regardless, to summarise, this thesis' findings are in line with previous research and adds to it by testing a TTRPG specifically made for educational purposes. *Realm of Knowledge* was successful in increasing motivation for the most part. Intrinsic motivation improved by 11% and extrinsic motivation increased with 1%. Amotivation became more neutral by 2%. Ideally, amotivation would have decreased more, but there are explanations for the stagnation as previously mentioned. Not all students are gamers and therefore an educational TTRPG might not be for them. Nevertheless, the increase in intrinsic motivation in this experiment group, more than makes up for this minor increase in neutrality for amotivation. As intrinsic motivation is considered to be the best type of motivation (Clanton Harpine, 2015; Di Paolo & Pizziol, 2023), this is a great result for these students and this study.

To conclude, the main question can be answered: How does the use of a Tabletop Role-Playing Game affect Dutch fourth year secondary school students' motivation for English as a foreign language in classrooms? The use of a TTRPG increases the motivation in a Dutch fourth year secondary school EFL class. Students enjoy the classes more than regular classes,

they get to work together, and learn things along the way. All focus group participants want to play the new version of the game when it is completed, illustrating that they are excited about the format and the idea. This is a proven way to increase intrinsic motivation (Sierens & Vansteenkiste, 2009). Even after several weeks have passed, when mentioning *Realm of Knowledge*, students from VWO4a still display enthusiasm and a desire to play the beta version.

While it is enticing to conclude that *Realm of Knowledge* is a tool that could be used to increase intrinsic motivation significantly and it should be used as often as possible, everything has to be done with moderation. Even though the game was a success among these specific students and that *Realm of Knowledge* can be adjusted to fit any and all needs, solely using this form of education in EFL classes is not recommended. Not everyone enjoys games and it is important to make sure that those students do not become completely demotivated. Therefore, this thesis suggests to use *Realm of Knowledge* or a similar educational TTRPG in addition to regular or other forms of classes to ensure it remains effective.

Limitations, Modifications and Further Research

As previously discussed, there are several limitations within this research. To begin, the sample size is small. Only a few classes were available for this lessons series, making it difficult to say whether *Realm of Knowledge* would be effective on a greater scale or not. Additionally, this is only a Master thesis, so a large-scale study might have a different outcome. Nevertheless, the results are promising.

A further limitation is found in the survey. Certain statements (see Appendix A) for the autonomy core condition measure the desire for autonomy rather than autonomy itself. Contrary to other questions in the survey, answering these with disagree was positive, like the statement "I would like to have more options during English class". This skews the results slightly. Furthermore, more specific questions should have been asked about *Realm of Knowledge*, like how the options for character creation has affected the learner. Moreover, questions asking what they liked and what they disliked about the game should have been asked in the survey. That way, VWO4b's voice would have been heard as well, rather than just VWO4a's because they were willing to do the focus group interviews.

This does not mean that the surveys were ineffective. Instead it implies that more careful attention should have been given to formulating the statements in a way that ensures their alignment, and that additional specific information about the tool could have been provided without the need for a focus group interview.

Additionally, as suggested earlier, the fact that a different teacher taught VWO_{4b} could have affected the results. Should this research be repeated, it is important that the classes are taught by the group's regular teacher. This way, the group's changes in motivation can be compared properly without the lack of relationship between student and teacher influencing learners' motivation. In the current version of the study, the two experiment groups had different situations, which is not desirable for any research. Perhaps VWO_{4b} would have yielded similar results to VWO_{4a} if Mr D had taught *Realm of Knowledge*.

Finally, the fact that the control group also had different regular classes with more options than before makes it slightly more difficult to determine whether the change in autonomy is a coincidence or not. However, with the knowledge that HAVO₄ had options during regular EFL classes, it is still fair to assume that, it is not a coincidence, and rather that *Realm of Knowledge* was successful in increasing the feeling of autonomy in students.

With the limitations of the study itself covered, the limitations of the game can be discussed. From the increase in motivation, it might look like the game was designed well, but the focus group interviews revealed there were several flaws next to all the positives.

Starting with the character creation process, there was too much freedom and too much information that they did not need later on in the game. Additionally, the traits they could assign points to were not all used; at least not as far as they knew. In true TTRPG fashion, traits determined some outcomes of the story, but this was not clearly communicated during the game so they were perceived as useless.

The next issue that arose was the combat system. Based on observations, it became quite apparent that this was too complicated. For VWO_{4b}, new monster cards and a new battle guide was created to help the students. VWO_{4a} got these same new and improved cards and the students in this group said that combat was a little easier now that monsters had specific targets. Nevertheless, for non-gamers the system was still too foreign. What did not help was that their traits had different names than the monsters'. For the beta version of *Realm of Knowledge* the traits will be the same for characters and monsters alike.

