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# Gaming for Peace: Exploring the Gamification of Soft Skill Training

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Laurea University of Applied Sciences

# **Gaming for Peace: Exploring the Gamification of Soft Skill Training**

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This thesis was created for the Gaming for Peace -project. The project's objective is to develop a learning game that is used to train the soft skills of the personnel in conflict prevention and peacebuilding operations. The project has been deemed to be necessary due to gaps in the personnel's skills and knowledge. Soft skills are widely applicable in various areas of life, which serves as further justification for conducting this thesis as well as the GAP-project.

The objective of this thesis was to research soft skill training methods in game environments. In the case of this thesis, training entails both direct training methods as well as motivational methods. This thesis was limited to identifying methods that are suitable for training communication and decision-making skills.

The theoretical frame of reference covers scientific research, publications and other sources concerning the topics of gamification, soft skills, conflict prevention, peacebuilding, pedagogical approaches and role-playing games. Gamification is a topic that has not yet been researched extensively, which shows in the lack of reliable sources. The lack of credible sources available on gamification makes the work of this thesis notable.

The thesis was conducted heuristically using multiple research methods that are both qualitative and quantitative. In addition to reviewing literature, the data were gathered by using a survey, interviews and benchmarking. The survey and interviews were limited to only competitive gamers as a source of information. The benchmarking was conducted on two previous conflict management learning games. The purpose of the benchmarking was to discover how previous conflict management games have utilized soft skill training methods.

The results of this thesis show that intrinsic motivational methods are more important than extrinsic motivational methods. The margin between the two motivational methods is not large, which suggests that both extrinsic and intrinsic motivational methods should be utilized. Repetitions, communicating with other people, dialog with game characters and feedback were among the most useful direct training methods. The results also suggest that a large variety of different training methods should be used.

This thesis recommends Gaming for Peace to implement multiplayer features into the learning game. The game should utilize a combination of extrinsic and intrinsic motivational methods, with a focus on intrinsic motivational methods. Lastly, this thesis highlights the usage of dialog, repetitions and feedback combined with multiplayer features as direct training methods. Utilizing a wide variety of training methods is likely to lead to players of the game improving their soft skills.

Keywords: Communication, Conflict, Decision-making, Gamification, Soft skills,

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## 1 Introduction

Over the course of years, the world has been troubled by hundreds of armed conflicts. At present, NATO (2016), a global military crisis management organisation has approximately 18,000 military personnel taking part in their missions around the world. According to the United Nations (n.d.), there are currently 6 countries on their Peacebuilding Commission (PBC) agenda. These are countries that have different kinds of peacebuilding needs, with various missions, such as supporting basic safety and security, supporting political processes, supporting the provision of basic services, supporting the restoration of core functionalities of the countries' respective governments, as well as supporting their economic situations. The European Union (European Union External Action n.d.) are currently involved in 17 different kinds of military or civilian operations. The United Nations (2016) had a grand total of 100,950 people taking part in different peace operations.

The prevention and management of conflicts, as well as peacebuilding are all concepts that are vital to striving towards a more peaceful world. The Gaming for Peace-project (2018), referred to as the GAP-project from this point forwards, aims to help with improving the processes of peace operations. The project seeks to fill a recognised training gap by developing a new base curriculum as well as a tool for delivering this curriculum, in the form of an online roleplaying game.

The purpose of this thesis is to support the GAP-project by exploring gamification, specifically the training of communication and decision-making skills in computer games. Gamification was defined simply by Deterding et al. (2011) as “the use of game design elements in non-game contexts”. These non-game contexts can be areas such as work, education or social life.

The thesis is a heuristic research that utilizes several research methods. The methods used in this thesis are a survey, interviews and benchmarking. The thesis aims to identify methods that are suitable for training communication and decision-making skills in game environments. This objective was supported by examining how previous conflict management games have utilized different soft skill training methods.

The demand for this research is not only limited to the needs of the project. As soft skills are a set of skills that are cross-cutting across all sectors (McCready & Smith 2017), they can be applied to use in multiple settings. Due to their versatility, they can be applied to use in areas such as work life, education, social life and team exercises, just to name a few examples. Readers of this thesis may find that the soft skill learning methods discovered through the process of this thesis can be utilized not just in educational games but in other diverse environments as well. The contents of this thesis can also be used to attain a moderate understanding of gamification, which will be covered extensively.

## 1.1 Gaming for Peace

The GAP-project is a part of the EU H2020 Framework Programme for Research and innovation. The project commenced in September of 2016 (Smith, Holohan & Trochowska 2017). It is a multinational collaboration, involving several organisations that are working in the fields of education, research, consulting, game development, national security and international security. Table 1 lists all the organisations that are taking part in the GAP-project.

Organisation	Industry	Country
Future analytics consulting limited	Consulting	Ireland
Upskill Enterprise LTD	Consulting	Northern Ireland
Enquirya BV	Consulting	Netherlands
Trinity college Dublin	Education/Research	Ireland
University of Ulster	Education/Research	Northern Ireland
Laurea University of Applied sciences	Education/Research	Finland
National University of Ireland Maynooth	Education/Research	Ireland
Akademia obrony narodowej	Education/Research	Poland
Haunted planet studios LTD	Game development	Ireland
Police service of Northern Ireland	National security	Northern Ireland
National defence university (Fincent)	National security	Finland
Wyższa Szkoła policji w szczytnie	National security	Poland
Ministerio da administracao interna	National security	Portugal
Irish defence forces	National security	Ireland
Institut po otbrana	Research	Bulgaria

Table 1: The organisations of Gaming for Peace (GAP 2018)

The purpose of the GAP-project is to create a roleplaying game, through which the personnel of conflict prevention and peacebuilding missions can experience scenarios that can happen in their missions. The purpose of these scenarios is to assist in the training of the various soft skills required in conflict Prevention and peacebuilding missions. It is imperative that the personnel deployed on these missions are equipped with the correct skills and knowledge to perform in their duties successfully from the very beginning of their mission. The purpose of the project is to fill a recognised training gap that concerns a base curriculum of soft skills. This curriculum will be delivered by the means of a roleplaying game. (GAP 2018).

Preparation plays a crucial role in the success of any conflict prevention and peacebuilding mission. It is the intent of the project to help the personnel of conflict prevention and peacebuilding missions to be better prepared for various scenarios. Focusing the efforts of the project into the training of soft skills can have several positive benefits in reaching the goal of better preparedness. McCready and Smith (2017) define soft skills for the purposes of the GAP-project as skills that are cross-cutting across jobs and sectors. They are non-job specific skills that are

related to topics such as personal and social competences, personal qualities, attributes, habits and attitudes. For starters, especially in high risk areas, it is impossible to be prepared for anything and everything that can possibly happen. The environment can be unpredictable. The extensive training of soft skills gives the personnel the best chance at tackling any kind of issue they are faced with. The knowledge of soft skills will also carry on to other jobs and areas of life, meaning that the utilization level of the trained soft skills is high.

The project has been deemed to be necessary due to gaps in personnel skills and knowledge. While personnel involved in conflict prevention and peacebuilding missions are generally capable in more traditional, job specific skills (e.g. intelligence, investigation, weapons handling etc.), soft skills receive less emphasis in personnel training. The GAP-project thus aims to embed a base curriculum for soft skills that prepares the personnel to operate in diverse environments. (Smith et. al. 2017). Equipping personnel with knowledge and abilities on soft skills supports the operational success of conflict management and peacebuilding missions. Striving for a more generalised set of skills that can be applied in all kinds of areas instead of just job specific skills is beneficial to the personnel and to the surrounding societies.

Smith et. al. (2017) bring up the fact that there are gender-related difficulties in the peacekeeping culture since it is predominantly a male one. According to them, the world of peacekeeping is faced with several challenges. Ensuring the full representation of women in all aspects of peace operations can help alleviate some of these challenges. It should be noted here that while gender related issues are one of the major focus points of the GAP-project, this thesis will not be addressing them.

The global political situation remains unstable. Conflicts will continue to cause demand for different kinds of peace operations. Some unstable countries may require military intervention or armed support in the form of peacekeepers. Other countries may need support in reconstructing their nation and bringing commonplace processes back into operating conditions. No matter what kind of needs an unstable country has, it is the responsibility of those with the resources and ability to do so, to help. In this kind of erratic global political situation, projects such as GAP are highly valuable. They play a vital role in improving the effectiveness of peace operations. The GAP-project can benefit from a fresh perspective, gamification, while also addressing issues related to gender inequality and deficiencies in soft skill training.

## 1.2 Research problem

Research questions
Identify methods for training communication and decision-making skills in game environments
How have previous conflict management games utilized soft skill training methods?

Table 2: Research questions

As described in the introduction, the thesis is looking to answer the two research questions described in table 2. From the two research questions, the first one is the primary research problem of the thesis. Identifying methods for training communication and decision-making skills can potentially support the development of the learning game. These methods can either be implemented directly into the game or otherwise help develop the curriculum. The methods were mainly identified by conducting a survey and two interviews that were aimed at competitive gamers. For the purposes of this thesis, a competitive gamer is someone who spends more than 20 hours every week playing different games while also competing in the same games in some form. The survey will provide quantitative data on soft skill training methods. The information provided by the survey will be combined with qualitative data gathered from the interviews.

Using the findings of the survey and interviews as well as the information of the theoretical frame of reference, a benchmarking process was performed on previous conflict management games to discover how previous conflict management games have utilized soft skill training methods. Conducting the thesis by performing a benchmarking process in addition to the survey and interviews gives the entire thesis more depth and will also provide a stronger understanding of the findings of the survey and interviews. Through answering the second question, the advantages and disadvantages of the first question's findings will be discovered. It will help understand how certain methods work in practice. The discovered methods can thus be evaluated based on how they function in game environments. The benchmarking process can also provide ideas for the learning game that did not come up through the survey and interviews. Combining the survey, interviews and benchmarking together leads to a comprehensive combination of research methods that will be able to provide a broad perspective on various soft skill training methods.

## 2 Theoretical frame of reference

There are some concepts vital to understanding this thesis. For these concepts, profound definitions are created by using information from relevant sources, combined with earlier knowledge and personal observations. Defining gamification is a fundamental part of the thesis,



as that is the theory that the entire research, as well as the project itself, is based on. Gamification is a concept that has not been extensively researched so far, which shows in a lack of scientific papers and published books. The theoretical frame of reference also aims to explain certain pedagogical approaches. The presumption of the thesis is that combining gamification with various pedagogical approaches will lead to learning. Another central part of the theoretical frame of reference are soft skills. In addition to the core theories mentioned above, this section will also work on defining the terms “conflict”, “conflict prevention”, “peacebuilding” and “role-playing game”.

## 2.1 Conflict Prevention and Peacebuilding

Swanström and Weissmann (2005) suggested, based on previous research and discussion, the following definition for conflict: “perceived differences in issue positions between two or more parties at the same moment in time”. A fundamental part of this definition is the amount of parties required. For starters, it must have at least two. Swanström and Weissmann mention that scholars have generally agreed on the fact that there needs to be more than one participant in a conflict, for it to be defined as a conflict. An equally important outtake from the definition is that there can be more than two parties involved. Several parties can have their own interests at line in a conflict. These parties will certainly be looking to defend these interests.

With the definition of conflict set, Swanström and Weissmann (2005) move on to discuss conflict prevention. They say that it means different things to different people and has not received a single working definition. Attempts have been made to break conflict prevention into pieces, and thus have a better understanding of it. Swanström and Weissmann demonstrate this by saying that it is often divided into direct prevention and structural prevention. The key factor separating the two forms of prevention is time. Direct prevention includes measures that are aimed at preventing short-term issues, while structural prevention is more focused on long-term measures. These two forms of prevention are described by Peace Insight (n.d.) as preventive diplomacy. Peace Insight also calls for prioritising the demands and concerns of local communities that are involved in the conflict.

Key assumptions
Attitudinal change
Malleability
Multisectoral
Applicable in different phases
Applicable by a range of actors

Table 3: Key assumptions of a definition of conflict prevention (Carment & Schnabel 2002, 11-12)

Carment and Schnabel (2002, 11-12) continue on the subject of defining conflict prevention. They defined it as a “medium and long-term proactive operational or structural strategy undertaken by a variety of actors, intended to identify and create the enabling conditions for a stable and more predictable international security environment”. Carment and Schnabel listed 5 key assumptions (Table 3) related to their definition of conflict prevention. While Carment and Schnabel’s definition of conflict prevention is a broad one, combining the key assumptions of the definition together with Swanström and Weissmann’s (2005) thoughts, specifically the division of conflict prevention into direct and structural prevention, leads to a better understanding of just what conflict prevention is. It is a process that involves changes in attitudes and can adapt to different environments. It can be applied to use by independent actors or different kinds of coalitions, in different phases of a conflict. Conflict prevention can also be multisectoral and is often divided into two forms; direct prevention and structural prevention.

Interpeace (2018) defines peacebuilding as a process that is aimed at enabling a society to manage conflict, in non-violent ways. The organization considers peacebuilding to be about long-term transformations, with a focus on the rebuilding of a country. While peacebuilding and conflict prevention have similarities, the key difference seems to be the available measures. Conflict prevention can involve the use of armed forces or other equivalent measures, while peacebuilding is focused on non-violent measures. It seems likely, however that the people involved in active conflict prevention take advantage of some of the procedures of peacebuilding. United Nations (n.d.) defines peacebuilding as a process that utilizes a range of measures that are aimed at reducing the risk of relapsing into conflict. This is achieved by laying strong foundations for sustainable peace and development.

Conflict prevention and peacebuilding are both complex processes that can involve several individuals or organisations, all striving to develop stronger foundations for the nations involved in conflicts. Whether the measures of conflict prevention or peacebuilding that are used take advantage of armed forces or are more focused on non-violent measures, both processes share the same goal; to allow those involved in the conflict to live in a stable society. Understanding the multisectoral aspects of both processes is important. Building stronger foundations for a society is not only about ending armed conflict. A key part of the process is helping to rebuild the basic cornerstones of a society, such as police forces, a justice system, schools, libraries and hospitals. Due to these elements, it is not just soldiers that are involved in the rebuilding process. A wide variety of experts from different fields are required. Because of this, developing a learning game that is widely applicable to different groups of people is essential. Equipping those involved in the rebuilding process with a strong understanding of crucial soft skills as well as knowledge on working within sensitive environments allows them to achieve better results, and thus contributes to allowing every person to live in a stable society.

## 2.2 Soft skills

For the purpose of the GAP-project, soft skills are determined by McCready and Smith (2017) as skills that are cross-cutting across all sectors. They can be applied to use in various areas of life, including work and education. Doyle (2017) delves deeper into the subject, saying that they are interpersonal skills that are much harder to define and evaluate. She goes on to describe them as mandatory elements for success on the job and that they characterize how people interact in relationships. Doyle further suggests that they are hard to learn and contain for example the following set of skills: Attitude, communication, creative thinking, work ethic, teamwork, networking, decision-making, positivity, time management, motivation, flexibility, problem-solving, critical thinking and. conflict resolution,

For this thesis, the relevant soft skills that will be discussed are the focus points of the thesis mentioned in the introduction, decision-making and communication. They will be covered starting in the following paragraph. Other soft skills will not be discussed in-depth.

A simple definition of communication is that it is a process involving the transference of information from one place to another. Communication contains different categories, including spoken or verbal communication, non-verbal communication, written communication and visualizations. The goal of the process of communication is that the receiving end understands the delivered message. (SkillsYouNeed 2018). Ellis (2003, 1) suggests that the ability to communicate is a “vital ladder to all career development”. He goes on to say that those lacking in communication skills will find it hard to advance their careers. Woodcock (2009) mentions that effective communication skills require being clear and concise. The contents of the communication also need to be tailored to the audience.

Communication is not just limited to the words spoken. It involves nuances such as telephone skills, presenting, giving and accepting criticism, motivating and supporting, persuading and negotiating, gathering information, listening and body language (Woodcock 2009). Advanced communication skills also support career development and are applicable in all areas of life. The ability to communicate efficiently is thus as complex as it is important.

Communication is seen as a crucial skill in peace operations. Mccready, Devlin, Trochowska, Hyttinen, Clarke, Smith, Curristan and Singleton (2017) say that participants of peacekeeping operations did not consider the ability to communicate with locals to be as important as the ability to communicate within their own organization and with other organizations. With a wide variety of different kinds of organisations from various nations, communicational problems are certain to emerge. In addition to language barriers, the problems can relate to differences between organisational communication as well. With the wide variety of potential problems related to communication, it would seem important to train communication more extensively

before sending men and women to unstable areas to work on building peace and preventing conflicts.

Doyle (2018) considers decision-making skills to be essential to most companies. According to Doyle, job applicants who can demonstrate their abilities to make decisions are generally at an advantage compared to those who cannot. She goes on to define six stages to the decision-making process. The first step involves identifying the details of the problem or opportunity. The second step requires one to generate an assortment of viable solutions. Evaluation of the pros and cons involving each option comes next. After all the necessary background work, the fourth step will be selecting the appropriate solution or response, based on the information gathered so far. The fifth step is the implementation of the chosen solution. The sixth and final step entails assessing the chosen solution's impact. The final step may also involve making changes to the current course of action.

Doyle's distinct definition of the decision-making process helps understand the complexity of the process. Making decisions is not simply a matter of choosing a certain course of action when faced with a problem. The process involves in-depth analysis of the problem and its possible solutions. It demands an organised yet vigorous approach. Applying decision-making skills to practice in peace operations, while working under extreme pressure, far away from home within unstable environments is certainly harder than in "normal" environments. At times, decisions must be made quickly, while maintaining the basis of the decision on informative reasoning. It is difficult to train these kinds of skills vigorously.

Based on the fact that soft skills are highly relevant in all areas of life, this thesis can be utilized not just by the GAP-project but by all kinds of people, including employers, teachers or people who are otherwise interested in the training of soft skills. Simply put, the usability of this thesis is high due to the usefulness of soft skills. Communication and decision-making are a set of skills that are obligatory in several kinds of scenarios. They can be essential in areas such as career development and education. A key finding involving both communication and decision-making skills is how much employers value both skills. They are incredibly beneficial to companies and can thus be an incredible asset in the work life for someone who is an expert in both skills.

### 2.3 Role-playing game

Arjoranta (2011) describes role-playing games as a diverse phenomenon that has difficulties fitting into a single definition. He references the study of Hitchens and Drachen (2009), which gives a detailed definition of the factors of a role-playing game. A summary of the definition is that the role-playing game is set in an imaginary world, where participants are divided between players who control characters and game masters who control the remainder of the game world beyond player-controlled characters. The playable characters may be defined quantitatively or

qualitatively and can potentially develop in numerous ways. A role-playing game requires at least one of the participants to have control beyond a single character, a role commonly referred to as “game master”. Interaction is a crucial functionality of role-playing games. Players can interact with the fictional game world through their characters. These interactions can include combat, dialogue and object interaction. Finally, role-playing games have a narrative element to them.

For the purposes of the role-playing game being developed by the GAP-project, the factors from the aforementioned definition of role-playing games that play the most important role are interaction, narrative, game world and characters. The type of role-playing game being developed might not be suitable for quantitative definitions for characters. Some form of character progress in qualitative ways can be helpful in the training of soft skills. Understanding the fictional game world can possibly be one of the most important factors for the purposes of the GAP-project.

