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Abstract

This master's thesis examined the attitudes, beliefs and practices of upper secondary school English (EFL) teachers in Norway towards digital game-based language learning (DGBLL). Additionally, it explored the current state of digital game utilization, particularly focusing on the games and genres employed.

Digital games, which are games played using an electronic device, are combined with educational content, or learning principles through digital game-based learning (DGBL). DGBLL is a form of DGBL specifically tailored for language learning. The study that is part of this master's thesis not only focuses on EFL teachers' use of and attitudes towards digital games but also recognizes the importance of Second Language Acquisition (SLA) theories in relation to DGBLL and teacher cognitions (i.e., what teachers know, believe, and think regarding the use of digital games in their EFL classrooms) as essential components.

Data was collected through an online, mixed-methods questionnaire. The questions targeted information about attitudes towards and use of digital games in English as a foreign language (EFL) in formal learning contexts and were designed to collect information to answer the three research questions that guided the study which focused on the use of DGBLL, the attitudes towards DGBLL and the games and game genres employed in EFL instruction in the context of Norwegian upper secondary EFL classrooms, respectively. The questionnaire was comprised of three parts across a total of five pages with a total of 48 questions.

A total of 219 upper secondary EFL teachers with diverse educational backgrounds from all parts of Norway participated in the study. Among them, women comprised the majority of respondents at 68.5%. Data analysis involved a combination of descriptive statistics and inductive content analysis, facilitating a comprehensive examination of both quantitative and qualitative data.

Findings revealed that while only about half of the teachers in this study were familiar with the term DGBLL, a large majority believed digital games could be effectively used for

teaching EFL. Almost 75% reported using digital games in their EFL instruction, mostly to target vocabulary, listening, speaking, and reading skills. Comparisons with previous studies suggests an increasing trend in the utilization of digital games for EFL education. Furthermore, the results suggested that the reported use of games in instruction varied by age and gender, with younger teachers and possibly female teachers being more likely to use games in the context of EFL. Also, EFL teachers in this study expressed generally positive attitudes towards DGBLL. Specifically, a large majority of the teachers believed that digital games could be used to meet the Norwegian curriculum and core pedagogical standards, serve as useful teaching and learning tools, and play a supporting role in EFL education.

Despite the positive outlook, obstacles to DGBLL integration were also identified, including lack of time and inadequate knowledge and skills, the latter ascribed to insufficient or outdated teacher training. Additionally, a potential link between playing games for leisure and perceived competence for implementing DGBLL was also noted. However, personal gaming interest did not appear to be a deciding factor for instructional use of DGBLL for EFL.

Finally, the study revealed that teachers employed a variety of digital games in their EFL instruction, mostly from the Serious Games and Puzzle/Quiz genres. The most popular games included Spent, Fake News, Minecraft, Quizlet and Kahoot!. More than half of the twenty most popular games used by the teachers in this study are listed either on the Norwegian Digital Learning Arena (NDLA, n.d.) or Statsped websites, along with supporting resources. The choice of games seems to reflect the beliefs and concerns about DGBLL expressed by the EFL teachers in this study, as the games were suitable for upper secondary students and EFL, their use was economical and time-efficient, and teachers possibly benefited from the availability of supporting resources from reliable sources. Moreover, the games did not require specialized technical expertise on the part of the teacher.

In conclusion, the findings of this study contributed to the broader understanding of Norwegian EFL teachers' beliefs and practices, while also informing future teacher development in DGBLL in order to contribute to the effective implementation of Digital Games in EFL education.

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List of Abbreviations

CLT	*Communicative Language Teaching*
DGBLL	*Digital Game Based Language Learning*
DGBL	*Digital Game Based Learning*
EFL	*English as a Foreign Language*
FPS	*First Person Shooter*
L2	*Second Language Learning*
MMO	*Massive Multiplayer Online*
MMORPG	*Massively Multiplayer Online Role-Playing Games*
MOBA	*Multiplayer Online Battle Arena*
NDLA	*Norwegian Digital Learning Arena*
NSD	*Norwegian Centre for Research Data*
SLA	*Second Language Acquisition*
RPG	*Role Playing Game*

1. Introduction

This Master's thesis examines the attitudes, beliefs and practices of upper secondary school English as a foreign language (EFL) teachers in Norway towards digital game-based language learning (DGBLL), while also exploring the digital games and the genres used.

To contextualize this study, a general overview regarding the status of the Norwegian upper secondary educational system, its students, and their English teachers is provided. The main goal of the present study is to understand the relationship between teachers' attitudes and the use of digital games in EFL teaching. In doing so, the role of DGBLL within the Norwegian curriculum is examined, as it is a critical aspect of the investigation. In Norway, upper secondary school encompasses year eleven through thirteen, referred to as Vg1, Vg2 and Vg3, respectively. As of the schoolyear 2021-22, there were 420 upper secondary schools in Norway with 186,185 students and 27,300 teachers (Utdanningsspeilet, 2022a). The majority of teachers were female (56%), and most teachers held solid teaching qualifications, among them 86% had a graduate degree including pedagogy, 77% had a teacher education, and 9% had an undergraduate university or college degree, including pedagogy (Utdanningsspeilet, 2022a).

Upper secondary school students in Norway choose between five academic preparatory and 15 vocational programs. Academic preparatory programs are more popular and are chosen by more female (55%) students. The number of students is highest in Vg1 and lowest in Vg3 because vocational students normally leave school for trainee positions before the third year. English is a compulsory subject for all programs, both preparatory and vocational in Vg1, but in Vg2 and Vg3, it is typically an elective subject. (Utdanningsspeilet, 2022b).