Another issue with the combat system is the levels and actions players could take. As FG2 rightfully pointed out, sometimes abilities had percentage damage, other times true damage²², and sometimes both. While the idea behind this was that their true damage did not scale properly as they levelled since they were fixed numbers whereas percentage damage would easily scale, the students clearly emphasised their preference for a single form of damage: either percentages, or true damage; not both. In the next iteration of *Realm of Knowledge* the combat system will be reworked and so will the damage scaling.

Story-wise, the students also had recommendations. One student in FG2 said, "The ending could be more exciting,"²³ to which another student asked, "How would *you* make it more exciting then?"²⁴ She admitted she didn't know, but she still would have preferred it to be more exciting because now she felt like she had gone through the story for nothing. The other student did agree with this. Admittedly, the story was not as well thought out as it could have been due to time constraints. For the next version of *Realm of Knowledge* and specifically the *A Quest For Wisdom* campaign, the story will have an exciting ending and – as stated before – perhaps a certificate of completion or similar physical reward like a miniature notebook can be given when they find the Rosetta Tome to stimulate extrinsic motivation alongside intrinsic motivation.

However, the students had more to say about the texts. They felt that sometimes the texts were too easy and at other times too difficult. From now on, the texts will be written with the Common European Framework of Reference for Languages in mind so that they fit the level the students are supposed to have. That way, a teacher can determine whether a learner is at the level they need to be or still needs more practice as well and the texts will be consistent.

Moreover, the participants stated they wanted less boring grammar exercises – like fill in the right tense – but more fun assignments, like the brain teasers, and (picture) puzzles, and FG1 even suggested to implement an escape room concept. How the grammar assignments themselves can be implemented in a more fun way – like an escape room – will be looked at for following iterations of *Realm of Knowledge*.

²² A specific, predetermined amount of damage.

²³ Het einde had wel spannender gemogen.

²⁴ Hoe zou jij het spannender maken dan?

The final comment learners had was that they liked the freedom, but it was too much at certain points. FG1 felt it was too free as a whole, but FG2 specifically spoke about the assigning of points. They would have liked recommendations so that they did not have to figure out which points were beneficial for their character on their own. The latter is an easy fix and will be implemented in the next version of the game. The former will be improved on when the game gets simplified as it provides less options and more structure.

Once all these modifications are made, *Realm of Knowledge* might end up being able to improve motivation even more. However, additional research can still be done concerning TTRPGs in an educational setting, with or without *Realm of Knowledge*.

One recommended study was already hinted at in the beginning of this section: the same study, but with all classes having their own teacher. It could provide valuable data on the effect of a teacher has on the class. Preferably with more classes as well. If the data in the different classes is more similar than the experiment groups for this study, it would imply it has an effect.

Another subject that could be researched further is teacher motivation. While this subject is beyond the scope of this thesis, Mr D did say that he would love to try and teach the series of lessons himself when he had the time to prepare them. Mr D is not a gamer, and yet he sees the value of *Realm of Knowledge*. Teacher motivation has been a growing issue and it is becoming a problem as an increasing number of teachers stay home due to burnout. Others quit within the first five years of teaching. Studying whether *Realm of Knowledge* or another TTRPG could rekindle teacher's enthusiasm for teaching, would be immensely beneficial for education.

Finally, how a TTRPG like *Realm of Knowledge* might affect learning, receptive skills, or productive skills could be studied. While the students said it was educational, this thesis has not looked into the yields concerning any type of learning. It is worthwhile to look into this to see how educational the game truly is.

All in all, there is a lot to consider when implementing a TTRPG. It requires a lot of preparation and structured lessons to make it an efficient tool to improve motivation. While there is still plenty to adjust and many limitations to this study, the results are positive and there is room for further research. *Realm of Knowledge* started as an experiment, but, now that the study is done, it has become the base for a tool that will hopefully eventually be able to help EFL teachers everywhere motivate their students.