#### 2.4 Gamification

Gamification is the main theory behind this thesis. Matallaoui, Hanner and Zarnekow (2017, 5) refer to a paper by Deterding et al. (2011) that defines Gamification as “the use of game design elements in non-game contexts”. Matallaoui et al. mention that this first definition of gamification is not entirely detailed. While it does help in understanding the theory and gives the reader a basic understanding of the concept, it still lacks depth. They go on to refer to another study on defining gamification by Huotari and Hamari (2012), who define gamification as a “process of enhancing a service with affordances for gameful experiences in order to support user’s overall value creation”. Fundamentally it seems that gamification is the practice of using games or game-like experiences to improve certain experiences or help reach a better result for any kind of process.

An infographic referred to by Desjardins (2017) reveals statistics and information relating to the video game industry. According to it, globally there are over 2 billion gamers and that generally gamers think that video games offer better value for money when comparing to other entertainment avenues. The number of gamers suggests that there are certain elements in games that keeps people interested in them. At its core, gamification is trying to utilize those elements. Its purpose is to improve motivation and add exciting, game-like features to non-game contexts, and thus add a form of entertainment value to them.

There are several examples of successfully implementing gamification elements into websites, applications or online communities. Some of these success stories are documented by Bunchball. It is a company that combines behavioural economics, big data and most importantly gamification to help their customers with motivation and engagement among customers, partners and employees. An example of a well-known customer of Bunchball is MTV European Music

Awards. The goal of their collaboration was to increase viewership and build anticipation for the event. The solution of Bunchball was to boost enthusiasm and reward active participants through an interactive competition. The solution involved viewers being able to join a celebrity “fan team” and competing between other fan teams by accruing points that were awarded for example by watching video clips and reading articles. Viewer engagement was sustained with weekly challenges. Players were also encouraged to vote for their favourite rock stars using the mobile application. Prizes were awarded to those with most points. The results included MTV increasing user registrations by 20%. Additionally, the website page views of the show saw a 530% increase. Mobile application downloads increased by 159% (Bunchball n.d.).

The statistics above showcase gamification’s potential. Game elements are exciting and have been proven to help in motivating participation and engagement. In the MTV and Bunchball collaboration, an element of competition was also added. When used correctly, competition can also be an incredibly useful tool for motivation. There are limits to the usefulness of competition as a motivational technique. According to a research by Gneezy, Niederle and Rustichini (2003) referenced by Weinschenk (2012), competition often increases the performance of boys and men, but not necessarily girls and women. In the cases of women competing against other women, there might be slight improvements in performance. Often when women are competing against men, no improvement in performance is shown.

Another research by Garcia and Tor (2009) referenced in Weinschenk’s article shows that students who took their SAT test in a room with fewer people scored higher. The researchers came up with a hypothesis that when faced with only a few competitors, the feeling of being able to come out on top is stronger which leads to the competitors trying harder. The theory goes on to say that with more competitors, it becomes increasingly difficult for competitors to evaluate their standing, which leads to less motivation for trying to reach the highest levels. Another finding of the research is that when looking into the effects of the amounts of competitors into performances, the competitors would not even have to be present in the same room for the effect to take place. Competitors would simply be told how many people they were competing against, and it would show accordingly in their performance results.

Siemon and Eckardt (2017, 157) conducted a case study called GamEducation, which combined gamification into university teaching. The project was first implemented into a master’s level lecture however it can be applied to other levels of education as well. Gamification elements of the project included gaining points from group works, a blog system that gave students the opportunity to gain additional points by posting content related to the lecture or by discussing different topics. The blog also showed current rankings for groups as well as individual players. Points could also be earned during lectures for comments and involvement in discussions. The group work points were mainly awarded by the teaching staff, but the opinions of other students were also taken into consideration.

The GamEducation project was applied twice over the course of two years. Siemon and Eckardt (2017, 159-160) conducted a survey after carrying out the project for the first time. The survey was divided into four parts that included a) learning efficiency, b) workload, c) motivation and fun as well as d) participation and game mechanics. The survey results showed that most of the students experienced a highly improved learning efficiency. On average, the workload was generally considered to be too high. The third part of the survey inquired about satisfaction, motivation and enjoyment. The results showed that most of the students enjoyed themselves and considered the lectures to be satisfactory. The results in the final part of the survey showed that the game mechanics led to more intense participation.

Based on the examples provided above, gamification seems to have several practical uses. It has been shown to work in educational settings as well as more traditional business environments. It has proven positive effects on learning, motivation and participation. Utilizing elements of gamification in conflict management training environments, whether directly in games or otherwise, would thus seem to be a sensible approach that can lead to desirable results.

## 2.5 Pedagogic approaches

Several different pedagogical models and theories exist that try to explain exactly how people learn things. This chapter will not be able to extensively cover every model or theory. The focus of this discussion will be on theories and practices that are applicable to training communication and decision-making skills in game environments, as well as some basic principles of learning.

Field and Leicester (2000, 2) discuss the notion of learning being a lifelong endeavour. They reference several authors, who have described lifelong learning as an idealized goal for education, a process, a product, a moral duty and an empirical reality to reconstruct. The vast amount of different descriptions shows that the notion is not something that can be directly fitted into a single category. Merriam and Bierema (2013, 24-25) also consider learning to be generally recognised as a lifelong, basic human endeavour. They reference Gagne's definition of learning that describes learning as "a change in human disposition or capacity that persists over a period of time and is not simply ascribable to processes of growth".

Wilson (2018) brings up the notion of three categories of learning emphasis. He associates each domain of learning with a taxonomy. According to Merriam and Bierema (2013, 25), "learning can emphasize the cognitive as in gaining knowledge of something, psychomotor as in learning a new physical skill, or affective, having to do with emotions and attitudes". The different categories of learning can have different methods suitable to use within their extent. Table 4 is a visual representation of the different taxonomies mentioned by Wilson. They are arranged starting from the simplest level and ending in the most complex level.

The Cognitive Domain	The Affective Domain	The Psychomotor Domain
1. Remembering	1. Receiving	1. Reflex movements
2. Understanding	2. Responding	2. Fundamental movements
3. Applying	3. Valuing	3. Perceptual abilities
4. Analyzing	4. Organization	4. Physical abilities
5. Evaluating	5. Characterization	5. Skilled movements
6. Creating		6. Nondiscursive communication

Table 4: The different domains of learning, based on the works of Bloom, Kratwohl and Harrow, as referenced by Wilson (2018)

McLeod (2007) discusses the basic assumptions of cognitivism. He presents humans as information processors, saying that the information processing of computers has similarities with human information processing. The process is based on transforming information, storing information and retrieving information from memory. Merriam and Bierema (2013, 31) elaborate this subject, describing cognitive learning as a mental process. The authors elaborate on this, saying that the focus of cognitivists is on factors such as insight, information processing, problem solving, memory, and the brain.

Cognitivism is a theory that is based on comprehensively understanding the mind and how it operates. While it does provide a reasonable take on learning as a process, on its own it is not widely applicable. Learning requires more than just a basic understanding of the functions of the mind. Moving on, this chapter will provide outlooks on two key components of learning: motivation and feedback. The presumption of this thesis is that they are both critical factors of learning and will thus be discussed accordingly.

In simple terms, motivation is the key to doing anything. Merriam and Bierema (2013, 146-147) define it as describing why we do what we do. They reference Wlodkowski, who suggests that motivation is a basic tool of survival that means being purposeful. These definitions on motivation, while being very straightforward, help with understanding the concept. Motivation could simply be described as fuel that helps us perform tasks.

Motivation does involve some intricacies that demand detailed explanations in order to fully understand the concept. There are two forms of motivation, according to Merriam and Bierema (2013, 147). These forms are extrinsic or intrinsic. They elaborate on this statement, describing extrinsic motivation as deriving from outside factors. Recognition from other people, promotions and earning diplomas are examples of external motivators. The authors define intrinsic motivation as being internal to the person. Internal motivators could be the satisfaction received from performing a certain task or the desire to achieve mastery of a certain topic for no specific reason.



Sansone and Harackiewicz (2000, 444) discuss intrinsic motivation extensively. According to them, defining the concept is challenging. Their book references several researchers on the subject, who define it “as occurring when an activity satisfies basic human needs for competence and control”. This makes the activity intriguing. Sansone and Harackiewicz lead on from this, saying that the interest in the activity means it is likely to be performed for its own sake, as opposed to extrinsic motivation that derives from outside factors. Intrinsic motivational factors seem to be essential parts of motivation. They are the causes that give profound meaning to activities.

Cameron and Pierce (2002, 231) discuss research relating to the effects of external rewards on intrinsic motivation. According to them, several psychologists have been concerned of the use of external rewards, claiming that as soon as the rewards are taken away, the activity becomes less and less enjoyable, and people will be less likely to engage in the activity. Cameron and Pierce do agree that rewards can have negative effects. However, the negative effects only occur under very specific conditions. They go on to say that external rewards simply need to be appropriately arranged. When done so, they can be used to improve motivation and performance. Cameron and Pierce (2002, 232) continue, saying that the motivation concerning activities of low initial interest can be increased with rewards. With high-interest tasks, using verbal praise and tangible rewards that are tied directly to performance standards and success show positive effects.

In addition to motivational factors, receiving feedback is another one of the most vital parts of learning. Rogers (2007, 59) mentions that the lack of the right quality or quantity of feedback contributes heavily to the failures of adult learning. She goes on to say that without feedback, the learner is unlikely to learn. Canaday (2014) has the same sentiments. She describes gathering feedback as “the powerful fuel that accelerates careers”. Canaday also makes a point of how important it is to properly use the feedback. Gathering it is not enough, it also needs to be interpreted. After interpreting the comments of the feedback, one needs to change the way they function by applying new behaviours to use at work. Figure 1 is a visual representation of what Canaday’s views on the feedback process could look like.



Figure 1: The feedback process (Canaday 2014)

The process of gathering, interpreting and using feedback is not a simple one. Every step of the process has its challenges. Getting the right kind of feedback is difficult on its own. The feedback needs to come from the right people, for example superiors or close co-workers. Getting feedback from the right people is a good start. However, the feedback also needs to be insightful. Numerical grades do nothing but tell how the work went on a certain numerical scale. The feedback needs to explain what went wrong and what went right. Words of encouragement are also mandatory elements of proper feedback. When used correctly, feedback is as much a motivational tool as it is a tool of learning.

Properly interpreting feedback has a clear connection with getting the right kind of feedback. If the received feedback is clear and concise, interpreting it will not be an issue. If the received feedback is unclear, there is a high risk of misinterpretations. In these cases, if possible, the receiver of the feedback would be wise to reach for clarifications concerning the received feedback.

There are several different ways that feedback can be applied to use. The recipient can take a passive approach by focusing on certain core parts of the feedback intuitively. Another way to process feedback is to take an active approach by making a strict plan on how to apply new behaviours to use at work. This kind of plan can even entail filling forms and closely tracking your personal development.

Cognitive learning theories are just some of the learning theories that can be utilized by GAP. They attempt to explain the processes of the mind and lay a strong foundation for understanding how people learn. From a pedagogical point of view, the importance of feedback in learning is undeniable. Based on this finding, it would seem crucial to include feedback as an important learning tool in the learning game being developed by the GAP-project. Similarly, to the point of the importance of feedback, understanding motivational factors is essential in learning. Striving for a balanced combination of intrinsic and extrinsic motivational factors will be essential in achieving the goals of the GAP-project.

## 2.6 Defining the framework

Motivational factors are the first part of the framework. They are the key to unlocking the learning potential of people. They define why we do what we do, as said by Merriam and Bierema (2013, 146-147). The assumption that motivational methods allow people to learn is the first part of the framework of this thesis. Figure 2 showcases the process of motivational methods unlocking the potential of learning methods, which leads to knowledge transference. The figure is based on the assumption that motivational factors are what allow people to perform tasks.



Figure 2: Knowledge transference

Leading on from motivational methods, it is crucial to understand just how people learn things. Basic cognitivist approaches, such as the one presented by Merriam and Bierema (2013, 31) that defines factors such as insight, information processing, problem solving, memory, and the brain being key factors of learning are sufficient for the uses of this thesis. Similarly, receiving, interpreting and using feedback is a vital part of the framework. Matters related to the importance of feedback will be present in all three research methods. The core parts of the pedagogic approaches of this thesis are brought up in table 5.

Pedagogic approaches
Cognitivism
Feedback
Motivation

Table 5: Pedagogic approaches

The wide range of potential applications of soft skill knowledge is another important piece of the framework. For the purposes of this thesis, approaches related to applying soft skill knowledge to use in peace operations is the most relevant one. Knowledge on soft skills is especially important in peace operations, where the working environments can be unstable. Communication skills are seen to be especially important in peace operations. Mccready, Devlin, Trochowska, Hyttinen, Clarke, Smith, Curristan and Singleton (2017) mention that rather than communicating with locals, the ability to communicate together with the partaking organisations is seen to be extremely important by personnel of peace operations.

Theories of gamification are potentially the most important part of the framework. A simple definition is referenced by Matallaoui, Hanner and Zarnekow (2017, 5); “the use of game design elements in non-game contexts”. Because the purpose of Gaming for Peace is to develop a role-playing game designed to help train personnel of peace operations, strictly speaking it does not concern gamification, as per the simple definition referenced by Matallaoui et. al. However, the different core elements of gamification, such as the use of rewards and competition to help boost motivation and engagement, are potentially important pieces of the GAP-project’s learn-

ing game. These elements will also be present in the methodology of this thesis. Thus, gamification remains as a vital part of the framework. Table 6 lists some of the important elements of gamification that can be used to the advantage of this thesis as well as the Gaming for Peace-project.

Elements of gamification
Competition
Rewards
Engagement

Table 6: Elements of gamification

The framework of this thesis is visualized below in figure 3. It is built on the core parts of the theoretical frame of reference, mentioned earlier in this section. It is based on the assumption that core elements of gamification can be combined together with different pedagogic approaches, such as motivation, feedback and cognitivism, to develop a learning game that can be used to train soft skills. For the purposes of this thesis, the concept of training entails both direct training methods and motivational methods. Combining pedagogic approaches and gamification leads to a way of learning that is both engaging and educational. The knowledge of soft skills attained through playing a learning game can then be transferred to use in peace operations. As mentioned earlier, knowledge on soft skills is widely applicable. As such, it can be utilized in a wide variety of different situations, e.g. social interaction and work life.

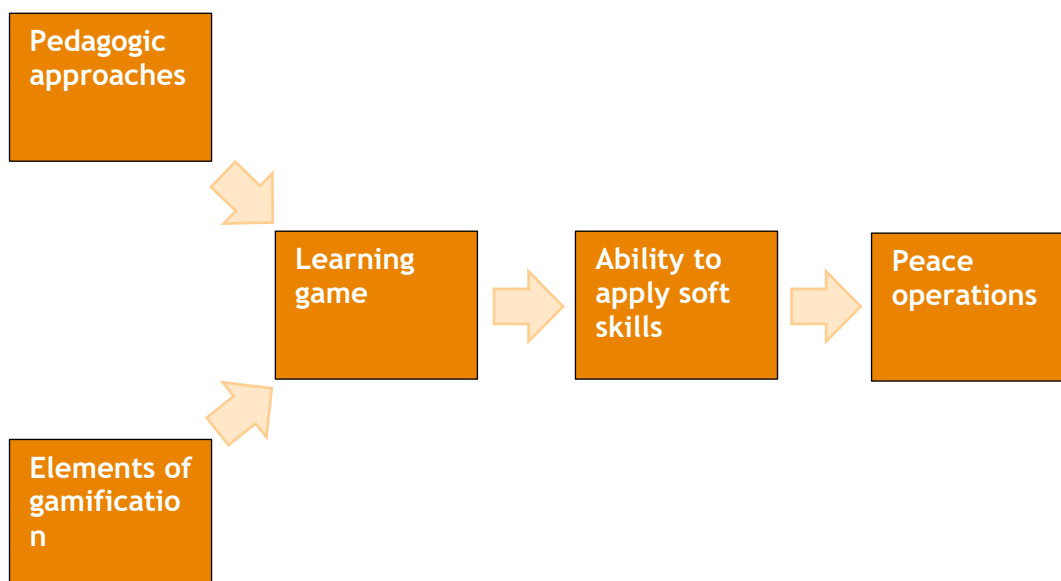


Figure 3: Learning and applying soft skills

### 3 Methodology and implementation

Research methods are used to gather information concerning the research subject. For this thesis, raw data was gathered by the means of a survey, interviews and benchmarking. Out of these techniques, the survey and the interview are described by P. Järvinen and A. Järvinen (2011, 145) as standard information gathering methods. They go on to describe nuances concerning the techniques that split them up further, into more detail-oriented research methods. Those nuances will be discussed more in chapters 3.1 and 3.2 while the third research method, benchmarking, will be described in chapter 3.3.

This thesis was limited on only using competitive gamers for the survey and interviews. A gamer is either a player, an analyst or a coach in any video/computer game. For the purposes of this thesis, a competitive gamer is someone who spends time on the same computer game more than 20 hours a week, takes part in some form of competing regularly, takes gaming seriously and is focused on improving. As this thesis is aimed at the training of certain soft skills, the most important factor to take into consideration when considering candidates for the survey is how focused they are on improving themselves or their team within games.

Conducting the research in this manner has the potential of bringing fresh ideas to the project. Gamers often have a very serious outlook on the games they play. They have extensive knowledge on what kind of methods are good for training certain skills in traditional game environments, as they are extremely focused on improving themselves. By discovering what these training methods are, there is a chance of discovering methods that are new to the project that can be applied to use. The results can also potentially reaffirm previous findings of the project, which will help advance its goals.

In addition to the limitations mentioned above, the thesis is focused on answering the two research questions brought up in the introduction. If a course of action was deemed to not be helpful in answering either of the questions, it would not be taken. Doing so ensures that the thesis will be easy to understand, remains scientifically credible and serves the goals of the GAP-project.

#### 3.1 Survey

A survey is a research method that has either a paper or electronic form with a set of questions on it. The survey will be sent to a group of people, who will hopefully answer it and provide useful data. (P. Järvinen & A. Järvinen 2011, 147). The authors go on to describe a survey being especially useful in situations where there are relatively few things on agenda, and quite a lot of people responding to the survey

Surveys have their strengths and weaknesses, as with every other research method. When the questionnaire is designed right, the threshold to answer it is low. This means that it is easier

to get people to reply to the questionnaire, than for example getting them to take part in an interview that can take as long as an hour, possibly even more.

P. Järvinen and A. Järvinen (2011, 147) mention that surveys can be designed in two ways. The form can either have premade answer choices, or the person who responds can use their own words. In the latter case, the surveys are considered open surveys. In the former case, they are called closed surveys. Both have their uses, and it is not entirely clear when is the best time to use which method. Deciding on which one to use can be a problematic process. The problem with closed surveys is that having a set of answers ready for the responders defines just how they must define the field that they are being asked about. The advantage of open surveys is discovering more details about how the responder feels. The disadvantage with open surveys on the other hand can be that the more time the responder must spend on the survey, the more he will lose focus on the subject. This can cause inaccuracies in the responses. P. Järvinen and A. Järvinen thus say that premade answer choices can be used in situations where there is a commonly accepted classification concerning the matter being researched.