References

- Akiba, M., LeTendre, G.K., & Scribner, J.P. (2007). Teacher quality, opportunity gap, and national achievement in 46 countries. *Educational Researcher*, 36, 369-387.
- Boetje, J. (2017). Plezier als basis voor spreekvaardigheidsonderwijs. (Fun as a basis for speaking skills education.) *Levende Talen Magazine*, 104(2), 36-37.
- Boudadi, N. A. & Gutiérrez-Colón, M. (2020). Effect of Gamification on students' motivation and learning achievement in Second Language Acquisition within higher education: a literature review 2011-2019. *The EUROCALL Review*, 28(1), 57-69.
- Carter, A. (2011). Using Dungeons and Dragons to integrate curricula in an elementary classroom. In *Serious Games and Edutainment Applications* (pp. 329-346). Springer, London.
- Clanton Harpine, E. (2015). Is intrinsic motivation better than extrinsic motivation? In *Group-centered prevention in mental health* (pp. 87-107). Springer, Cham.
- De Freitas, S. (2018). Are Games Effective Learning Tools? A Review of Educational Games. *Journal of Educational Technology & Society* 21(2), 74-84.
- Di Paolo, R., & Pizziol, V. (2023). Gamification and Sustainable Water Use: The Case of the BLUTUBE Educational Program. *Simulation & Gaming*, 104, 68781231181652.
- Domínguez, A., Saenz-de-Navarrete, J., De-Marcos, L., Fernández-Sanz, L., Pagés, C., & Martínez-Herráiz, J. J. (2013). Gamifying learning experiences: Practical implications and outcomes. *Computers & education*, 63, 380-392.
- Figueroa, J. F. (2015). Using Gamification to Enhance Second Language Learning. *Digital Education Review* 27, 32-54.
- Foulkes, L., & Blakemore, S. J. (2018). Studying individual differences in human adolescent brain development. *Nature neuroscience*, 21(3), 315-323.
- Garland, C. M. (2015). Gamification and Implications for Second Language Education: A Meta Analysis. *Culminating Projects in English* 40, 1-75.
- Girsén, O. (2021). Tabletop role-playing games as tools for English learning and their potential implementation into classrooms in Finland. Master thesis. University of Jyväskylä.

- Hergenrader, T. A. (2014). World Filled with Darkness, Dungeons, and Dragons: Using Analog Role Playing Game Creation to Enhance Literature and Writing Instruction in High School English Classes. (p. 102-108).
- Hortigüela Alcalá, D., Hernando Garijo, A., Pérez-Pueyo, Á., & Fernández-Río, J. (2019). Cooperative learning and students' Motivation, social interactions and attitudes: perspectives from two different educational stages. *Sustainability*, *11*(24), 7005.
- Jolles, J. (2016). *Het tienerbrein: over de adolescent tussen biologie en omgeving*. (The teen brain: about the adolescent between biology and surroundings.) Amsterdam University Press.
- Jones, K., Storm, S., Castillo, J., & Karbachinskiy, S. (2021). Chasing New Worlds: Stories of Roleplaying in Classroom Spaces. *Journal of Language and Literacy Education*, *17*(1), n1.
- Leary, T. (1957). *An interpersonal diagnosis of personality*. New York: Ronald Press Company.
- Licorish, S. A., George, J. L., Owen, H. E., & Daniel, B. (2017, December). "Go Kahoot!" enriching classroom engagement, motivation and learning experience with games. In *Proceedings of the 25th international conference on computers in education* (pp. 755-764). Asia-Pacific Society for Computers in Education.
- Ministerie van Onderwijs, Cultuur en Wetenschap. (2019). Motivatie om te leren: motiverende kenmerken van het voortgezet onderwijs. In *Inspectie Van Het Onderwijs*.
- Nakasone, T. (2020). *Dungeons and Dragons in Education: A Usability Study*. Master thesis. University of Hawai'i.
- Organisation for Economic Co-operation and Development. (2016). PISA 2015 results (Volume 1). *Excellence and equity in education*.
- Puberhersen. (2020, February 20). Hersenstichting. Retrieved November 18, 2022 from <https://www.hersenstichting.nl/dit-doen-wij/voorlichting/werking-van-de-hersenen/puberhersen/>
- RTL Nieuws. (2019). Motivatie omlaag, slechtere cijfers: 'Jongeren vinden traditioneel onderwijs te saai.' (Motivation down, worse grades: 'Youths think traditional education is too boring.') Retrieved December 10, 2022 from <https://www.rtlnieuws.nl/nieuws/nederland/artikel/4941921/cijfers-motivatie-middelbaar-onderwijs-scholen-docenten>

- Saito, K., Dewaele, J. M., Abe, M., & In'nami, Y. (2018). Motivation, emotion, learning experience, and second language comprehensibility development in classroom settings: A cross-sectional and longitudinal study. *Language Learning, 68*(3), 709-743.
- Sierens, E., & Vansteenkiste, M. (2009). Wanneer 'meer minder betekent': motivatieprofielen van leerlingen in kaart gebracht. *Begeleid zelfstandig leren, 24*, 17-36.
- Taguchi, T., Magid, M., & Papi, M. (2009). The L2 motivational self system among Japanese, Chinese and Iranian learners of English: A comparative study. In Z. Dörnyei & E. Ushioda (Eds.), *Motivation, language identity and the L2 self* (pp. 66–97). Clevedon, UK: Multilingual Matters.
- Van Damme, D., Vansteenkiste, M., & De Wilde, B. (2021). Kan een leerling pas presteren als hij zich goed voelt? (Can a student only do well if (s)he feels good?) Retrieved December 16, 2022 from <https://www.klasse.be/253297/kan-leerling-pas-presteren-op-school-als-hij-zich-goed-voelt/>
- Van der Steen, J. (2015). Stimuleren van de Motivatie bij Leerlingen in het Voortgezet Onderwijs. (Motivating Pupils in Secondary Education.) Master Thesis. Open Universiteit.
- Westera, W. (2019). Why and How Serious Games Can Become Far More Effective: Accommodating Productive Learning Experiences, Learner Motivation and the Monitoring of Learning Gains. *Journal of Educational Technology & Society 22*(1), 59-69.

Appendixes

Appendix A

The survey the students were given before the lesson series was given, stopped before the *Realm of Knowledge* questions start.

Beste leerling,

Voor mijn masterscriptie doe ik onderzoek naar motivatie in de Engelse les. Graag schakel ik hierbij jouw hulp in door middel van deze vragenlijst. Wees vooral lekker eerlijk, want daar kan ik het meeste mee! De antwoorden worden volledig verwerkt en anoniem gemaakt door twee onafhankelijke personen (van buiten de school) voordat ze bij mij terecht komen en kunnen dus niet naar jou herleid worden. Na afloop van het onderzoek worden alle gegevens verwijderd.

Om te beginnen, wat is jouw naam?

Geen zorgen: dit komt niet terug bij mij of jouw docent, maar is wel nodig om jouw antwoorden voor beide vragenlijsten aan elkaar te kunnen linken zodat ik beter onderzoek kan doen. Het wordt erg op prijs gesteld als je dit invult, maar mocht je jouw naam echt niet willen invullen, laat dit veld dan gewoon leeg 😊

De Engelse les

1. Ik voel mij goed wanneer ik iets nieuws leer tijdens de Engels les.
2. Ik vind de Engelse les leuk.
3. Ik ervaar plezier wanneer ik het beter doe dan de vorige keer.
4. Ik volg de Engelse les om aan mijzelf te bewijzen dat ik Engels kan.
5. Ik vind Engels (in het algemeen) leuk.
6. Ik had ooit goede redenen om Engels te volgen, maar nu vraag ik mij af of ik dat nog wel moet doen.

7. Ik wil meer keuze tijdens de Engelse les.
8. Ik wil goede cijfers halen voor Engels.
9. Ik zie eerlijk gezegd het nut er niet van in.
10. Ik volg Engels voor het plezier dat ik ervaar wanneer ik bezig ben met het begrijpen van een moeilijk onderwerp.
11. Ik volg Engels les om aan mezelf te bewijzen dat ik een intelligent persoon ben.
12. Ik weet niet waarom ik Engels volg. Ik snap niet wat ik tijdens de les doe.
13. Ik vraag hulp aan mijn docent wanneer ik dat nodig heb tijdens de Engels les.
14. Ik vind Engels (in het algemeen) niet leuk.
15. Ik voel me fijn in deze klas tijdens de Engels les.
16. Ik kan goed opschieten met mijn klasgenoten tijdens de Engels les.
17. Ik krijg de ruimte om zelf te kiezen waar ik aan wil werken tijdens Engels.
18. Tijdens de Engelse les wil ik graag zelf aan de slag.
19. De Engelse les sluit bij mijn interesses aan.
20. Ik ben niet bang om fouten te maken tijdens de Engelse les.
21. Hoe de docent lesgeeft, werkt voor mij motiverend.
22. Ga je dit jaar over?
23. Hoe beïnvloedt het antwoord op de vorige vraag jouw motivatie?
24. Wil je nog iets toevoegen over jouw motivatie tijdens de Engelse les dat ik niet gevraagd heb?