In the case of this thesis, the survey was sent out to 50 competitive players, analysts or coaches of various video games. The respondents were picked based on whether they meet the criteria defined at the beginning of this section. The goal of the survey was to study what kind of methods suitable for video games are the best for supporting the training of communication and decision-making skills. Both soft skills are important to master in competitive multiplayer games, and it is likely that gamers with years of experience can provide extremely meaningful information concerning this matter. The information gathered from the survey is useful in the benchmarking process, which will be discussed more in chapter 3.3.

The survey of this thesis was conducted in a closed manner. The respondents were also given an opportunity to provide open answers in addition to their multiple-choice answers. Doing so will possibly yield additional information that can be helpful in finding answers to the research problems.

The survey form consists of 9 questions. The purpose of the first 4 questions is to attain extensive background information on the responders. The gathered information was used to examine if matters such as age, sex, education or home country have a correlation with how the responders answer the other questions. Questions 6 and 7 provide background information relating directly to competitive playing. Questions 8 and 9 ask which methods the responder considers to be most suitable or most motivating for training communication and decision-making skills in games.

The results of the survey were mainly analysed statistically. Qualitative analysis methods were also used if interviewees provided in-depth explanations to their answers. A summary was written on the statistics of the survey, which attempted to explain some of the reasons for why

certain respondents answered in a certain manner. The findings of the survey were used together with the interview results and the information of the theoretical frame of reference to create the form used in the benchmarking process.

The analysis of the survey will begin with looking over every response. According to Vilkkä (2007, 106) this is done so that the researcher can remove responses that have been filled out inappropriately or are otherwise inadequate. Vilkkä continues on the subject of analysing the responses, saying that at this point if a majority of the responses to certain questions do not contain relevant answers, then it can be presumed that the said question is either badly phrased, or the target group does not know anything about the matter being researched. Leading on from Vilkkä's thoughts, it would seem crucial to ensure that the answers provide relevant information. The reliability of the research depends on how relevant the answers are. Due to how important receiving relevant answers is, placing emphasis on the planning of the survey is perhaps one of the most important steps of the thesis process.

After the inappropriate and inadequate responses have been removed, the analysis will continue by creating an observation matrix that contains all the information gathered through the survey. The matrix will be created so that each vertical line contains every answer to a single question. Each horizontal line will contain all the answers of a single responder (Holopainen & Pulkkinen 2008, 46-47). For this survey, Microsoft Excel 2016 will be used to generate the observation matrix. The matrix will be used to analyse the responses thoroughly. The purpose of the matrix is to be able to transform the responses into a format that is easy to read.

Using the observation matrix, the responses will be transformed into different kinds of visual representations of information called diagrams. The basic forms of diagrams are bar diagrams, line diagrams and sector diagrams. When creating the diagrams, it is important to make sure that the diagrams present the information accurately, and that the reader does not misunderstand it. (Holopainen & Pulkkinen 2008, 53). While the diagrams that will be created based on the responses of this survey might not pose any issues, to avoid misunderstandings, the responses being discussed in the text portion of the thesis will be discussed using numerical values, rather than percentages. With a sample size of 50, and the number of responders being less than that, discussing numerical values of responses will provide the reader of the thesis with a more accurate understanding of the information gathered through the survey.

The analysis of the survey of this thesis was focused on analysing the answers related to motivational methods and training methods related to communication and decision-making skills. Finding out the most motivating or suitable methods is the main goal of the survey. As such, emphasis was placed on analysing those answers. The training methods and motivational methods that were favoured by the responders will be discussed in chapter 4.2.

The questions that provide background information were also analysed. The analysis aimed to discover if matters such as education, age, sex, home country and playing experience influenced the other responses. Average numerical values of responses will be presented regarding each question. The analysis will aim to describe what kind of person the average responder of the survey is.

In addition to the statistical analysis, the responses that provide more profound explanations were also analysed thoroughly. If the responder provided a new method that differs from the existing methods, and it is deemed to be potentially applicable to use in the GAP-project, then it was presented to the interviewees of this thesis and discussed in the interviews. The other methods that are deemed to be useful based on the responses of the survey were also discussed with the interviewees.

The most essential part of the analysis of the survey's information is considering whether the analysis is beneficial to the goals of the thesis or not. As the purpose of the survey is to identify methods for training communication and decision-making skills in game environments, the focus of the analysis, and the entire thesis process should always remain on providing information that is beneficial to the purposes of the thesis. Constantly maintaining a clear direction for the thesis helps to discover answers to the research problems.

### 3.2 Interviews

According to P. Järvinen and A. Järvinen (2011, 145), interviews can be split up into 3 categories; unstructured, half-structured and structured. Which category an interview falls into is determined by how sternly the questions have been prepared in advance. A structured interview has a set of answers ready, all of which will be thoroughly discussed with the interviewee. An unstructured interview means that the interview is steered towards a certain direction, based on the themes of the interview. P. Järvinen and A. Järvinen finish their description of interview-categories by defining a half-structured interview as the middle ground that contains both structured questions as well as open conversations that are based on certain themes. Brewerton and Millward (2001, 78) add a fourth category to the definitions of interviews; ethnographic. According to them, ethnographic interviews are similar to unstructured interviews. The key difference is that they extend beyond the usual restrictions of unstructured interviews. Ethnographic interviews allow the interviewees to respond to questions in their own way. Brewerton and Millward consider the researcher to be more of a 'facilitator' in ethnographic interviews that simply suggests directions for the interview, rather than forcefully steering it to a certain direction.

P. Järvinen and A. Järvinen mention that in the case of unstructured interviews, choosing those that are most knowledgeable on their field is possibly the right way to conduct the interview. They will most likely have plenty of valuable information to share and are less likely to require



any kind of “guidance” towards meaningful answers. Leading on from that thought, it seems logical that structured interviews are best fitting for perhaps less experienced interviewees. Deciding factors in what kind of interview should be carried out can also be certain personal competences of the interviewees. They can have personal traits such as indecisiveness that make it hard to carry out a valid unstructured interview. It is crucial to consider the personal traits of the person being interviewed, before deciding how the interview will be conducted.

Guidelines to the interview process	
Background information	Obtain as much as possible
Piloting the interview	Test the interview thoroughly
Maintain control	Ensure the interview stays on the right track
Maximum response	Use follow up questions when required
Contingency plan	Allow extra time for interviews

Table 7: Guidelines for the interview process (Brewerton & Millward 2001, 78-79)

Brewerton and Millward (2001, 78-79) have created a set of guidelines for the interview process. Table 7 (above) showcases the most important parts of the guidelines. Background information must be obtained on the sample interviewees, the setting and the area being researched. The interview must be prepared and piloted in advance. Examples of things to take into consideration when piloting the interview are estimated running time, content of questions and difficult subject areas. Control of the interview must be maintained by keeping to the core areas of the research and remaining relevant as well as directed. Interviewers need to be good listeners and know when to probe for additional information from the interviewee. Finally, Brewerton and Millward emphasize that it is important to allow more time than expected for each interview.

The interviews of this thesis followed the guidelines mentioned above. The interview was piloted in advance, to ensure that the actual interviews will run smoothly. Maintaining control of the interview and striving for responses that are as informative as possible was achieved through preparing several follow-up questions in advance, which were used when the interview went off the topic. The interviewees were asked to be available for a time that is 20 minutes longer than the estimated running time of the interview. This allowed time for potential problems within the interview.

Interviews can be extremely valuable research methods. Although they are arduous and more time-consuming than surveys, with interviews one can delve deeper into the matters being researched, more so than is possible with surveys. Information gathered through interviews is likely to be more profound and valuable than what can be gathered through surveys. Using an

interview as a research method can thus be beneficial when more profound thoughts are required on the matter. In the case of this thesis, the interviews were carried out to supplement the survey, and make sure the data gathered was accurate.

Two competitive gamers that are either players, analysts or coaches were chosen for the interviews. The interviewees were chosen based on their knowledge of the games they work on. An ideal interviewee is talkative, has previously somehow indicated his knowledge of competitive computer games and meets the criteria of a competitive gamer. The purpose of the interviews was to supplement the data gathered through the survey and attain a deeper understanding of what the most suitable methods are for training communication and decision-making skills. The interviews of this thesis were half-structured. They were carried out in an informal, conversational manner. The purpose of this is to let the interviewees provide as much information as possible, without being influenced by questions that are too constraining. There were some very specific questions, but the focus was nevertheless on allowing the interviewees to talk freely and express their thoughts on the matters being discussed.

The interviews were conducted so that the focus will be on discussing the findings of the survey. The interviewees were presented with 4 separate discussion topics, one at a time. Along with the discussion topics, they were presented with the information gathered through the gamification survey, specifically regarding the discussion topics presented to them. The analysis of the survey data was not discussed with the interviewees, to avoid leading them to think of the information in a certain manner. Table 8 (below) shows the four primary discussion topics of the interviews.

Discussion topics of the interviews
1. Combination of methods for learning communication skills
2. Combination of methods for learning decision-making skills
3. The popularity of intrinsic motivational methods
4. 4+ years of experience responding with several methods

Table 8: Discussion topics of the interviews

The first and second discussion topics concern the training of communication skills and decision-making skills. The interviewees were presented with the different training methods and asked to form a combination of training methods that they consider to be most suitable for each soft skill. After this is done, the interviewees were presented with the information gathered through the survey regarding each soft skill, one at a time. The interviewees were asked to describe how they feel about the results and how the results reflect the interviewee's combination of different training methods. Potential follow-up questions regarding the first two discussion topics included the following: "Describe a real-life example of how you utilize the training methods

you mentioned.”, “How would you utilize statistical analysis as a training method?” or “Why do you think the survey responders answered using a wide variety of different methods?”. The direction of the discussion of the interviews can also potentially lead to all kinds of relevant follow-up questions. Coming up with these questions on the spot is the responsibility of the interviewer. It is worth noting that with interviews, asking follow-up questions afterwards is possible, and should be utilized if necessary.

The third discussion topic concerns the popularity of intrinsic motivational methods. If necessary, the interviewees were presented with a description of intrinsic and extrinsic motivational methods. After this, they were presented with the different motivational methods, and asked to form a combination of motivational methods related to the training of soft skills in games. After they came up with a combination, they were presented with the information gathered through the survey regarding the motivational methods. The interviewees were then asked to describe what they think about the popularity of intrinsic motivational methods, and how the survey results reflected their combination of different motivational methods. Potential follow-up questions regarding motivational methods included the following: “Do you see in-game achievements as a potential motivational method for gamers?”, “Do you consciously motivate yourself to keep playing using particular motivational methods?” or “How much do you put value on extrinsic and intrinsic motivational methods, e.g. 45% intrinsic motivational methods and 55% extrinsic motivational methods”.

Lastly, the fourth discussion topic discusses a finding of the survey that suggests that gamers with more than 4 years of experience playing competitively consider a wide variety of training methods to be essential in the training of communication and decision-making skills. It is essential that this discussion topic is the last one, to not influence the interviewees’ answers to the three other questions. The interviewees were presented with the finding and asked to describe what they feel the effect of experience is on views regarding the training of communication- and decision-making skills, as well as soft skills in general. Potential follow-up questions regarding the fourth discussion topic could include the following: “Do you think age influences views regarding the training methods, if so what kind of effect does it have?”, “Have your ways of improving yourself in games changed the more experience you have gained?” or “Do you think there are other matters that can influence views regarding the training methods?”.

Both interviews were carried out using a VoIP (Voice over Internet Protocol) software that allows two or more people to communicate online by using microphones. The interviewees were first briefed on the background of the thesis. Simple discussion about the thesis as well as the GAP-project eased the interviewees’ minds, which can in turn lead to more profound answers. The interviewees were also asked whether they want their names to remain anonymous or if their names can be used in the thesis.

Initial background discussions were followed up by asking questions about the interviewees' background. The purpose of the background questions is to examine if matters such as age, experience or education have influenced the views the interviewees have on the training methods and motivation methods related to the training of soft skills in games. Following that, the discussion moved on to the main discussion topics of the interview that were specified above. Follow-up questions mentioned above were used if the discussion did not naturally steer towards the correct direction. The interview was concluded by asking the interviewee about his thoughts on the development of a learning game aimed for soft skill training. Both interviewees are experienced gamers that can provide ideas that will help benefit the purposes of the GAP-project.

The interviews were analysed using qualitative content analysis. Brewerton and Millward (2001, 155) define it as being a more subjective form of analysis, with the emphasis lying on meaning rather than on quantification. The authors go on to say that the classification system of the results may initially be derived from the research problem. Brewerton and Millward (2001, 157) further discuss the strengths and weaknesses of content analysis. They say that it heavily relies on multiple judgements of a single analyst, who may be keen to find evidence that supports a particular view. Another weakness of content analysis according to Brewerton and Millward is a concentration on only the things that are mentioned. Respondents may sometimes neglect to mention important details, or they simply forget about them.

In the case of this thesis, the focus of the analysis was guided by the primary research problem of this thesis. The purpose of the analysis is to discover new training methods or seek validation for the findings of the survey. The findings of the interviews will be combined into a summary. The summary will consist of abstracts on both interviews as well as discussion concerning the findings of the interviews. Potential implications of the findings will be discussed thoroughly. The analysis will also look for correlations between the findings of the survey and the findings of the interviews. The findings of the interviews will help with finalizing the form that will be used in the benchmarking process.

### 3.3 Benchmarking

Benchmarking is defined by the University of Eastern Finland (n.d.) as a form of evaluation where organisations compare their operations to another organisation's operations, most often one that is better in at least some aspects. The purpose of the method is to learn from others and improve one's own operations through the benchmarking process. Conducting benchmarking can be problematic due to organisations often competing against each other, and naturally not wanting to reveal sensitive information or information that could somehow improve their competitors. In such situations, the benchmarking process relies on public sources, which can lead to inaccuracies.

Tuominen, Niva and Malmberg (2011, 12-15) define 4 distinct categories to benchmarking. The different categories are strategic benchmarking, product benchmarking, process benchmarking and competence benchmarking. The benchmarking of this thesis will be a form of product benchmarking. Tuominen et. al. use Ford's Taurus as an example of product benchmarking, saying the car model's success in the United States is largely based on product benchmarking. Ford identified 400 car features as being "best-in-class". They then made plans to either meet or exceed those best features in their new model, which worked, with 77 per cent of the new model's features meeting or exceeding the "best-in-class" standards.

When considering the product benchmarking of this thesis, it will be difficult to successfully identify what the best features of learning games are. Rather than looking for the best features within the games that are aimed at either motivating players of the game or teaching certain skills to them, the focus was on listing any kind of features that the game has that can potentially be used in the aforementioned ways. The features were analysed afterwards by using qualitative content analysis. As with the analysis of the interviews, the emphasis of the analysis of the results of the benchmarking process was on meaning rather than on quantification.

The purpose of benchmarking in this thesis was to study how other conflict management games use the methods of training focused on communication and decision-making skills that are discovered through the survey and interviews, whilst also attaining a comprehensive understanding of the field of soft skills training in conflict management games.

Two conflict management games were chosen for the benchmarking process. The benchmarking was conducted by playing the conflict management games. Based on the information of the theoretical frame of reference, previous observations as well as the survey and interviews, an observation form was created. The form was filled out while playing the conflict management games. The questions of the form relate directly to topics such as "What methods were used to train communication and decision-making skills?" and "How does the game utilize feedback?" as well as "How was a certain method implemented into the game?".

Intrinsic motivation	Extrinsic motivation	Feedback	Training method
<b>Personal improvement</b>	<b>Game achievements</b>	<b>Oral feedback</b>	<b>Repetition</b>
<b>Feeling of achieving</b>	<b>Rewards</b>	<b>Written feedback</b>	<b>Watching replays</b>

Table 9: Example of the observation form

The observation form (described above in table 9) consists of 4 columns that were filled out vertically. The first 3 columns, 'intrinsic motivation', 'extrinsic motivation' and 'feedback' are specific columns that track what kind of methods are used in the games. The fourth column, 'Training method' takes a more non-specific approach. It was filled out with various training methods. These methods can include matters related to communicational training methods, statistical analysis, educational videos, to name a few examples. The reason for the non-specific approach of the fourth column is that the methods often found in 'traditional games' that the survey concerns, are not necessarily present in conflict prevention and peacebuilding learning games. Thus, it is hard to predict what kind of training methods the learning games contain. Lastly, the observation form includes a fifth column (not shown in table 9), which contains other observations that do not fit any of the other categories.

In addition to the information gathered through the observation form, background information regarding the games being observed were also gathered. Gathering the background information relied on the usage of public sources. The purpose of gathering background information on the games is to study matters such as who developed them, what purpose the games were developed for, how many players can play the game, what kind of public feedback the games have received and how are the games currently being used or how they were used in the past. The results section will also provide accurate descriptions of the games being observed, including the background setting of the games, core features and how the game is played.

The benchmarking process of both games was started by playing through the games without filling out the observation forms. This allowed the person performing the benchmarking process to get better acquainted with the games, before starting to gather observations. The initial playthrough was followed up by two more playthroughs. The observation forms were also filled out during the last two playthroughs. During these playthroughs, the observer paused the game when necessary, to fill out the observation forms and think about the processes of the games.

The results of the benchmarking were analysed using qualitative content analysis. A summary was written based on the findings of the benchmarking process. The summary contained an abstract on the key points of the process as well as thoughts on what the findings might implicate. The purpose of the analysis is to thoroughly comb through the entire benchmarking process. This can lead to new discoveries or can otherwise help with implementing the discovered methods into Gaming for Peace's learning game.

### 3.4 Summarising the methodology

The result of all 3 research methods combined was a versatile understanding of which training methods are the best for training soft skills, which methods have weaknesses and are not suit-

able for the purposes of the GAP-project and how other conflict management games have utilized various training methods. The findings of all the research methods combined was summarised by listing the key findings as well as the correlations between the different methods.

#### 4 Research results

The purpose of this section is to provide details on the results of every research method. While the previous section focused on defining the methods of research used in this research as well as how they are going to be used, this section focuses on the analysis of the information gathered through the research methods. An attempt was made to discover findings that can influence the GAP-project by either proving that a certain method is useful or that a method is not useful.

##### 4.1 Survey

The information provided by the survey is crucial in defining which methods are suitable for use by the GAP-project. To make discussions about the groups of training methods easier, they were given names that accurately describe the methods within. Motivational methods will also be put in 2 groups, based on whether they are intrinsic or extrinsic motivational methods. Both groups are defined below in tables 10 and 11.

Communication	Direct improvement	Audiovisual tools
<b>Team discussions</b>	<b>Receiving individual feedback</b>	<b>Watching replays of your own games</b>
<b>Casual conversations with teammates</b>	<b>Personal analysis of situations</b>	<b>Watching educational videos</b>
	<b>Substituting for other teams</b>	
	<b>Analyzing statistics</b>	
	<b>Repetitions</b>	

Table 10: Groups of training methods

Intrinsic motivational methods	Extrinsic motivational methods
<b>The feeling of achieving something</b>	<b>Rewards (salary, product rewards)</b>
<b>Personal improvement</b>	<b>In-game achievements</b>
	<b>Receiving praise</b>
	<b>Rankings or competition</b>

Table 11: Groups of motivational methods

The survey received 34 responses. Every responder is male. An average responder of this survey is a male that is aged between 23 and 26 years whose highest form of education is upper secondary school. He plays somewhere between 30 and 35 hours of games every week and has 2-4

years of experience playing competitively or semi-competitively. The average responder meets the criteria set for a competitive gamer for the purposes of this thesis.