Realms of Knowledge

1. Ik vond *Realms of Knowledge* leuk.
2. Ik vond *Realms of Knowledge* moeilijk.
3. Ik heb niks voor *Realms of Knowledge* gedaan.
4. Ik zou vaker *Realms of Knowledge* willen spelen.
5. Ik zie het nut van *Realms of Knowledge* niet in.
6. Ik vond *Realms of Knowledge* niet leuk.
7. Ik heb mijn best gedaan om alles uit *Realms of Knowledge* te halen.
8. Naar mate ik beter in het spel kwam, werd het leuker.
9. Ik zie het nut van *Realms of Knowledge* in.

Realm of Knowledge: A Quest for Motivation

10. Ik zou beter gemotiveerd zijn als een spel zoals *Realms of Knowledge* gebruikt zou worden in de Engels les.
11. Ik vind Realm of Knowledge leuker dan een reguliere les.

Appendix B

This is the interview protocol for the focus groups.

	Veiligheid	Verbondenheid	Autonomie	Competentie
V1		X		
V2		X		
V3				X
V4	X	X	X	X
V5	X	X	X	X
V6	X			
V7		X		

Focus group interviews:

Allereerst, dankjewel dat jullie mee willen werken aan mijn onderzoek. Als jullie het goed vinden, neem ik het gesprek op zodat ik later terug kan luisteren of ik nog wat over het hoofd heb gezien tijdens het gesprek. Je kan op elk moment aangeven dat je de opname wil stoppen. Natuurlijk worden deze opnames meteen nadat mijn thesis is goedgekeurd meteen verwijderd en alle informatie die ik uit deze gesprekken haal worden anoniem in mijn thesis verwerkt.

Speaking of het anoniem verwerken: willen jullie gewoon student 1, 2 of student a, b genoemd worden? Of willen jullie een nickname?

Dan start ik de opname en beginnen we het gesprek.

V1: Wat vond je van het spel?

Vond je het leuk? Vond je het stom? Uitdagend?

Hoe kwam dit?

V2: In hoeverre was je meer of minder gemotiveerd tijdens de *Realm of Knowledge* lessen vergeleken met de reguliere lessen?

Hoe kwam dit?

V3: Indien van toepassing: wanneer het moeilijk of saai was, waarom ging je door?

Waarom is dit tijdens de reguliere les anders?

V4: Wat zou je veranderen? Het niveau? De opdrachten? De karakters?

En waarom?

V5: Wat zou je hetzelfde houden? Groepswerk? Etc?

En waarom?

V6: Was het makkelijk om als jouw karakter te spreken?

Denk hierbij aan het verleden schrijven, maar ook het praten met je party members.


V7: Zouden jullie dit vaker in de les willen doen? (Dan wel een aangepaste versie.)

Dan wil ik jullie nogmaals bedanken voor het gesprek en de medewerking en stop ik hierbij de opname tenzij jullie nog iets toe willen voegen.

Appendix C

This was the example character made to help explain the character creation.

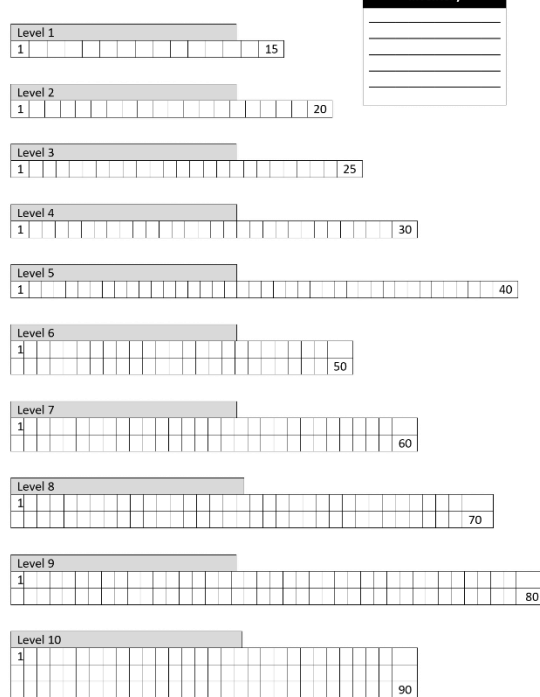
Character Name	
Tildriel	
Race	Class
Elf	Paladin*
Age	Gender
21	Female
*Liriope	




Characteristics		Personality	
Height	182 cm	Good aspects	• Kind • Brave
Eye Colour	Light blue		• Helpful
Hair Colour	Silver	Bad aspects	• Can't take a joke
Skin Colour	Dark		• Reckless