## 5. On average, how many hours do you play weekly?

34 responses

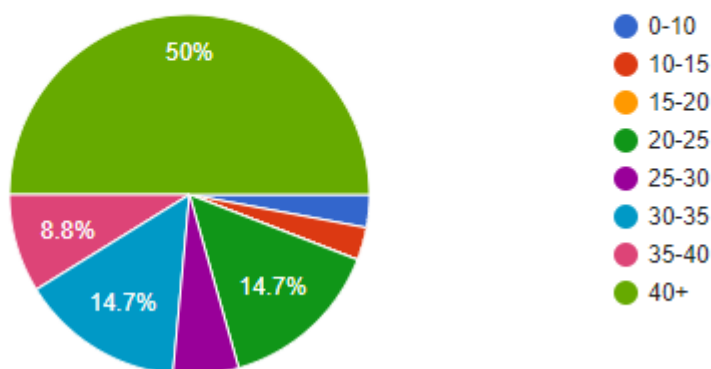


Figure 4: Question 5 answers

## 6. How much experience do you have playing competitively or semi-competitively?

34 responses

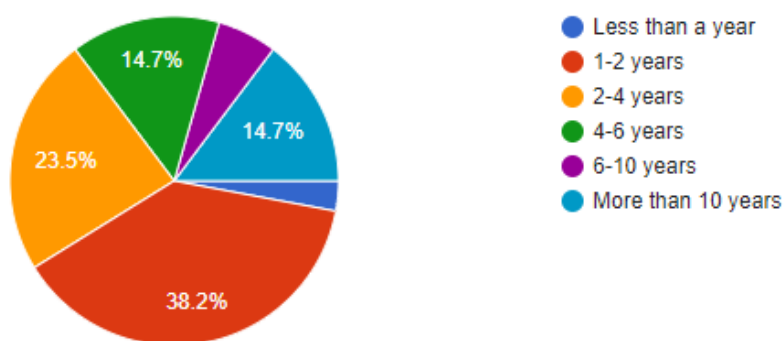


Figure 5: Question 6 answers

25 responders said they play games more than 30 hours every week, 17 of those 25 play more than 40 hours. Only 2 of the responders said they play under 20 hours. Both of those responders have more than 2 years of experience playing competitively or semi-competitively, which means they are likely able to provide valuable information on matters related to semi-competitive or competitive gaming despite their lack of high gaming hours. 13 responders said they have 1-2 years of experience playing competitively or semi-competitively, 8 have between 2



and 4 years. A large majority (30) of the responders said they play Overwatch, which is a game that was released approximately 2 years ago. It seems likely that for many of the responders, Overwatch is the first game they have played competitively or semi-competitively. This may mean that their opinions related to the direct training methods and motivational methods are based only on their experiences playing Overwatch.

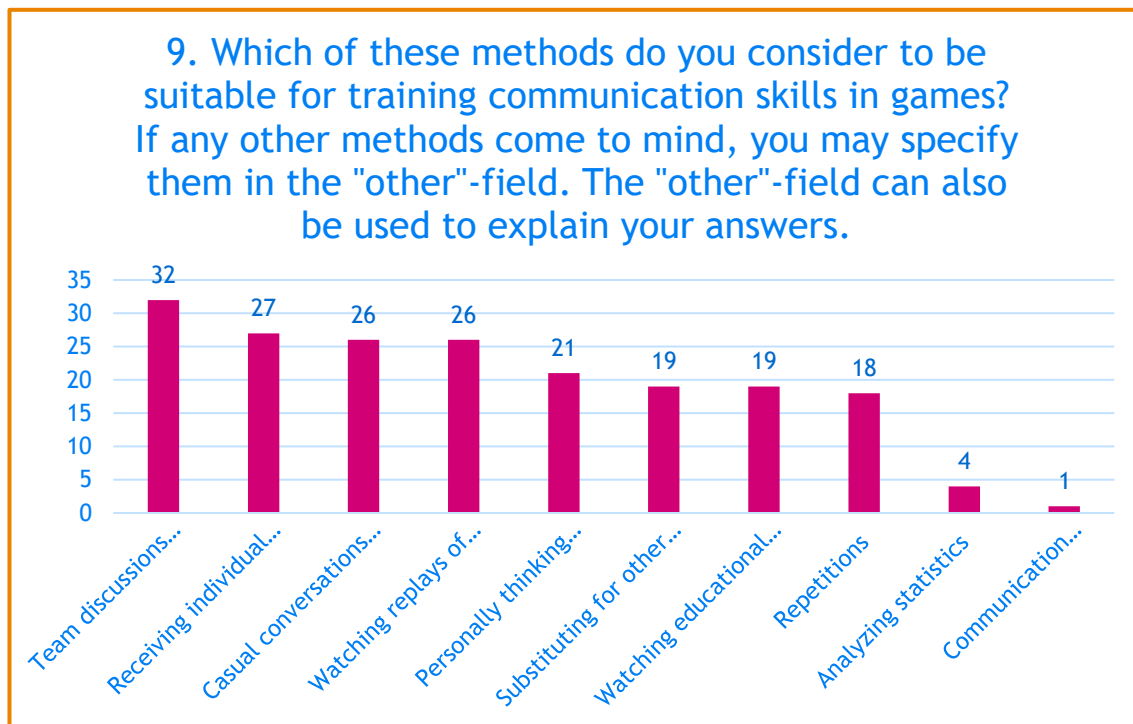


Figure 6: Question 9 answers (Direct training methods)

4 responders mentioned ‘Analyzing statistics’ as a method suitable for training communication skills in games. One of those responders specified his answer, suggesting a method of “Keep track of for example how many times out of ten (number can vary) a certain thing succeeds and if it’s lower than what you expected, then replay analysis must be made to determine the cause. etc.”.

‘Analyzing statistics’ receiving only 4 responses was an expected result. Directly linking statistics into matters that have to do with communication would be difficult. Doing so would either require highly advanced statistical tools, or manually keeping track of how many times a certain event occurs when communication is done in a certain way.

The survey responders considering communicational methods to be the most useful type of method to train communication skills is an expected result as well. Team discussions receiving 32 responses is a clear indicator of how important it is to discuss matters with teammates to be able to improve communication skills. Casual conversations with teammates was also considered to be a suitable learning tool. Communicational methods have a clear connection with

communication skills, as the methods within the group are forms of communication. One responder suggested using communication training exercises that have a focus on learning certain aspects of communication at a time. An example of such an exercise could be focusing on only communicating in a positive way and choosing to avoid all remarks that could be considered negative.

From the direct improvement methods and the audiovisual tools, watching replays of your own games and receiving individual feedback were two methods that stood out. Other methods from both groups received more than 50% responses, except for ‘analyzing statistics’. This result is an indication of the necessity of a diverse combination of different training methods to be able to learn communication skills.

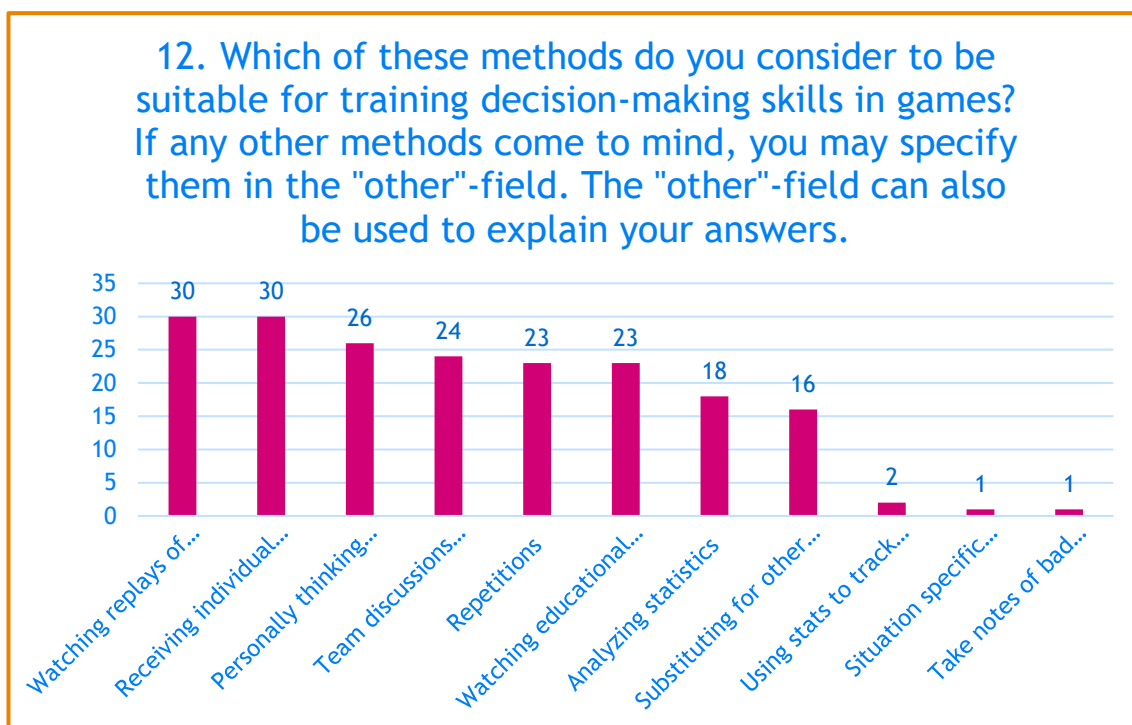


Figure 7: Question 12 answers (Direct training methods)

Question 12 of the survey concerned the methods of training decision-making skills in games. Here, the results differ from those of question 9. Direct improvement methods received the highest amount of responses. This could be due to the importance of decision-making skills in games. Gamers may see the direct improvement methods as something that will generally have an immediate impact. One responder suggested the use of ‘situation specific scenario -drills or training’. This kind of method being suggested is another indicator of gamers looking for methods that have an immediate effect on the improvement of decision-making skills. Training different scenarios is generally worthwhile and is likely also something that the GAP-project is looking to utilize

'Analyzing statistics' was considered suitable by 18 responders. 2 responders clarified their answers. One suggested to "use stats to track your individual performance", the other said that "Statistics can tell you what you are doing good and what is going wrong. You can adapt that knowledge to your decisions in game". 16 responders considered 'substituting for other teams' to be a suitable training method. 2 responders used the "other" - field to suggest other methods. One suggested "Situation specific scenario -drills or training", the other said "Everytime your decision making seems to be the issue in game, take a note of it and after each week analyze the situations and improve off that".

Although the direct improvement methods received the highest number of votes, the other groups were well represented as well. 'Substituting for other teams' was the only method to receive less than 50% responses, at 16 (47.1%). Question 12 did not have 'casual conversations with teammates' as an option to answer. Despite that, communicational methods were well represented, with 'Team discussions' receiving 24 responses. It is deemed to be a central method by gamers in the training of both communication skills and decision-making skills. Audiovisual tools received a high amount of responses as well. 'Watching replays of your own games' is generally seen by gamers as a highly important learning tool, and the results of this survey did not differ from that general understanding. One responder suggested watching games of professional players and trying to understand what they are doing. As with the training of communication skills, the survey results indicate that a diverse combination of training methods is necessary to achieve the best training results.

The key difference from the training of communication skills is the fact that 'analyzing statistics' received 14 more responses, at 18. This could be because unlike with communication skills, statistics can have a direct link with the improvement of decision-making skills. One survey responder mentioned that it is possible to use statistics to see what is going right and what is going wrong. Leading on from the responder's thought, it seems that statistics can help point you towards issues in games. Games that track statistics can show exactly how individual players are performing. It is important to understand that while statistical knowledge can have its uses, it may not reveal the full picture. Often players who lead their teams in games may put so much of their focus into in-game leading, it attributes to their statistics in a negative manner.

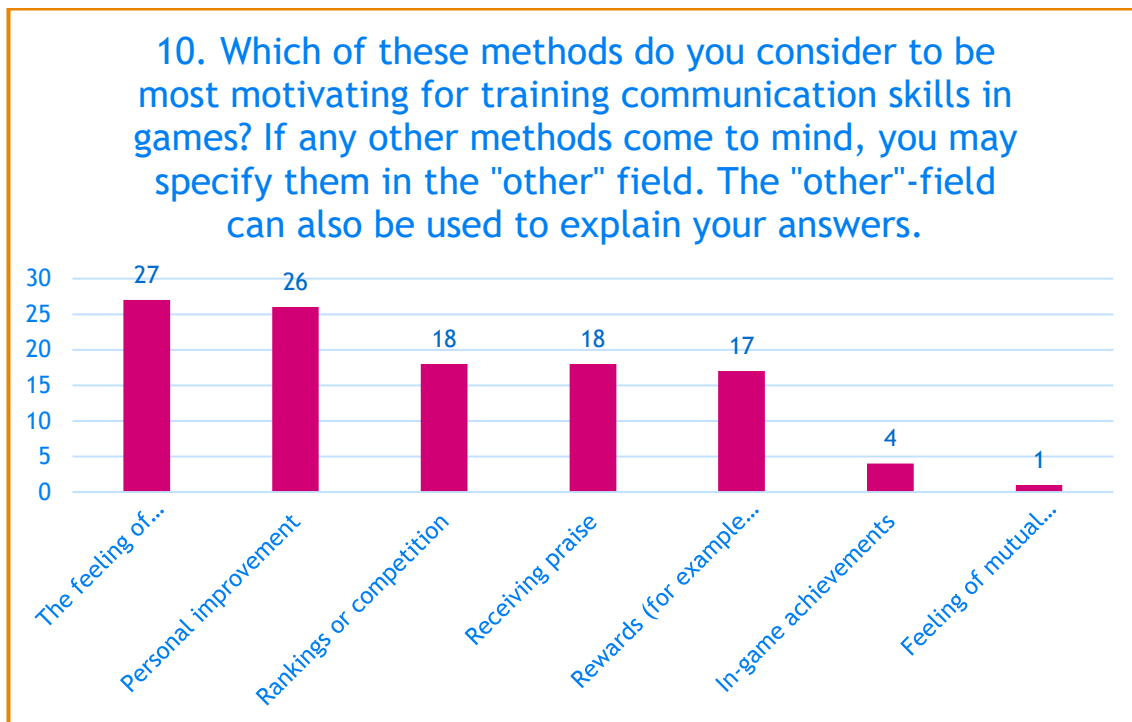


Figure 8: Question 10 answers (Motivational methods)

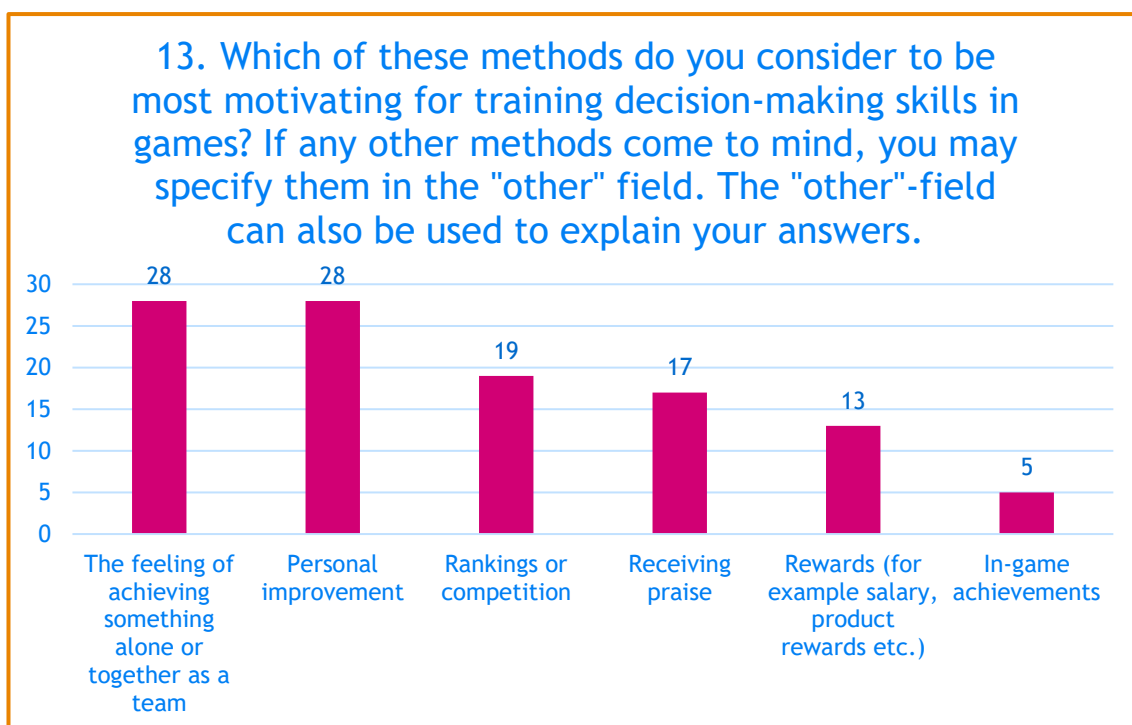


Figure 9: Question 13 answers (Motivational methods)

Questions 10 and 13 of the survey concerned suitable motivational methods for training communication skills and decision-making skills. The survey responders considered intrinsic motivational methods to be the most suitable form of motivation. While extrinsic motivational methods are necessary to achieve a comprehensively motivated individual, the results are pointing towards intrinsic motivational methods being more important. A noteworthy detail here is that ‘rankings or competition’ is a method of motivation that has a connection with intrinsic motivational methods. ‘The feeling of achieving something alone or together as a team’ and ‘personal improvement’ can directly compound from competing or playing ranked games. While the ranked play or competition might be “external”, receiving enjoyment out of competing is not far from being an intrinsic motivational method. This points further toward the importance of intrinsic motivational methods. One responder also brought up a new intrinsic motivational tool; ‘Feeling of mutual understanding while playing within team that communicates well’.

In-game achievements receiving 4 responses within the motivational factors of training communication skills and 5 responses within the motivational factors of training decision-making skills is an expected result. Gamers that focus their efforts on multiplayer games have various kinds of motivation sources. In-game achievements can still potentially have their merits as a source of motivation in single player games. Since most of the survey responders are multiplayer gamers, the potential of in-game achievements as a source of motivation cannot be verified through the methodology of this thesis.

25 responders of question 10 and 24 responders of question 13 responded with some form of combination of extrinsic and intrinsic motivational methods. This suggests that gamers who took part in the survey consider both intrinsic and extrinsic motivational methods to be necessary in achieving a wholly motivated individual when considering the training of communication- and decision-making skills.

The differences between the motivational factors related to the training of communication skills and decision-making skills were subtle. Mostly, the amount of responses received between the motivational methods of the two skills was similar, or at least very close to each other. The biggest difference is that of ‘Rewards (for example salary, product rewards etc.)’. It received 4 less responses (13) as a motivational method of training decision-making skills than with communication skills. This difference is still a relevantly small one and can potentially be attributed to errors made by survey responders.