Traits										
Strength	1	2	3	4	5	6	7	8	9	10
	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27	28	29	30
Dexterity	1	2	3	4	5	6	7	8	9	10
	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27	28	29	30
Intelligence	1	2	3	4	5	6	7	8	9	10
	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27	28	29	30
Wisdom	1	2	3	4	5	6	7	8	9	10
	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27	28	29	30
Charisma	1	2	3	4	5	6	7	8	9	10
	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27	28	29	30
Constitution	1	2	3	4	5	6	7	8	9	10
	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27	28	29	30

Level chart



Character Name	
Tildriel	
Race	Class
Elf	Paladin*
Age	Gender
21	Female
*Liriope	



Characteristics		Personality	
Height	182 cm	Good aspects	• Kind • Brave
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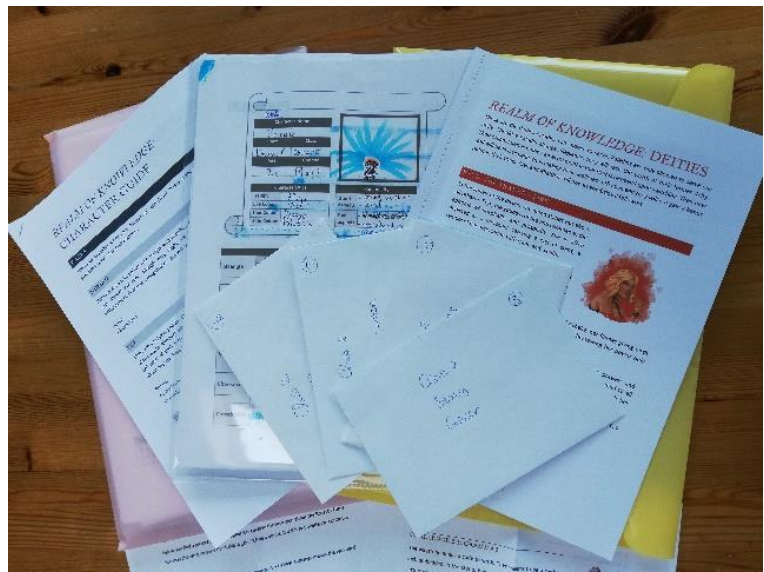
Traits										
Strength	1	2	3	4	5	6	7	8	9	10
	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27	28	29	30
Dexterity	1	2	3	4	5	6	7	8	9	10
	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27	28	29	30
Intelligence	1	2	3	4	5	6	7	8	9	10
	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27	28	29	30
Wisdom	1	2	3	4	5	6	7	8	9	10
	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27	28	29	30
Charisma	1	2	3	4	5	6	7	8	9	10
	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27	28	29	30
Constitution	1	2	3	4	5	6	7	8	9	10
	11	12	13	14	15	16	17	18	19	20
	21	22	23	24	25	26	27	28	29	30

Level chart



Appendix D

Examples of monsters, assignments, and materials (including a filled in character sheet).



Appendix E

PowerPoint slides for the first class.



INTRODUCTION

- ❖ Tabletop Role-Playing Game (TTRPG)
 - Create your own character
 - Follow the story
- ❖ Why during English class?
 - You practise different skills (reading, writing, speaking, and listening)
 - You practise the subjects covered during class (past tense, future tense, etc.)
 - It is more fun than just working from a book

Any questions?

BASIC RULES

- ❖ The language used throughout this campaign is English.
- ❖ You must play fairly.
- ❖ Follow the instructions from the Game Master (GM, aka the teacher) and the instructions on the assignments closely.
- ❖ Always read the story first.
- ❖ After you complete a challenge or need to progress the story, call the GM or go over to them so they can give you the next piece of information.
- ❖ When your character dies, go to the GM for further instructions.
- ❖ Write your answers for the assignments on the lined paper provided by the GM. (You are allowed to write on your character sheet.)

A QUEST FOR WISDOM STORY

In the age of myth and legend, a tome of unparalleled knowledge was written. This book, the Rosetta Tome, contained secrets that were said to unlock the mysteries of the universe. It was a prize sought after by many, but its secrets remained hidden. Now, a new era has dawned, and a group of brave and worthy adventurers has come together to seek the Rosetta Tome. Each member possesses a unique talent and skill, and they all believe that they are the one who will uncover the book's secrets.

But the journey to find the Rosetta Tome will be a perilous one, full of challenges and trials. The seekers will be tested with riddles and puzzles, they will face enemies in battle, and they will encounter characters who will force them to confront their own pasts and futures. The very nature of right and wrong will be questioned, and difficult choices must be made. Because of this, the seekers know that they cannot do it alone. They must work together, using their individual strengths to overcome the challenges that lay ahead. Only by working as a team will they be able to unlock the secrets of the Rosetta Tome and unlock the power that lies within.