Concerning questions 9, 10, 12 and 13, a clear majority responded with more than one method. One responder defined ‘repetitions’ as the sole answer in both questions 9 and 12. The same responder also saw ‘rankings or competition’ as the only suitable motivational method for the training of decision-making skills. Another responder answered question 12 with nothing but

'experience' in the "other"-field, which can be categorised together with repetitions. One responder considered 'Rankings or competition' to be the only suitable motivational method for the training of both skills. Overall, only 1 responder answered question 9 with a single method, 6 responders answered question 10 with a single method, 2 responders answered question 12 with a single method and 7 responders answered question 13 with a single method.

In general, most responders that had more than 4 years of experience playing competitively or semi-competitively responded questions 9 and 12 with more than 5 training methods. The responders that believed fewer than 5 of the suggested training methods to be suitable for training communication- or decision-making skills had less than 2 years of experience playing competitively or semi-competitively. The responders that had more than 4 years of experience also always spent an average of more than 30 hours playing weekly. This suggests that the more experienced the gamer is, the more potential he sees in using a wide variety of different training methods. While this finding does not necessarily prove that a wide variety of training methods is necessary to learn communication and decision-making skills, it does certainly point towards that direction.

No similar connection with the amount of experience and playing hours a gamer has and responding with several methods was found when considering motivational methods. Additionally, no connections were discovered between higher forms of education or age and training- or motivational methods. As every responder of the survey is male, and most specified their home country as Finland, no discoveries can be made regarding the connection of nationality or sex and motivational- or training methods. Similarly, as most responders said they play Overwatch, connections cannot be found between the games played by the responder and motivational- or training methods.

The results of this survey suggest that in order to train communication and decision-making skills, a combination of different training methods is essential. The survey responders considered communicational methods to be most useful when training communication skills, and direct improvement methods when training decision-making skills. Similarly, with the training of both skills, a combination of extrinsic and intrinsic motivational methods was seen to be valuable when considering the motivational factors of the training of communication- and decision-making skills. While intrinsic motivational methods did receive more responses than the extrinsic ones, the results suggest that extrinsic motivational methods have their uses and cannot be overlooked when striving for a wholly motivated individual.

This thesis used the findings of the survey in the interviews and the benchmarking process. The findings were thoroughly discussed with the two interviewees, in order to understand exactly

why gamers consider a wide variety of different training- and motivational methods to be essential components of training soft skills. The gathered information was also used to create an observation form for the benchmarking process.

## 4.2 Interviews

This chapter details the results of the interviews. Both interviews lasted approximately 54 minutes. Sub-chapters 4.2.1 and 4.2.2 contain summaries and findings of the specific interviews, while sub-chapter 4.2.3 combines all the findings together. The potential implications of the findings will then be discussed. The results of the interviews will be compared to the other research results in chapter 4.4.

### 4.2.1 Interview 1

The first interviewee was Sami Ferm. He is a 37-year old comprehensive school graduate. Sami's competitive gaming career started in the year 1998, when he played Quake Team Fortress. After several years, he moved on to playing Quake World Deatchmatch. Enemy Territory Fortress, Team Fortress 2 and Overwatch also followed as the other 3 competitive games Sami has played during his competitive gaming career. Sami has often been in an important role within his competitive teams, having nearly always been the team's captain and usually one of the founding members as well.

When asked about the training of communication skills, Sami considered discussions held within the team to be the most important training method. He explained that with other training methods, training communication skills has to be consciously focused on, while with team discussions and casual conversations, communication skills are automatically worked on. Sami thinks that there are many different communicational roles in team environments. Taking advantage of these different roles will improve the teams' readiness to communicate in any kind of situation.

Teams that play games competitively often use separate VoIP-programs (Voice over Internet Protocol-programs such as Skype) to communicate together. When asked for examples about how the teams that he coaches train communication skills to players, he brings up the notion of a coach being in a separate voice channel during practice with a single player that has had issues with communication. This gives the coach the ability to give oral feedback straight to the player that is having issues during games, without having to distract other players. It is worth noting that when playing competitive games that demand the use of voice programs, this method can be used in the training of other soft skills as well.

When discussing the survey results regarding the training of communication skills, Sami mentioned that any kind of training method that involves some form of communication also im-

proves communication skills. He considers communication to be such a large topic that its training cannot be covered with just a single set of training methods. Different individuals favour different kinds of training methods. This can for example mean that some players might prefer going through things alone with the coach, while others might consider open team discussions to be the more favourable approach.

Sami also considered team discussions to be a suitable training method for the training of decision-making skills. He said that team discussions provide direct feedback from multiple sources relating to the decisions that have been made. Sami goes on to say that watching replays of your own games becomes important when training decision-making skills. Replays give you the ability to see what you did in certain situations. Analysing the decisions afterwards, especially when done together with the rest of the team, will provide insight into what kind of decisions were made and why they were made. Sami thinks that personally analysing situations becomes more important within the training of decision-making skills as well.

When asked for clarifications on how his team's replay analysis sessions pan out, he said that the replays being watched have usually been discussed in advance together with the coaching staff. This allows the team to maximize the benefits of the sessions. Delving straight into watching the replays without any idea of what kind of things to look for will make the sessions more difficult. The purpose of the sessions is to have clear focus points and specific situations prepared, together with talking points. Preparation of the analysis sessions allows for the best benefits.

When discussing the benefits and challenges of giving feedback, Sami said that the ways of giving feedback are dependent on the kinds of individuals being dealt with. Some may benefit from discussing the feedback together with the entire team, while others will want private conversations alone with the coach. Sami says that a basic principle of giving feedback is to give positive feedback publicly and negative feedback in private. Sami values giving positive feedback, stating that the significance of giving positive feedback is often forgotten. A valid proportion between positive and negative feedback, according to Sami, is 60% positive feedback and 40% negative feedback.

Sami thinks that a wide variety of different motivational methods can work with motivating players. He mentions setting goals to be an important motivational tool. When asked for specifications, he went on to emphasize how important it is to have smaller goals in addition to the long-term goals. Reaching these goals will provide the players with a sense of progress, or a feeling of achieving something, which is a form of intrinsic motivation. Having and reaching goals upholds a sense of purpose and helps with maintaining a hard-working team environment.



Sami tries to maintain high levels of motivation within his teams with a variety of different motivational methods. As examples of motivational methods, he mentions giving positive feedback and external rewards. Sami also emphasizes the importance of tying these methods to genuinely good performances, rather than just giving praise or rewards for mundane performances. He does, however, mention that even if certain goals are not reached, some forms of positive feedback are always necessary.

When asked about the reasons behind the finding of the survey that showed that players with more than 4 years of experience generally responded with a wide variety of different training methods, Sami said that the more experienced the player is, the more he has seen different training methods in action. Through seeing them being used successfully, the player values them highly. In turn, those with less experience have seen fewer training methods being utilized, and thus cannot value them. Sami thinks that experience is the main factor that can have an impact on what kind of training methods the player considers to be useful. Age and education are factors that can have some form of impact, but not as large of an impact as experience. His view is that years of competitive gaming experience has shaped the training methods he uses to improve himself. He has taught himself to continuously learn from others.

#### 4.2.2 Interview 2

The second interviewee was Jussi Tiipiö. He is a 28-year old Bachelor of Hospitality Management, specializing in the development and management of services. Jussi has played various games competitively starting in 2004. The games he has played competitively include Wolfenstein enemy territory, Dirty Bomb and Overwatch. Overwatch is the first game Jussi has played professionally with a salary. Jussi has often taken other responsibilities in teams besides being just a player, having acted as a captain, in-game leader, manager as well as a coach for the teams he has played in.

Jussi considers communication skills to be extremely important in team environments. He believes in laying a strong foundation for the development of communication skills through repetitions. Playing a lot means facing all kinds of different scenarios involving communication. Experience through repetitions is important, as it will prepare the players for any kind of situation. The advantage lies in not facing surprising situations any more, but rather being equipped with an understanding of what kind of communication different situations demand.

The foundation is built through repetitions. Other methods will then follow to build a stronger knowledge of communication skills. Jussi mentions watching replays as an important training tool. It allows teams to analyse their actions relating to communication afterwards and will also allow individual players to analyse their own performances. Jussi considers receiving feedback from teammates and the coaches to be another important training tool. Players need to be open to criticism from others in order to develop themselves to suit the needs of the team.

Jussi also mentions casual conversations as a suitable learning tool. He deems them to be especially important in team environments involving different languages and cultures. Building a common vocabulary and understanding between the team happens through team discussions and casual conversations. Jussi ends his thoughts on a suitable combination of learning methods by stating that substituting for other teams is also a valuable learning method.

When asked for an example of how communication methods have been trained in one of his previous teams, Jussi describes a method that combines setting goals, receiving feedback and team discussions. The team's coach evaluated their performances in different categories on a scale of 1-10. The team had weekly sessions, where they went through the previous week's scores and compared them with the current week's scores, and then setting goals for the following week based on which categories were deemed to be lacking in some way.

Jussi thinks that a large portion of the responders regarding the training of communication skills answered using a wide combination of training methods because of how important communication skills are. They are an essential part of any team's operations and can be trained through almost every training method listed in the survey of the thesis, which Jussi also responded to. Jussi thinks that communicational methods received the most responses because they are logical answers, as casual conversations and team discussions directly involve communication, and are important pieces of communicating. Jussi sees the other methods as being more demanding but also more rewarding.

When asked about the training of decision-making skills, Jussi's response is very similar as with the question regarding the training of communication skills. He believes in laying a strong foundation through repetitions. As with communication skills, Jussi thinks it is important to be prepared for any kind of situation. When the foundation is built through repetitions, the next step is improving the skills through more detail-oriented methods, such as watching replays, team discussions, receiving feedback and substituting for other teams.

The biggest difference between the answers of the first two questions is the potential inclusion of statistical analysis, albeit with certain conditions. Jussi did not see any potential of using statistical analysis in the training of communication skills, whereas with the training of decision-making skills, its usage is possible. According to him, it demands a person that is knowledgeable on statistics, has access to broad statistics of games, knows how to use statistical tools and knows how to interpret them in the terms of the gameplay.

When discussing the findings of the survey regarding the training of decision-making skills, Jussi sees that the methods that received the most responses were also the most logical answers. They are all methods that provide direct improvements to decision-making skills, whereas the methods that did not receive as many responses are the kind that demand more effort from the

players involved. Jussi also mentions that it would have been interesting to see responders put their answers in an order from most useful to least useful.

Jussi considers intrinsic motivational methods to have always been more important to him than extrinsic motivational methods. The most important motivational method to him has always been a feeling of achieving something together with his team. Jussi sees personal improvement as a motivational method that is almost as valuable as achieving something together with his team. Jussi has only recently become a professional gamer, which can in part explain why intrinsic motivational methods are so important to him. According to him, during most of his tenure as a competitive player, he has not even been able to dream of having a salary. He does, however, consider rewards in the form of monetary compensation to be an important motivational method. When asked why a majority of the responders believe intrinsic motivational methods to be the most important motivational methods, Jussi says that it is natural for people to respond using intrinsic motivational methods. Jussi feels that way due to how important personal improvement and succeeding as a team are to him, and believes other people find similar motivational methods to be important.

When asked about the reasons behind the finding of the survey that showed that players with more than 4 years of experience generally responded with a wide variety of different training methods, Jussi said that the more experience the player has, the more he has seen different kinds of team environments and methods of improvement. Thus, the more experienced the player is, the more uses he can see in various training methods, as he has already seen them in action before, and knows when something will work and when something will not work.

The biggest changes in Jussi's own methods of self-improvement are self-criticism and the inclusion of other training methods besides repetitions. While Jussi does believe in building a strong foundation through repetitions, on its own it is a lacking method. It needs to be combined with systematic forms of analysis that are detail-oriented. Jussi believes that repetitions need to be combined with supportive methods such as team discussions, watching replays and receiving feedback, in order to truly be able to train soft skills.

Jussi also thinks that a high degree of education can have a positive impact on the learning of soft skills, as well as the players' gaming careers. It can potentially widen the learners' perspectives, while also providing players with a safety net, in case their gaming careers do not work out.

When asked for suggestions for the GAP-project, Jussi suggests building the game on similar foundations that he himself builds the training of soft skills, as mentioned in his answers to the first and second questions. First through repetitions, and then through the use of supportive training methods, such as a system of feedback.

### 4.2.3 Summarising the interview results

Both interviewees brought up a wide range of different training methods when discussing the training of both communication skills and decision-making skills. Sami prioritizes communicational methods within the training of communication skills, as using them does not require conscious effort to improve one's communication skills. Jussi suggested utilizing a wide range of methods for the training of both soft skills, and Sami also emphasized various methods within the training of decision-making skills.

Sami and Jussi both seemed to favour intrinsic motivational methods. Extrinsic motivational methods were also brought up. Based on these two interviews, intrinsic motivational methods would seem to be the most important form of motivation to players. Extrinsic motivational methods are also necessary, to ensure that the motivation of players does not rely on intrinsic motivational methods alone.

Sami and Jussi both agreed that the more experienced the player is, the more value he sees in using a wide variety of different training methods. This suggests that experienced players can see the value in using various training methods, rather than just focusing on a single training method. When asked for ideas on how to develop the learning game of the GAP-project, Sami suggested making it a multiplayer game, while Jussi suggested the usage of repetitions to build the foundation of knowledge and other training methods to gain in-depth knowledge of soft skills.

The interview results suggest that using a wide variety of different training methods will be the favourable approach for the learning game being developed by the GAP-project. Similarly, various motivational methods can be used with intrinsic motivational methods being the most important form of motivation.

## 4.3 Benchmarking

This chapter details the results of the Benchmarking process. Playing through both games twice lasted approximately 6 hours in total. Sub-chapters 4.3.1 and 4.3.2 contain summaries and findings of the specific games being benchmarked, while sub-chapter 4.3.3 combines all the findings together. The potential implications of the findings will then be discussed. The results of the benchmarking process will be compared to the other research results in chapter 4.4.

### 4.3.1 Mission: Zhubia - Winning the peace

Mission: Zhubia's purpose is to practice peacebuilding by teaching the relevant key competencies. It provides peacebuilding practitioners with a safe space of practicing. The development of the game was initiated by the PeaceNexus foundation, which is a consortium of peacebuilding institutions. The game is available to play online for free. (Mission Zhubia n.d.).

The game is set in a fictitious country called Zhobia. The player is tasked with the mission to strengthen the rule of law in the country. Zhobia is a country that was recently struck by a violent conflict. Although Zhobia is an imaginary country, it resembles traditional African countries based on the populace and the progression of the nation. The game's setting may have been developed in the image of some African countries.

The game starts with an explanation of what the purpose of the mission is. The player will then arrive in Zhobia and be prompted with explanations of the key elements of the game. These key elements are dialog with Zhobian influencers, facts and figures, news, history, project plan and implementation plan. The dialog and implementation plan are the main gameplay elements, while the project plan, facts and figures as well as news and history were be used to study the nation. The information gathered through these elements will be used when discussing with Zhobian influencers and when choosing the different options of the implementation plan.

The purpose of the game is to put together an implementation plan of where the new courthouse will be built, what kind of legal system will be supported and what kind of people will be trained for jobs in the courthouse. The main part of the gameplay is going through dialog with various Zhobian influencers. Initially, the player only has access to 3 different options in the implementation plan, but through proving your context knowledge to the Zhobian influencers and connecting with them, the player will unlock new options to the implementation plan. The player needs to consider various opinions when deciding what kind of implementation plan to pursue.

After studying the context and going through dialog with the Zhobian people, the player will finalize the implementation plan, and then deploy it. The studying of context and dialog with Zhobian people can be considered the first round of the game. The round ends when the implementation plan is deployed. The second round involves reviewing feedback of the deployed improvements that is received through news and directly from the Zhobian people. After reviewing the feedback, the player will be able to make changes to the implementation plan, before deploying the final version of the implementation plan. The second round, and the game, ends when the player deploys the final version of the implementation plan at this phase. At the end of the game, feedback relating to the key competencies will be given to the player. The player will receive suggestions on which competencies require more effort, and which ones were the strengths of the player.

Zhobia provides multiple useful motivational methods and training methods that have been deemed to be useful by the methodology of this thesis. It is a game that provides players with a sense of achieving something and a sense of progress, both of which are intrinsic motivational methods. The activity of playing the games and progressing in them feels rewarding. The game

also attempts to provide players with the opportunity to connect with the characters of the game, which simulates a feeling of connecting with others and striving for common goals together. These intrinsic motivational methods are powerful tools that have the potential to unlock high levels of motivation.

Extrinsic motivational methods in *Mission: Zhobia* are limited to receiving praise from characters of the game and notifications of success. Both methods are great motivational tools, but overall the extrinsic forms of motivation feel lacking in *Zhobia*. The game could have potentially had the option to participate in voluntary competitions, where the player's points are put up against other players. The highest ranked players could even potentially be rewarded with something.

The game uses multiple forms of training methods that are aimed at training the relevant soft skills to the players of the game. Dialog with the local *Zhobian* influencers is the most important tool of the game. It is also an important training method that trains the players in communicating properly with local people. The local people are easily offended, which means that players need to choose their words carefully. Choosing the right dialog options led to the player unlocking new options to the implementation plan, while choosing offending options led to the player losing the trust of the *Zhobians* and being unable to unlock new options for the implementation plans. Choosing the correct path of dialog feels challenging and rewarding.

The game provides feedback at the end of the game. The assessment of the rule of law programme evaluates the following three categories: capacity and performance, access to justice as well as satisfaction. The players are shown an indicator that shows what the current situation of each of the categories is when compared to the old situation. Written feedback on each of the categories is also provided. The written feedback is useful, but the indicators could make use of more detailed numerical values. Players would then have an easier time to compare their own results with each other, and potentially even compete in the game.

After the initial feedback relating to the 3 categories, the players are shown how they scored on the following six peacebuilding competencies: conducting context analysis, showing context knowledge, identifying perspectives, building trust, engaging local actors and adjusting the programme in response to context. Players were shown tips on how to gain higher scores on each competence. They also have the option to read detailed descriptions of each competence. The information provided through these descriptions and the feedback of each competence is a valuable way of training soft skills. *Mission: Zhobia* is not a vast game that would require longer descriptions of each competence. Each competence provides enough information, but not too much.

The game also tries to make use of setting goals as a form of motivation. The goals are shown in the project plan, but they do not really have an impact on the game. The project plan itself

feels extremely redundant. Much of the information it provides feels like it does not have a significant effect on the potential outcomes of the game. The project plan may simply be present in the game to better simulate a scenario of going on a peacebuilding mission.

The game does a seemingly good job of simulating the pressure of peacebuilding missions. The player's boss is constantly sending messages, asking for updates on the progression of the project and showing his irritation when the player deviates from the project plan. The local influencers all want the rule of law programme to help the situation of their people. The player needs to deal with disappointing some characters, while also trying to find compromise in all situations. Disappointing characters of the game feels unpleasant, while gaining trust, showing context knowledge and connecting with the characters feels pleasant. The player is also given extensive descriptions of how to play the game.