May the fates be kind to these brave adventurers, for they are embarking on a journey that will change their lives forever.

HOW TO CREATE A CHARACTER

Personal Information
This is where you enter all basic information about your character: Name, sex, and personality.

Trails
Here you add a record of your adventures. The record can be shared with other players or the Game Master. This section has colored features which indicate features which have been unlocked from which sources and if you have already spent money in a previous class. (Red)

Skills
As you play, your character will level up. The experience level of your character is the basis of your character sheet.

Levels
As you play, your character will level up. You can view track of your level on the back of your character sheet.

HOW TO CREATE A CHARACTER

Personal Information
This is where you enter all basic information about your character: Name, sex, and personality.

Trails
Here you enter character but you only have 10 days. The date given has to be correct. The date given does not have to be the same as the date that you have been added into leveling up.

Skills
As you play, your character will level up. The experience level of your character is the basis of your character sheet.

Levels
As you play, your character will level up. You can view track of your level on the back of your character sheet.

HOW TO CREATE A CHARACTER

Races

- **Human:** Humans are social beings who mingle with members of other races easily. They get along with almost everyone, though they might not be close to many. Humans serve as ambassadors, diplomats, magistrates, merchants, and functionaries of all kinds.
- **Elf:** Elves are a magical people. Elves love nature and magic, art and music, and the good things of the world. Although they can be haughty, elves are generally gracious even to those who fall short of their high expectations, which is most non-elves. They can find good in just about anyone. They are excellent hunters and farmers.
- **Dwarf:** Dwarves are short, bold, and hardy. They are known as skilled warriors, miners, and workers of stone and metal. Their courage and endurance are a match for any of the larger folk. Dwarves get along passably well with most other races, but they are slow to trust.

HOW TO CREATE A CHARACTER

Classes

- **Knight:** Knights are warriors who pledge service to rulers, religious orders, and noble causes. They are strong, resilient, and hard to kill.
- **Paladin:** Paladins have devoted their life to a deity of their choice. This affects their spell-casting. They are followers of greater powers and causes, roaming the world seeking to purge those who do not comply with their ideology.
- **Ranger:** Skilled with a bow and arrow, a ranger strikes from afar. They are strong, smart, and have a keen eye.
- **Druid:** Whether calling on the elemental forces of nature or emulating the creatures of the animal world, druids are an embodiment of nature's resilience, cunning, and fury. They claim no mastery over nature, but see themselves as extensions of nature's indomitable will.
- **Sorcerer:** Sorcerers are born with magic in them. No one chooses sorcery; the power chooses the sorcerer. They use arcane magic to defeat their enemies and turn the tide of battle.
- **Cleric:** Clerics mediate between the mortal world and the distant planes of the gods. They are no ordinary priests; they are imbued with divine magic. With their powers, they can heal their allies and strike down their enemies.
- **Rogue:** Rogues rely on skill, stealth, and their foes' vulnerabilities to get the upper hand in any situation. While sometimes seen as mere thieves, rogues are much more than that and very valuable for any adventuring party that wants to be successful.

NOW CREATE YOUR OWN



Time: 20 minutes

- Read the Classes and Race guide carefully.
- Focus on Race, Class, and Traits first to make sure you have those when the time is up.
 - You got **predetermined** (vooral bepaald) Traits from the race and Class you choose. Don't forget to fill those in!
 - You got **5 Trait Points** to distribute freely.
- Unsure about something? Ask the GM!
- Choosing a Paladin? Ask the GM for the deity guide.

BASIC RULES

- The language used throughout this campaign is English.
- You must play fairly.
- Follow the instructions from the Game Master (GM, aka the teacher) and the instructions on the assignments closely.
- Always read the story first.
- After you complete a challenge or need to progress the story, call the GM or go over to them so they can give you the next piece of information.
- When your character dies, go to the GM for further instructions.
- Write your answers for the assignments on the lined paper provided by the GM. (You are allowed to write on your character sheet.)

TODAY'S GOALS

English goals:

- Practise communicating in English.
- Practise using descriptive words correctly.
- Practise comprehensive reading.

Player goals:

- Understand the basics of *Realm of Knowledge*.

STORY

Today is the day. You are about to start your journey. Maybe you are excited; maybe you're nervous; maybe both. One thing is certain, though: Nothing will stop you from getting the Rosetta Tome. This book containing knowledge about the universe is priceless not just because of all the knowledge in it, but also because of how much people are willing to pay for it. You will be the one to find it.