Playing the game from the beginning feels intimidating, as there is plenty of information to remember. Not remembering something can lead to disappointing the characters of the game, which can in turn hinder your progress. While there is a lot of context knowledge to remember, it becomes irrelevant after 2-3 times of playing through the game, as the sections of the game that demand context knowledge are limited. The player will quickly remember all the relevant context knowledge. After that, the player can focus on building trust and identifying perspectives through choosing the right paths of dialog with local Zhubians.

The game could potentially be slightly longer. After finishing the first round of the game, the gameplay gets very limited, as the player can no longer unlock additional options to the implementation plan. The second round of the game feels dull and could potentially gain more depth through changing the way the characters react to the implementation plan, or by allowing the players to unlock more options at this stage. The game could also make use of direct, detailed feedback immediately after decisions, rather than at the end of the game or through vague comments of the characters. At times the comments given by the characters are useful, other times they show nothing else but the fact that the character is disappointed with the player. Consistent feedback either straight from the characters or through the game itself, immediately after making decisions could have a positive impact on the depth of the game.

#### 4.3.2 Peacemaker

The purpose of Peacemaker is to train decision-making skills, by playing as either the Palestinian president or the Israeli prime minister. The game was developed by ImpactGames and is inspired by real events in the Israeli-Palestinian conflict. (ImpactGames n.d.). The game costs around 3€, depending on the place of purchase. It is possible to buy and download through Amazon.

The goal of the game is to achieve 100 points in two different scorings. The first scoring is a measurement of national approval. It indicates how well the player is doing either among the Palestinian people and different factions or the Israeli populace and different factions, depending on which side the player chose in the beginning of the game. The second scoring indicates world approval when playing as the Palestinian president, and approval by Palestine when playing as the Israeli prime minister. If either one of the scoring falls below -50 points, the player loses the game.

Peacemaker's gameplay revolves around performing 3 categories of actions. These categories are political decisions, security decisions or construction decisions. Performing an action is likely to lead to either one or both scores to change in some way. The goal of the player is to reach balanced levels of satisfaction between the relevant factions by performing various actions. Recent events happening in either Palestine or Israel influence what kinds of actions the player should perform.

The game makes use of intrinsic methods of motivation. A sense of progress is the most important tool of intrinsic motivation in Peacemaker. Watching the two different scores at the start feels intimidating, especially if the player makes mistakes and loses large parts of the progress that was made. As both scores keep increasing and the player progresses, the game starts to feel less intimidating. The game also attempts to use in-game achievements as a motivational method, in the form of in-game milestones. These milestones feel like they have been forced in to the game, and do not seem to bring anything to it. As they do not really unlock any new features in the game and are reached by only gaining a certain amount of points that has not been specified at the start of the game, they simply feel like pieces that do not belong where they are.

Peacemaker uses newspaper stories as a form of extrinsic motivation in the game. The stories told in the newspapers feel genuine and are directly connected to either the amount of points lost, or the amount of points gained. If the player is doing well, the stories are generally positive and make the player feel a sense of success, based on the humbling words told in the newspapers. On the other hand, the newspaper stories can also include discouraging words when the player is not doing well.

The game provides feedback both at the end of the game and immediately after decisions have been made. The feedback provided at the end of the game is not very extensive and could potentially be more valuable with more details. The direct feedback immediately after decisions allows the players to immediately understand whether their decision was good or bad. The players can adjust their plan of actions based on the feedback received. Although receiving direct feedback is a valuable learning method, at times it feels like the game tries to simplify matters of national security. Certain actions performed in the game would lead to reactions



that are likely to be far more drastic, if done in the real world. At the beginning of the game, playing the game may even feel like success is simply based on guessing the right option, rather than basing decisions on facts.

The training methods used in the game are based on repetitions and training through feedback. Combining the feedback received immediately after making decisions with performing actions repeatedly, and adjusting your actions based on the feedback feels like it provides the player with the tools to be successful in the game. Although the game contains options of using military and police actions, the usage of peaceful methods is heavily promoted. This is a sensible approach that teaches the players to strive for peaceful solutions through political discussions and infrastructure reinforcements.

#### 4.3.3 Summarising the benchmarking results

Mission: Zhobia and Peacemaker both offer valuable lessons in what kind of motivational and training methods work in learning games. Firstly, the usage of direct feedback immediately after making decisions would seem to be valuable. It allows the players to immediately adjust their actions and learn from their mistakes. The received feedback needs to be connected directly to the kind of action that was taken by the player. Some form of extensive feedback at the end of the game can also be very valuable. The feedback provided at the end of Mission: Zhobia is a good example of valuable end-game feedback.

The training of communication skills needs to be based on dialog with characters of the game, communicating with other players while playing the game or both options. Using both methods would allow the players to work on their universal communicating skills while discussing with other players, and their job-specific communication skills while working through dialog with characters of the game. These forms of communication training combined with direct feedback is likely to be a valuable approach to learning communication skills in learning games.

The usage of repetitions as a training method would seem to be a sensible approach, both in the training of communication skills and decision-making skills. Mission: Zhobia does not allow for repetitions within the same playthrough of the game and needs to be started over to allow the player to go through the dialog another time. While it is good that the player understands that words cannot be taken back, results suggest that striving for middle ground between the value of repetitions and the value of understanding the impact of words would be a sensible approach. The usage of repetitions also needs to be based on adjusting actions based on the direct feedback received by the player.

Playing through Mission: Zhobia and Peacemaker further suggests that using a combination of both intrinsic motivational methods and extrinsic motivational methods is a valuable approach. Learning games can benefit from setting some kinds of goals for the player to reach. It is vital

that the requirements for reaching the goals is clearly explained to the player at the beginning of the game. Reaching the goals can also potentially unlock new gameplay features that keep the player interested in the game and focused on striving for success.

The characters of Zhobia are successful both in simulating the working environments of peace-building missions and in allowing the players to find connections with characters and working on their communication skills. The characters feel genuine and are useful to the game. Connecting with Zhobia's characters provides a feeling of connecting with others that can be hard to attain in learning games. Connecting strongly with the characters may be a result of the various facial expressions of the characters in combination with their utilization of plausible wordings that resemble situations from real life.

It is also important to have strong story elements in the game. The story of Mission: Zhobia is enticing and makes the player of the game feel a sense of purpose while playing the game. Players need to understand why they are doing what they are doing. Peacemaker is based on real events in the Israeli-Palestine conflict, and players feel a sense of purpose due to how significant the conflict is. Simply put, games need to have relatable storylines.

The usage of extrinsic motivational methods is highly recommended. Newspaper stories that either praise the player or tell the player off are an example of a great method of extrinsic motivation. Notifications of success, such as the ones used in Mission: Zhobia is another valuable approach. Regularly receiving praise from performing correct actions is a good way of motivating the player. Being told off for wrong decisions or otherwise bad actions will lead to the player avoiding making the same wrong decisions or bad actions.

Lastly, having some form of scoring that can be actively followed while playing the game is a very valuable tool of motivation. It allows the player to see exactly how well they are doing. The player can combine the knowledge of how much score is gained through certain actions, together with direct feedback and understand the value of their actions. Having a clearly defined scoring can also be used to compete with other players, which is a valuable form of motivation on its own.

#### 4.4 Summarising the research results

The methodology and theoretical frame of reference provided valuable information for the purposes of this thesis. This chapter first provides an explanation on how previous conflict management games have utilized different motivational methods and soft skill training methods, based on the findings of the benchmarking process. Following that, the focus of the discussion will be on identifying the suitable training methods for training communication and decision-making skills in games, based on the findings of the survey, interviews and benchmarking.

#### 4.4.1 Utilization of training methods in previous learning games

The benchmarked games, *Mission: Zhobia* and *Peacemaker* utilized both intrinsic and extrinsic motivational methods. *Peacemaker* focused slightly more on extrinsic methods, while *Zhobia* seemed to favour intrinsic methods. Neither of the games would rely solely on one form of motivation. Instead, they would opt for a diverse combination of motivational methods. *Mission: Zhobia* and *Peacemaker* both used feedback as a valuable training tool. *Zhobia*'s feedback was mostly received at the end of the game. *Peacemaker* provided feedback directly after decisions and at the end of the game.

In addition to using feedback as a valuable training method, *Zhobia* used dialog with characters of the game as a method of training key competencies. *Peacemaker* favoured a more direct approach, using repetitions as a training method. To gain the maximum benefit from *Mission: Zhobia*, playing through the game more than once would seem to be necessary, as it is not possible to repeat certain crucial performances within the same playthrough. *Peacemaker*'s approach is different from *Zhobia*'s. The game allows the player to perform actions repetitively, while providing direct feedback that allows the player to quickly learn from mistakes.

In conclusion, this thesis discovered that previous conflict management games have utilized a combination of intrinsic and extrinsic motivational methods as a way of motivating players. The training of key competencies is primarily achieved through the usage of feedback, dialog and repetitions.

#### 4.4.2 Methods for training communication and decision-making skills

Five essential findings were discovered through the methodology of this thesis when identifying methods for training communication and decision-making skills in game environments. These findings are based on information gathered through the survey, interviews and benchmarking. The findings are shown below, in table 12.

Essential findings
Feedback
Discussions
Repetitions
Diverse training methods
Combining motivational methods

Table 12: Essential findings of the research

Firstly, the importance of feedback was a recurring theme within all three research methods. The results suggest that receiving feedback can potentially be the most important factor that contributes to knowledge transference. There are different ways of giving feedback. The way

should be based as much as possible on the preferences of the individual who is receiving the feedback. Some may prefer open discussions together with their team, others will want to receive their feedback privately from their superior. The value and importance of feedback is unquestionable. Feedback in some form should always be available when either an individual or a group of people is training new skills.

Team discussions, whether in the form of feedback sessions, planning sessions or casual conversations, are an essential training method, especially for the purposes of training communication skills. Survey responders and interviewees alike all brought up team discussions as a valuable training method. It is worth to note that feedback is often an important part of these discussions, which can in part explain the popularity of team discussions. Nevertheless, communicating, whether formally or informally, is essential in the training of communication skills.

In addition to feedback and team discussions, the third major discovery was the importance of repetitions. Repetitions were discovered to be an important building block of training soft skills that works as a foundation of what an individual can learn. The results show that repetitions should always be combined with other training methods, allowing for in-depth analysis of the most important factors of the soft skill being trained.

Feedback, team discussions and repetitions were found to be the most important methods of training soft skills. Despite the importance of these methods, it is crucial to understand that a wide variety of different training methods can be applied to use at the same time, when training soft skills. Individuals training soft skills in game environments are more likely to see value in utilizing a wide variety of different training skills if they have more than 4 years of experience. Based on the benchmarking process of this thesis, the learning games should not directly utilize several different training methods, to avoid the game becoming cluttered with too many features. The benchmarked games primarily utilized two training methods, which was shown to be a sensible amount. When utilizing several different training methods, the additional methods should come from outside of the game, for example through team discussions or watching educational videos.

Lastly, the research results suggest that a combination of intrinsic and extrinsic motivational methods is essential when motivating individuals to train soft skills in game environments. Intrinsic motivational methods were discovered to be the most important motivational methods, but not by a large margin. Intrinsic motivational methods can for example be based on providing the player with a sense of achieving something, a sense of progression or a feeling of connecting with others. Extrinsic motivational methods can for example be based on giving praise to the player, using a scoring system, using some form of competition, setting goals for the player or rewarding the player.

In conclusion, when identifying methods for training communication and decision-making skills in game environments, the results suggest using direct training methods such as feedback, team discussions and repetitions. The results also suggest that using a wide variety of different training methods can be valuable for highly experienced individuals, so long as the games do not become too cluttered with different features. The additional training methods can come from outside of the game. Motivating individuals should mainly be based on intrinsic motivation but needs to be combined with some forms of extrinsic motivation.

## 5 Suggestions for the GAP-project

The suggestions for the GAP-project are based on the theoretical frame of reference and the findings of the research methods. The suggestion consists of 6 methods that can either be directly implemented into the learning game or implemented to use with indirect ways. This section will discuss the benefits and challenges of each method and provide examples of how to implement them to use in games. The methods are categorised into motivational methods and direct training methods. The suggested training methods and their categories are described below, in table 13.

Suggested training method	Category
Competition	Motivational method
Notifications of succesful performances	Motivational method
Dialog	Direct training method
Feedback	Direct training method
Repetitions	Direct training method
Multiplayer features	Direct training / motivational method

Table 13: Suggested training methods

Competition can be a highly valuable motivational method. Competition as a method is an extrinsic motivational method, but the feelings that competition can provide, such as a sense of progress, a feeling of achieving something or a sense of personal improvement are intrinsic motivational methods. Competition, and the intrinsic motivational methods mentioned above were all shown to be critical building blocks of the motivation of a player. Weinschenk (2012) referenced a research by Gneezy, Niederle and Rustichini (2003) that showed that competition often increases the performance of boys and men. While competition does not generally increase the performance of girls and women, it should still be used as a motivational method, as it does not have a negative impact on the performances of girls and women. Weinschenk's article also referenced another research by Garcia and Tor (2009) that led the researchers to coming up with a hypothesis that when people are faced with only a few competitors, the feeling of being able to come out on top is stronger, which leads to the person trying harder.

Based on all the information mentioned above, the suggestion of this thesis is to either include some form of leaderboard or other ways of competing against other players within the learning game. If it is not possible to implement features of competition to the game itself, the usage of competition should be suggested directly to the groups that will be using the learning game as a tool for training soft skills. Based on the research referenced by Weinschenk, the players should not be competing against every player of the game, rather the competition should be split up into groups that have fewer competitors in them, to maximize the feeling of being able to come out on top, which is likely to lead to players trying harder.

Notifications of successful performances can be used in different ways in games. One example of this is that they can be a part of the story elements of the game. In the case of Peacemaker, it was done through newspaper stories that showed what the people were thinking of their leader. Notifications of successful performances can also be implemented within mechanical elements of the game itself. Mission: Zhobia used these kinds of notifications that simply popped up on the screen, bringing up the fact that something was done well. Notifications can alternatively be used to display poor performances, which will lead to the player avoiding the action that led to the poor performance notification. Notifications of successful performances can also be implemented into the game in the form a progress indicator that shows how far the player has progressed in the game.

Based on the information gathered through the benchmarking process, the suggestion of this thesis is to utilize notifications of successful performances both within the story elements of the game and through in-game notifications. Praising the players for their good performances and shunning bad performances is likely to lead the players towards the right direction in the game. Notifying the player of successful performances is an extrinsic motivational method that can also boost the player's intrinsic motivational factors, such as the feeling of achieving something.

Going through carefully planned out dialog with characters of a game was shown to be an effective training method especially in Mission: Zhobia. It is an effective way of practicing communication and will prepare the players to face individuals that have strong opinions and can even be erratic. Dialog as a method of training communication skills should also try to implement body gestures and facial expressions to the actions of the characters being conversed with. Doing so will help the player understand that communication involves more than just words. Expressions and gestures can have strong implications, which need to be considered when training communication skills. It is suggested that the learning game of the GAP-project will attempt to implement diverse forms of dialog with characters that will help train the communication skills of players.

Feedback was shown to be a very important training method through all three research methods, as well as through the theoretical frame of reference. Its importance is undeniable. Feedback is a training method that needs to be implemented within all learning games, to maximize the players' learning of soft skills. Peacemaker's utilization of direct feedback immediately after decisions is a valid approach. It should be noted however that direct feedback after making decisions that is given to the player while still playing the game cannot be too detailed. Due to this, more in-depth feedback needs to be given to the player at the end of the game.

The learning game of the GAP-project needs to implement various forms of feedback. The suggestion of this thesis is to implement direct feedback after making decisions and feedback at the end of the game. The players that responded to the survey considered watching replays of games to be a valuable training method of both soft skills. Replays were also brought up by both interviewees as a valuable tool. Due to this, the GAP-project should try to implement watching and analysing replays as a method of training soft skills. Traditional replays might not be suitable for the uses of the learning game, or they might simply be too hard to implement. If this is the case, the developers should look to implement a feature that allows the players to go through their plays one by one after finishing their playthrough. The third option related to watching replays as a training method is to recommend the use of a third-party software or a video camera to record the playthrough.

Repetitions were considered to be a suitable training method for both soft skills by a majority of the survey responders. The second interviewee also named repetitions as his main method of training soft skills, saying that repetitions are what lay the foundation for personal improvement. Repetitions in Peacemaker were also shown to be a valuable training method through the benchmarking process. There are several findings in this thesis that point to repetitions being a highly valuable training method.

There are different ways the learning game can utilize repetitions as a training method. One potential option is to have the game play out like Peacemaker, so that the main feature of the game is about repetitive actions, combined with direct feedback. A second way to implement repetitions is to allow for fast playthroughs of the game, so that repetitions come through playing the entire game several times. A third option is to allow the player to repeat certain parts of the game. An example of this is that the game could be split up into 4 sections. After the initial playthrough, the player can choose which section to start playing from. This will allow the player to focus on the more difficult parts of the game, while avoiding the parts that the player considers to be trivial.

Lastly, the research methods of this thesis showed that especially within the training of communication skills, it is important to implement some forms of socializing and communicating

with actual people within the game. Talking with people naturally improves your communication skills. In addition to the improving communication skills, the players can also discuss other matters related to core curriculum of the game and thus improve their knowledge on other soft skills.

Due to the benefits of communicating and socializing with other people that were shown by the methodology of this thesis, it is recommended that the developers implement multiplayer features into the game. Working together to play through a learning game will also improve the teamwork of those that are playing together, which is an additional benefit if the players are being deployed on the same operation. If implementing multi-player features into the game itself is not possible, it is advisable that the groups that are utilizing the learning game will have the players play through the games together in some way. The players can either be in the same place at the same time, or they can communicate about the game through a third-party VoIP-software (Voice over Internet Protocol) while playing the game. Multiplayer features are categorised as both a direct training method and a motivational method. This is because playing together with people will potentially allow the players to feel connected with others and gain satisfaction through achieving something together.

The strength of the suggestions mentioned above lies in most of them not having to be necessarily implemented through features of the game. This means that with some effort, most of the suggested training methods can be implemented by using outside resources. Repetitions and dialog are the toughest features to utilize without directly implementing them into the game. Repetitions will naturally be present in some form, even if the suggestions of this thesis cannot be considered. Carefully planned out dialog is thus truly the only method that must be implemented directly in the game.

Competition, notifications of successful performances, feedback and multiplayer features can all be implemented by one person that is overseeing the playthroughs of the game, a teacher for example. This teacher can oversee hosting competitions, praising the players, giving them detailed feedback and having the players play the game together. All of these are either direct training methods or motivational methods that will contribute to the overall improvement of the players' soft skill knowledge. Improved soft skill knowledge will lead to successes in peace operations, which is the goal of the GAP-project.

## 6 Evaluation

At the beginning of the thesis process, it became evident that gamification is a topic that has not been researched extensively. The chapter on the theoretical frame of reference that concerns gamification is thus limited to using very few sources. The purpose of these sources is mainly to highlight some examples of gamification in practice, rather than scientifically show the validity of gamification. This thesis attempts to contribute more information regarding the



key elements of gamification, at the hope that this information will prove useful to other parties besides the GAP-project.