That is, if you can convince the merchant in front of you to give up his resurrection stone. These stones are rare and allow you to barter your death once, making them an essential item for all adventures seeking the Rosetta Tome. However, they are very valuable and the merchant will not simply give his resurrection stone to you. Nevertheless, he decides to humour you. 'If you manage to answer my riddles, I promise to give you my resurrection stone,' he says with a sly smile. He does not expect you to be able to answer them. Time to show him he's wrong.

REFLECTION

Did you reach today's goals?

English goals:

- Practise communicating in English.
- Practise using descriptive words correctly.
- Practise comprehensive reading.

Player goals:

- Understand the basics of *Realm of Knowledge*.

What did you find challenging?

Appendix F

These are the observations made during class. They are organised by lesson and are only for the experiment groups.

Lesson 1

The character creation process was challenging for them, but feedback from the students tells me they at least enjoyed it. One student wrote down all the numbers to see which character would be the most beneficial stats-wise. Some students seemed to be unsure of what to think of things during the creation process, yet some of the learners who usually do nothing and will take any and all opportunities to do nothing, seemed to be interested. They notified me of missing materials and actively asked questions about the riddles. Nevertheless, not many students managed to complete the riddles and too much time was spent on the character creation process, making it so that no parties could be formed.

Additionally, VWO_{4b} had not yet filled in the survey, so time was lost there. Nevertheless, some gamers got to work in the same way the gamers in VWO_{4a} went to work: finding the best stats for their character and working out which class and race would be most overpowered.

Conclusion: find a better way to communicate how to do things and simplify things.

Lesson 2

Since we didn't complete everything from the first class, we continued with a tutorial and parties are now based on self-made groups, which – for VWO_{4a} – means there is a mix of those who are proficient in English and those who are less proficient. As I am not the teacher for VWO_{4b}, it is difficult to say whether this mix is there as well.

It seems the material is too complicated and the learners are unsure of what they are supposed to learn by doing this. It is therefore very important to keep reminding them that they are practising their English in varied ways during this game. However, these learners are capable of continuing the game even when they tell me it is boring or useless, and they trust me when I say the next classes will be better and that they will more easily see the “English class” in those. Teacher-student relationship is important.

One class (VWO4b) had technical difficulties, leaving too little time to explain everything and catch up on the time we lost last class.

Conclusion: Simplify the battling aspect; keep the goals from the class somewhere on screen or somewhere else visible.

Lesson 3

One party from VWO4a has lost interest, but – to do me a favour according to them – they did speak English for the entirety of the class. Instead of writing their characters' past, they talked about their love lives. Another party also needs to be spurred on to do the assignments, but they will do it when I tell them to. The other three actively participated.

In VWO4b, one student switched parties because he was the only one doing anything. This switch has benefited all students in that party, as the girls he was with before now actually worked together to complete the challenges and he himself got to join a more serious party. One group found a loophole concerning death: you get more XP if you die and complete the resurrection challenge, so you can get very OP (overpowered) that way. Additionally, a student from another class with friends in VWO4b asked to join.

Conclusion: There needs to be a back-up for when students are unwilling to continue.

Lesson 4

VWO4a was missing students because the school scheduled two classes (drawing and English) at the same time. The remaining parties were active, except for the same party that had lost interest during the previous class. Nevertheless, they did eventually complete the grammar assignment that was given to them. VWO4b had all parties complete (including the same student who did not belong to VWO4b) and participating. However, no one finished the campaign, so they were asked if they wanted to complete it in another class. VWO4b said they did not, the active parties in VWO4a said they did, so they will complete it in an upcoming class.

At the end of class in VWO_{4a}, one student said, “Miss, this was actually pretty educational, wasn’t it?”²⁵ To which I replied, “Well, that was its purpose, so...”²⁶ It was good to hear his I-see-what-you-did-there tone of voice, as it told me that he saw the value of the game other than that it was fun. This latter is something I should address better in the next iteration of the game, though. The learners need to remember that even though it is fun, it is most definitely educational as well. This will also keep them interested in the game and less likely to give up.

Additionally, the actual teacher from VWO_{4b}, Mr D, suggested I should give XP for speaking English to give the learners more incentive to speak English. Mr D furthermore said that, even though he knows nothing about games and the likes, he enjoyed the series of lessons and was excited to do something similar in the future.

Conclusion: Give XP for spoken English per challenge, rearrange assignments and the story so that the campaign can be finished, and make sure students remember it is an educational game and not just a game.

²⁵ Mevrouw, dit was toch eigenlijk best leerzaam?

²⁶ Nou, dat was wel de bedoeling, dus...