This thesis does not reliably prove that games are an effective way of teaching soft skills to people. The research is simply focused on examining gamers' perceptions on what kind of methods they deem to be useful as soft skill training methods. Although this information can prove to be useful, it needs to be noted that competitive gamers are not the target group of the learning game being developed. The training methods that are considered to be useful by gamers might not be deemed as such by personnel of peace operations. This is an entirely different topic that should still be researched before applying any of the suggested training methods in use.

There are also some issues with the methodology of this thesis. Firstly, the lack of female participation in both the survey as well as the interviews is an issue. Although it was expected that no suitable females would be found to participate in the survey or the interviews, it still poses some issues to the credibility of the thesis. Although most of the personnel participating in peacekeeping missions are male (United Nations Peacekeeping n.d.), it needs to be understood that women participate in the missions as well. It is important that their perceptions on matters related to soft skill training are considered. Should this research be repeated at some point, efforts need to be made to ensure that competitive female gamers participate in the data gathering process.

In their current form, questions 9, 10, 11 and 12 of the survey are asking responders to list all methods that they deem to be useful. While this information is useful, the questions could have been phrased to ask the responders to list the training methods they deem to be useful in order of preference. This would have clearly shown what the most useful methods are, while also providing a list of all the methods that can be useful. The problem of the current phrasing of the questions is evident in the summary of the survey responses. There are several methods that are very close to each other in the number of responses they have received. The interviews of this thesis show that competitive gamers prefer some training methods over the others. Discovering these methods clearly through quantitative measures would have been useful for the purposes of this thesis.

Lastly, the analysis of the benchmarking process relies heavily on multiple judgements of a single analyst. Brewerton and Millward (2001, 157) consider this to be one of the weaknesses of qualitative content analysis. A solution to this could have been the involvement of two or three competitive gamers in the benchmarking process. This was not possible due to time constraints, which led to the benchmarking being conducted entirely by the author of this thesis. According to Brewerton and Millward, the issue with having a single analyst may be that the analyst is keen to find information that supports a certain view.

Despite some of its issues, the thesis is reliable. The methodology is backed by an extensive theoretical frame of reference that is utilized when analysing the results of the methodology. The theoretical frame of reference provides enough background information for the reader to understand the key concepts. The chosen research methods are reliable. Most importantly, the thesis provides answers to the research questions defined at the start of the thesis process. The answers provided by this thesis will help the GAP-project reach its goals.

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## Appendix 1: Gamification Survey

### Gamification Survey

The purpose of this survey is to identify different methods suitable for training communication and decision-making skills in game environments. The gathered information will be used in the thesis of Miku Airaksinen, a security management student at Laurea University of Applied Sciences. The thesis is a part of the GAP-project (Gaming For Peace).

<https://gap-project.eu/>

#### 1. Sex

- Male
- Female

#### 2. Age

- 10-18
- 19-22
- 23-26
- 27-30
- 31-40
- 40+

#### 3. Home Country

---

#### 4. Highest Form of Education

- High School / Upper Secondary School / Vocational School
- Junior High School / Upper Comprehensive School
- Bachelor's degree
- Master's degree
- Doctoral degree

#### 5. On average, how many hours do you play weekly?

- 0-10
- 10-15
- 15-20
- 20-25
- 25-30
- 30-35
- 35-40
- 40+

#### 6. How much experience do you have playing competitively or semi-competitively?

- Less than a year
- 1-2 years

- 2-4 years
- 4-6 years
- 6-10 years
- More than 10 years

7. Which of these games do you play competitively or semi-competitively?

- Overwatch
- Counter Strike: Global Offensive
- Dota 2
- Starcraft 2
- Diablo 3
- PLAYERUNKNOWN'S Battlegrounds
- Hearthstone
- League of Legends
- Heroes of the Storm
- World of Warcraft
- Battalion 1944
- Call of Duty
- Team Fortress 2
- Fifa
- NHL
- Other: \_\_\_\_\_

8. Do you consider it to be possible to train communication skills in games? If you answer no, you may skip questions 9 and 10.

- Yes
- No

9. Which of these methods do you consider to be suitable for training communication skills in games? If any other methods come to mind, you may specify them in the "other"-field. The "other"-field can also be used to explain your answers.

- Watching replays of your own games
- Analyzing statistics (If you choose this, please specify how you use statistics in the "other" field)
- Repetitions
- Team discussions (Before or after games)
- Personally thinking what could have been said or done differently, immediately after every situation
- Receiving individual feedback
- Casual conversations with teammates
- Substituting for other teams
- Watching educational videos
- Other: \_\_\_\_\_

10. Which of these methods do you consider to be most motivating for training communication skills in games? If any other methods come to mind, you may specify them in the "other"-field. The "other"-field can also be used to explain your answers.

- Rankings or competition
- In-game achievements
- The feeling of achieving something together as a team
- Rewards (for example salary, product rewards, etc.)
- Receiving praise
- Personal improvement
- Other: \_\_\_\_\_

10. Do you consider it to be possible to train decision-making skills in games? If you answer no, you may skip questions 12 and 13.

- Yes
- No

11. Which of these methods do you consider to be suitable for training decision-making skills in games? If any other methods come to mind, you may specify them in the "other"-field. The "other"-field can also be used to explain your answers.

- Watching replays of your own games
- Analyzing statistics (If you choose this, please specify how you use statistics in the "other" field)
- Repetitions
- Team discussions (Before or after games)
- Personally thinking what could have been said or done differently, immediately after every situation
- Receiving individual feedback
- Substituting for other teams
- Watching educational videos
- Other: \_\_\_\_\_

12. Which of these methods do you consider to be most motivating for training decision-making skills in games? If any other methods come to mind, you may specify them in the "other"-field. The "other"-field can also be used to explain your answers.

- Rankings or competition
- In-game achievements
- The feeling of achieving something together as a team
- Rewards (for example salary, product rewards, etc.)
- Receiving praise
- Personal improvement

Other: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Appendix 2: Summary of survey responses

1. Sex

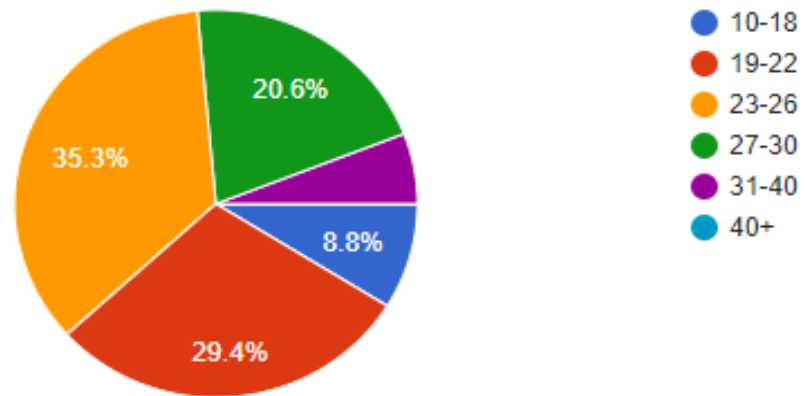
34 responses



- Male
- Female

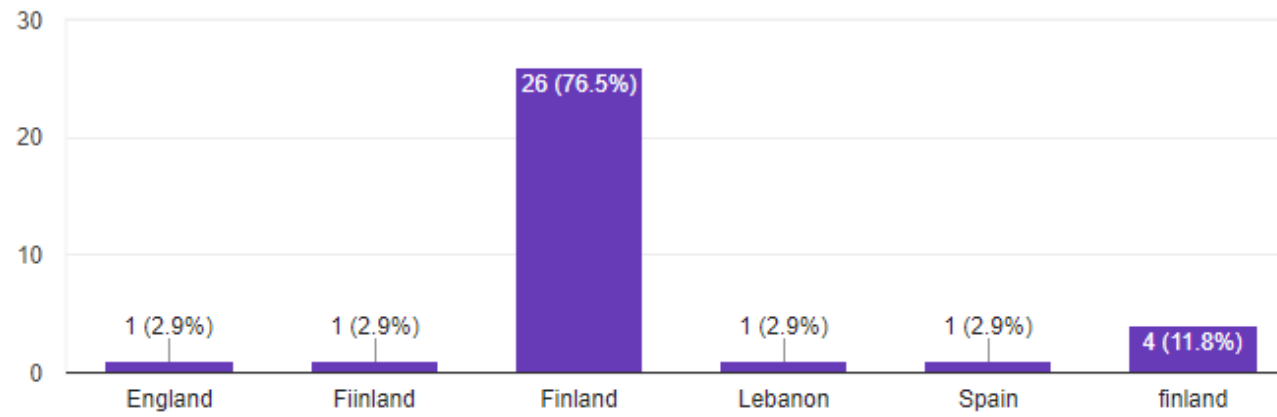
## 2. Age

34 responses



### 3. Home country

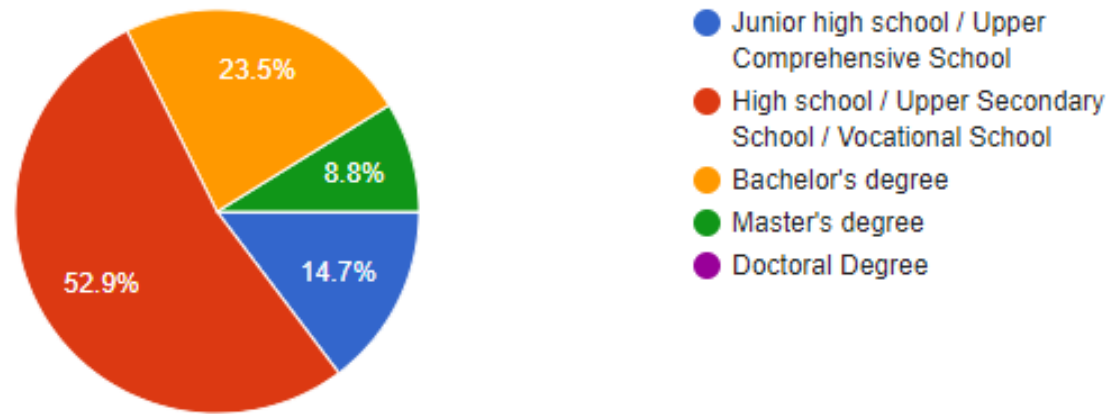
34 responses





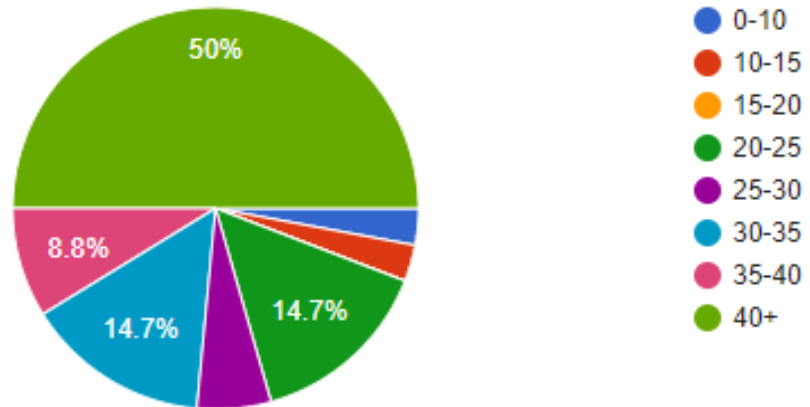
## 4. Highest form of education

34 responses



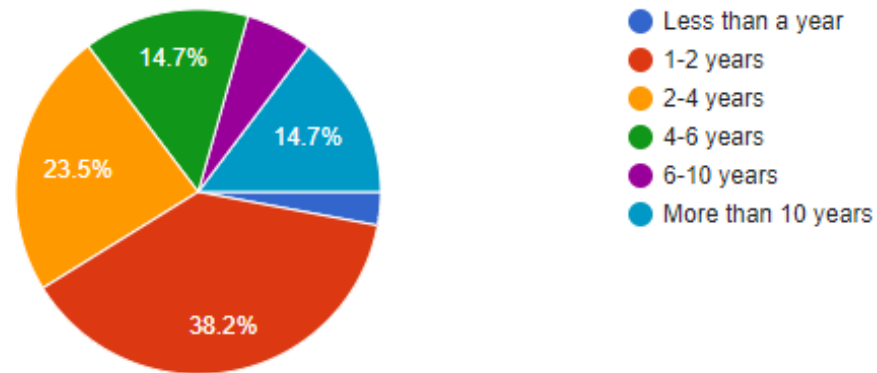
## 5. On average, how many hours do you play weekly?

34 responses

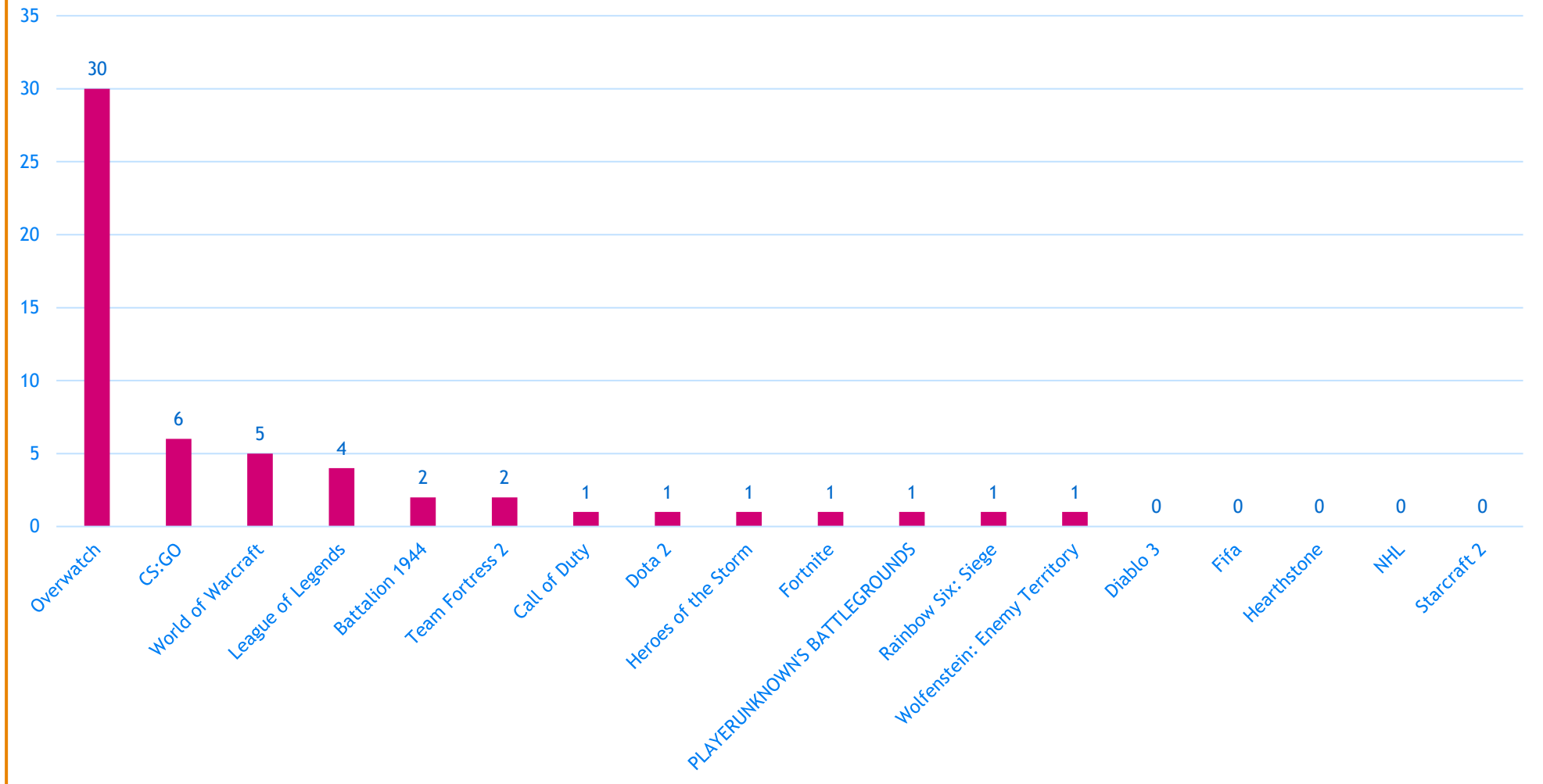


## 6. How much experience do you have playing competitively or semi-competitively?

34 responses

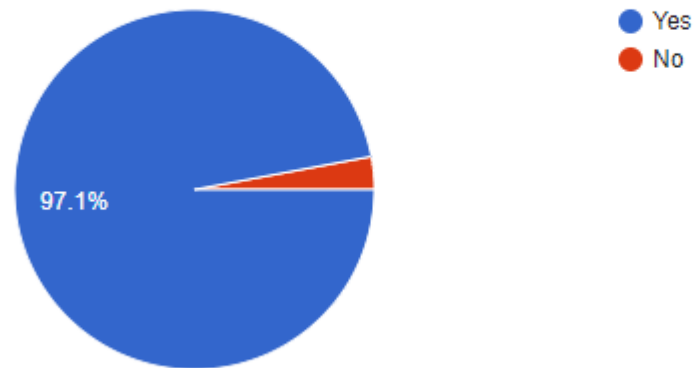


## 7. Which of these games do you play competitively or semi-competitively?

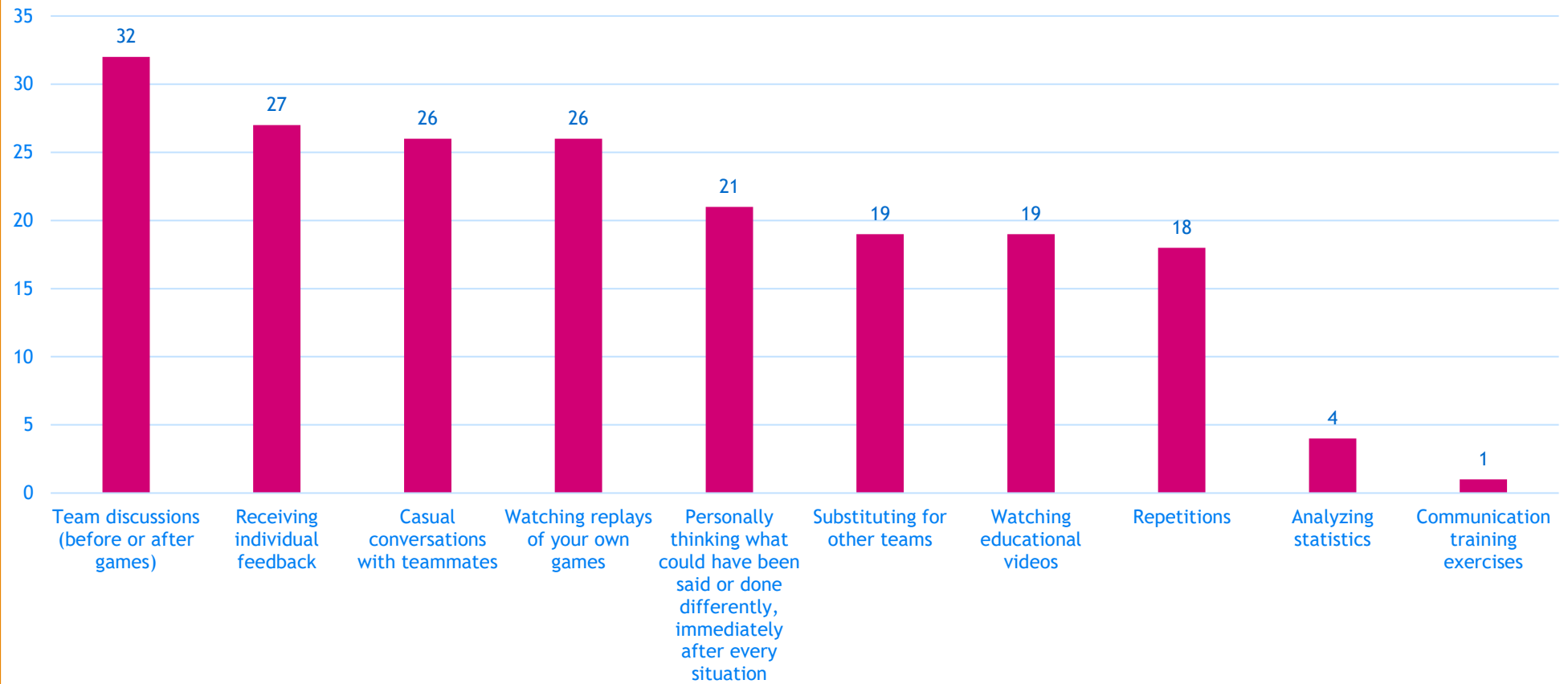


8. Do you consider it to be possible to train communication skills in games? If you answer no, you may skip questions 9 and 10.

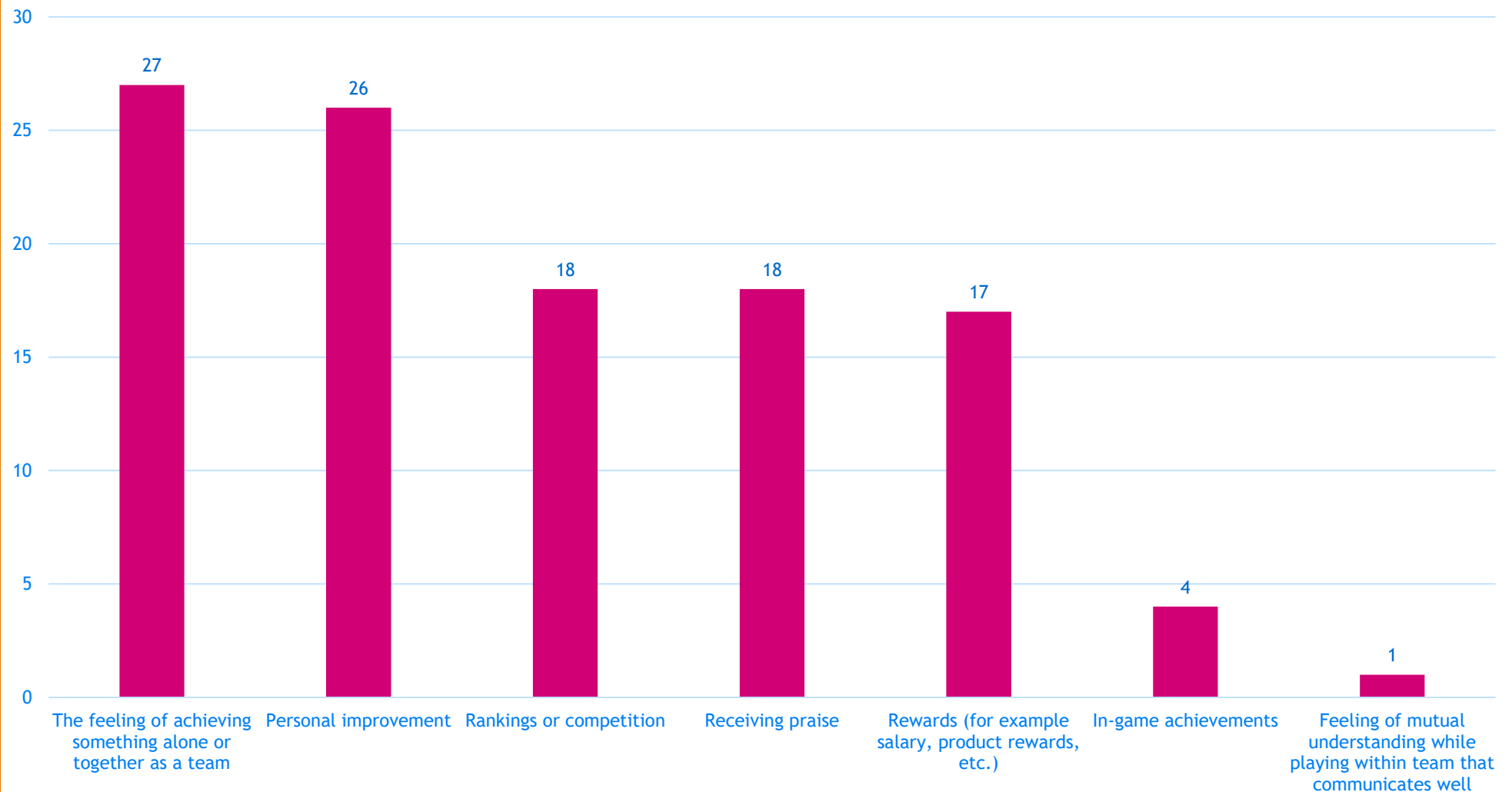
34 responses



9. Which of these methods do you consider to be suitable for training communication skills in games? If any other methods come to mind, you may specify them in the "other"-field. The "other"-field can also be used to explain your answers.

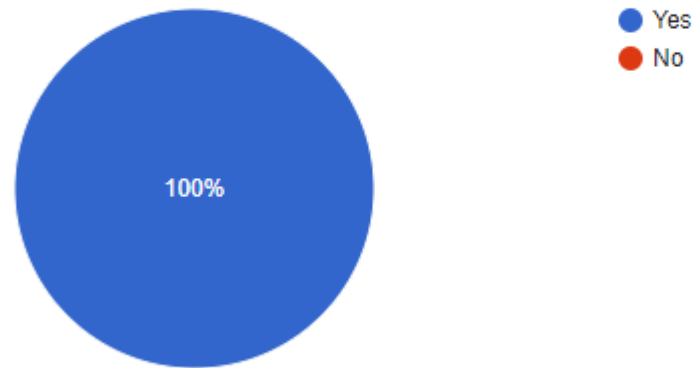


10. Which of these methods do you consider to be most motivating for training communication skills in games? If any other methods come to mind, you may specify them in the "other" field. The "other"-field can also be used to explain your answers.



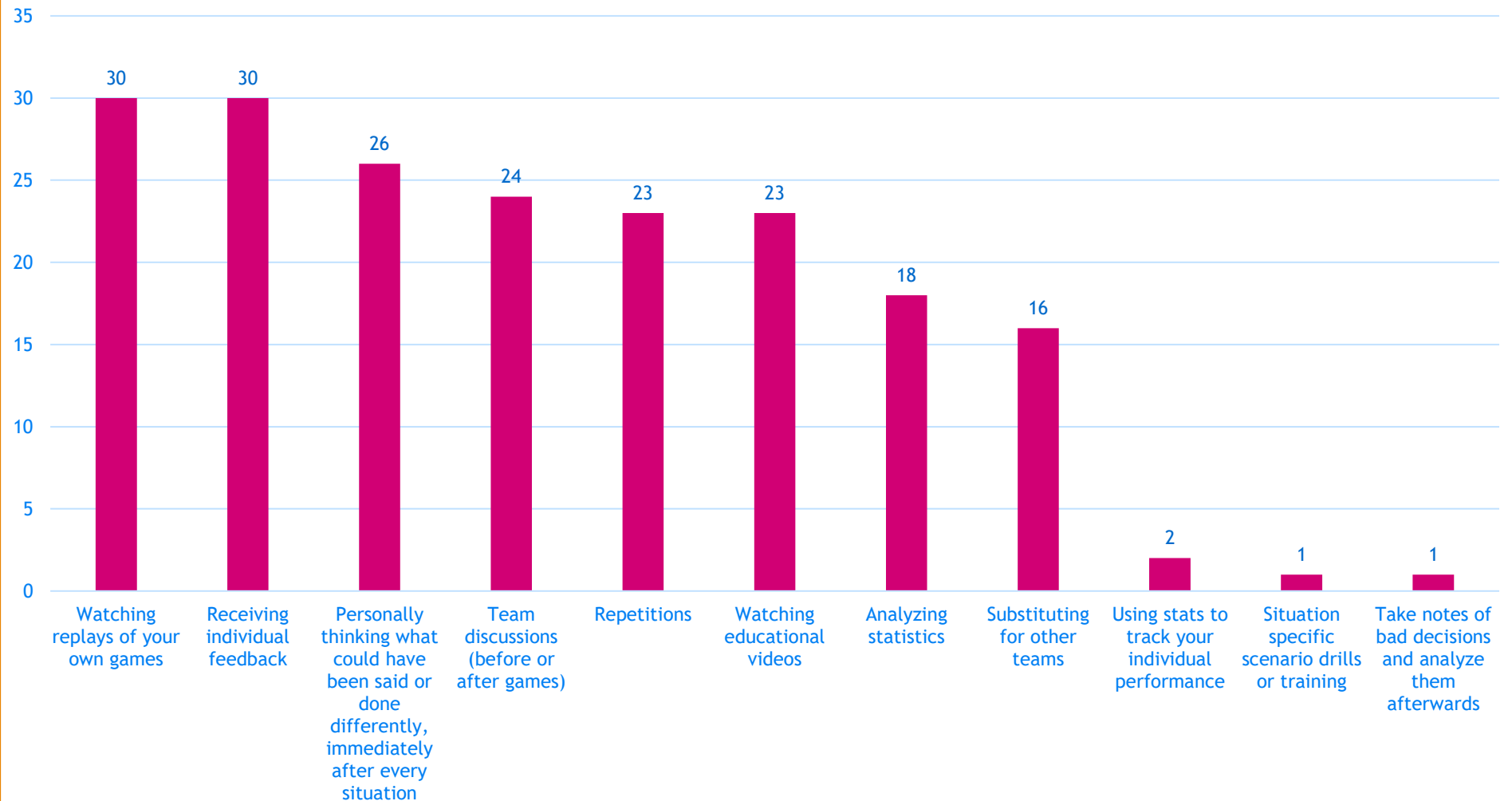
11. Do you consider it to be possible to train decision-making skills in games? If you answer no, you may skip questions 12 and 13.

34 responses

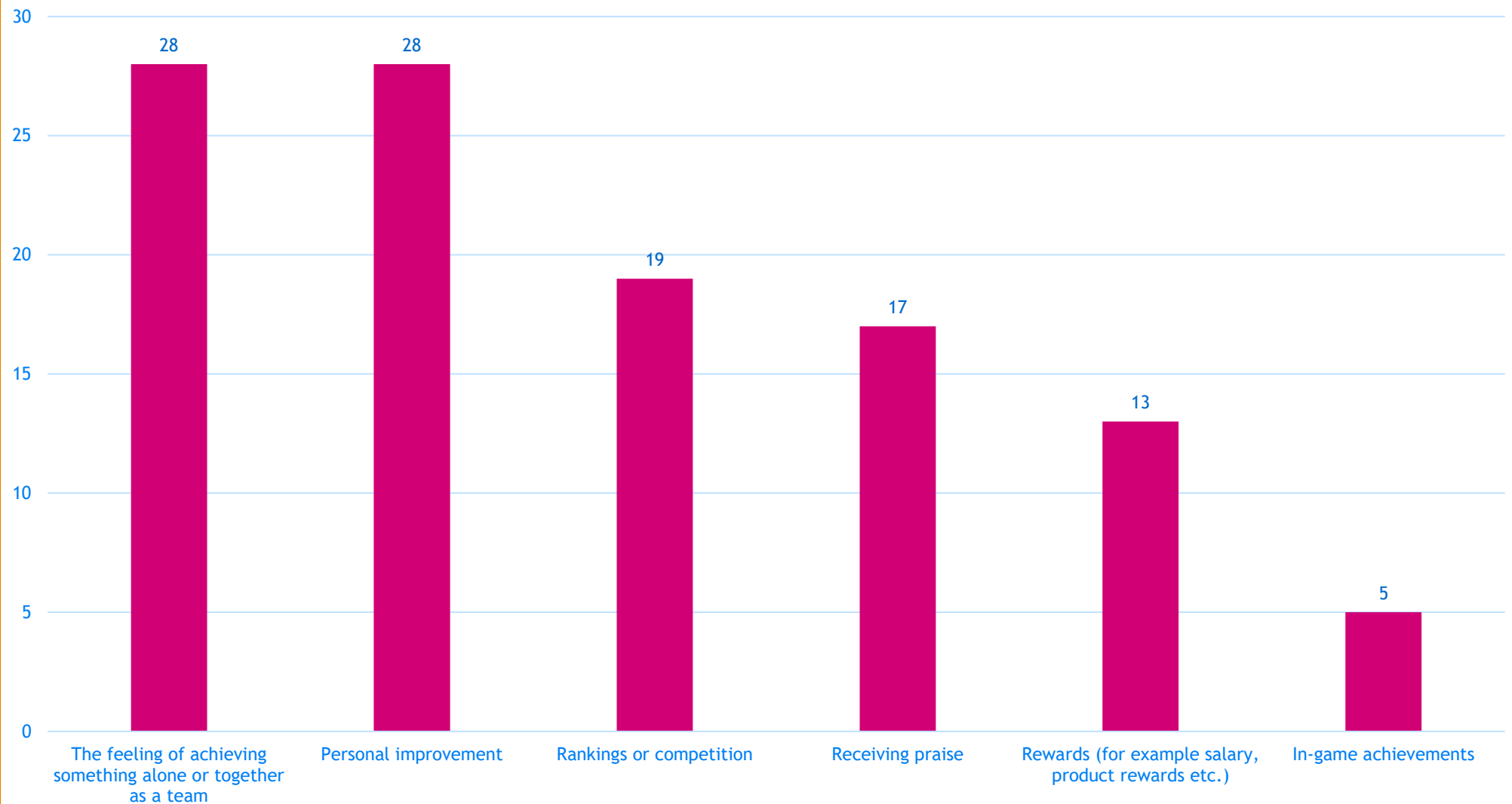




12. Which of these methods do you consider to be suitable for training decision-making skills in games? If any other methods come to mind, you may specify them in the "other"-field. The "other"-field can also be used to explain your answers.



13. Which of these methods do you consider to be most motivating for training decision-making skills in games? If any other methods come to mind, you may specify them in the "other" field. The "other"-field can also be used to explain your answers.



### Appendix 3: Interview questions

Interviewee 1
Please explain what kind of background you have, your age, education and your gaming background.
What kind of role did you fill in the previous teams and games you have played in?
What do you think is the most important role of a coach in games?
What do you think is a suitable combination of methods to train communication-skills with?
Can you provide an example of how communication-skills are trained in the team you are coaching?
Why do you think communication methods were emphasized in the survey responses?
Why do you think survey responders responded using a wide variety of training methods within the training of communication-skills?
What do you think is a suitable combination of methods to train decision-making skills with?
Can you provide an example of how decision-making skills are trained in the team you are coaching?
Why do you think "direct" training methods were emphasized in the survey responses?
Why do you think survey responders responded using a wide variety of training methods within the training of decision-making skills?
How are your team's replay sessions conducted?
How would you use statistical analysis as a method of training decision-making skills?
How do you think feedback should be delivered to the player?
What kind of ratio do you think positive and negative feedbacks should have?
Do you know the difference between intrinsic and extrinsic motivation?
What do you think is a suitable combination of methods to motivate players with?
Can you provide an example of how you uphold motivation in your teams?
Is it possible to provide too much motivation to players?
Why do you think survey responders considered intrinsic motivational methods to be most important?
Why do you think survey responders with a lot of experience consider the usage of various training methods to be valuable?
Have your methods of self-improvement changed the more experience you have gained?
Do you think there are other factors that can influence what kind of training methods the player considers to be useful?
What kind of methods do you think GAP's learning game can utilize to train soft skills?

## Interviewee 2

Please explain what kind of background you have, your age, education and your gaming background.

What kind of role did you fill in the previous teams and games you have played in?

What do you think is a suitable combination of methods to train communication-skills with?

Why do you think communication methods were emphasized in the survey responses?

Can you provide an example of how communication-skills have been trained in the teams you've played in?

Why do you think survey responders responded using a wide variety of training methods within the training communication-skills?

What do you think is a suitable combination of methods to train decision-making skills with?

How would you use statistical analysis as a method of training decision-making skills?

Why do you think "direct" training methods were emphasized in the survey responses?

Why do you think survey responders responded using a wide variety of training methods within the training of decision-making skills?

Do you know the difference between intrinsic and extrinsic motivation?

What do you think is a suitable combination of methods to motivate yourself with?

Do you try to consciously motivate yourself to play using some kind of motivational methods?

Why do you think survey responders considered intrinsic motivational methods to be most important?

Why do you think survey responders with a lot of experience consider the usage of various training methods to be valuable?

Do you think there are other factors that can influence what kind of training methods the player considers to be useful?

Have your methods of self-improvement changed the more experience you have gained?

What kind of methods do you think GAP's learning game can utilize to train soft skills?

Appendix 4: Observation form of Mission: Zhobia - Winning the peace

Mission: Zhobia - Winning the peace				
Intrinsic motivation	Extrinsic motivation	Feedback	Training method	Other observations
<b>Sense of achievement</b>	<b>Praise from characters</b>	<b>At the end of the game</b>	<b>Dialog</b>	<b>A lot to remember - Irrelevant after 2-3 playthroughs</b>
<b>Sense of progress</b>	<b>Notifications of success</b>		<b>Training through feedback</b>	<b>The game simulates the pressure of peacebuilding operations</b>
<b>Connecting with others</b>	<b>Setting goals</b>			<b>Unable to unlock new options after first round of discussions</b>
				<b>Lack of direct feedback immediately after decisions</b>
				<b>Extensive descriptions on how to play</b>
Purpose	Practice peacebuilding by teaching the key competencies			
Setting	Deploying to a fictitious country, tasked with the mission to strengthen the rule of law in the country			
Who can play	Free to play online by everyone			
Developers	PeaceNexus foundation			
Gameplay	The game is based on dialog between the player and various people in Zhobia. Also contains facts & figures, news and history			

Appendix 5: Observation form of Peacemaker

Peacemaker				
Intrinsic motivation	Extrinsic motivation	Feedback	Training method	Other observations
<b>Sense of progress</b>	<b>Newspaper stories</b>	<b>Directly after decisions</b>	<b>Repetitions</b>	<b>Peaceful methods are promoted</b>
	<b>Scoring</b>	<b>At the end of the game</b>	<b>Training through feedback</b>	<b>Playing feels like you have to guess a lot</b>
	<b>Milestones</b>			<b>Visible resources could be useful</b>
				<b>The game tries to simplify matters of national security</b>
Purpose	Training of decision-making skills			
Setting	Play as either the Palestinian president or the Israeli prime minister, make political decisions, security decisions or construction decisions			
Who can play	The game costs around 3€, possible to buy and download through Amazon.			
Developers	Impact Games			
Gameplay	Perform actions to reach a balanced satisfaction between Israel, Palestine and the world. React to recent events with different actions			