According to the national curriculum, teachers are expected to possess professional digital competency. (Utdanningsspeilet, 2022c). Both preparatory and vocational students are expected to "discuss and reflect on the form, content, and tools of English-language cultural expressions from various media, including […] games" (Utdanningsdirektoratet, n.d.a, n.d.b). Furthermore, digital skills are one of the five basic skills in the curriculum and are described as a

prerequisite for learning and development (Utdanningsdirektoratet, n.d.c, n.d.d). Consequently, a solid digital infrastructure, including stable and sufficient access to networks, equipment, and software, is needed. In the survey “Questions for Norwegian Schools” in 2022, 7 out of 10 school leaders said they were confident that their digital infrastructure was of good enough quality for teachers to implement a wide range of digital teaching and 8 of 10 said the students' computers and other digital devices were of sufficient quality for them to participate in various forms of digital learning (Utdanningsspeilet, 2022d, 2022e, 2022f). Norwegian students also reported having ample access to technology. According to "Children and media 2020", 97% of 9-18-year-olds have their own mobile phone, 70% have their own PC, and most also have tablets, game consoles, and TVs. 86% of 9–18-year-olds play games (Medietilsynet, 2020).

Interest in digital games, digital game-based learning (DGBL) and DGBLL has been increasing steadily, potentially accelerated by the Covid-19 pandemic in 2020. The pandemic forced numerous teachers and students out of schools and onto online educational platforms, potentially exposing them to new digital games and tools (Toquero et al., 2021; Utdanningsspeilet, 2022g; OECD, 2022). The increasing attention may also have been related to recent meta-reviews that have found it to be an overall effective and appropriate tool (Xu et al., 2020; Dixon et al., 2022), especially for EFL learning and teaching (Young et al., 2012), provided appropriate conditions are met (Hung et al., 2018). Norway’s solid digital infrastructure (OECD, 2019), and conducive national curriculum are all certainly important factors influencing the use of digital games, DGBL and DGBLL in its schools. However, there might be another factor more critical than initially recognized: the attitudes and beliefs held by the Norwegian teachers themselves towards this mode of instruction.

In this context, the details of what constitutes “belief” and “attitudes” warrant a separate discussion (Borg, 2018, p.76) and will be offered in the following chapter. The concepts of "belief" and "attitudes" are critical in this context, as teachers' beliefs and attitudes are primary factors determining the extent to which technology is used to support teaching and learning (Teo, 2008). Additionally, teachers have the potential to pass on their beliefs and values to their students, making it essential to recognize any biases or stereotypes that may influence their use of technology (Albirini, 2006; Bullock, 2004). Thus, teachers are a critical factor that must be considered when assessing the benefits and drawbacks of digital games in the classroom and,

particularly, when considering incorporating DGBLL into widespread EFL instruction. Consequently, the emerging field of DGBLL should take this critical factor into consideration.

In recent years, an increasing number of studies have examined the attitudes of EFL teachers towards DGBLL within different contexts and with differing samples (Munkvold & Sigurdardottir, 2018; Lindskog & Stavroulaki, 2019; Blume, 2019; Li, 2017). The present study seeks to build on the findings, results, and methods of these studies while addressing some gaps in the literature. To the best of the knowledge of this thesis, no research has specifically examined the attitudes of Norwegian upper secondary school EFL teachers towards DGBLL or assessed the extent of DGBLL implementation and the types of games used. This study seeks to fill these gaps in the literature and contribute to a better understanding of the subject matter, for further implementation of DGBLL in EFL classrooms.

1.1 Aims and Research Questions

The present research effort seeks to examine the attitudes, beliefs and practices of upper secondary school EFL teachers in Norway towards DGBLL. The overarching aim of this study is to provide empirical data regarding these attitudes and beliefs. Additionally, this research aims to investigate the current state of digital game usage in upper secondary EFL classrooms in Norway, including the types of games and game genres used. To address these goals, three research questions were formulated:

1. To what extent is DGBLL used in upper secondary EFL classrooms in Norway today?

2. What are the attitudes and beliefs of upper secondary EFL teachers in Norway towards DGBLL?

3. What digital games are used in upper secondary EFL classrooms in Norway?

1.2 Structure of this Thesis

This thesis consists of six chapters. Chapter 1 introduces the topic and context and outlines the research questions guiding this study.

In Chapter 2, the literature review offers a comprehensive theoretical background for this study. First, relevant concepts are defined, and teacher cognition, beliefs, and attitudes are discussed. The chapter then examines DGBLL and highlights relevant research on teacher attitudes towards DGBLL in the Norwegian context and internationally.

Chapter 3 presents the methodology that serves as the foundation for this study. It begins with an overview of the mixed methods approach for the survey, followed by a description of the participants of the study and related ethical considerations. The chapter then details the questionnaire used for the data collection, including information about the pilot study, and explains the data collection procedure and the analysis techniques used to interpret the results.

In Chapter 4, the results and findings of this study are presented. The data collected from the questionnaire is analyzed in relation to the three research questions.

Chapter 5 discusses the results and findings of the study. The three research questions that guided this research are addressed sequentially and are interpreted and discussed with reference to the literature and research reviewed previously.

Chapter 6 provides concluding remarks. A brief summary of the findings is offered, followed by a consideration of practical implications. Finally, the limitations of the study are reviewed and suggestions for further research are proposed.

2. Literature Review

This chapter provides a review of the research literature that constitutes the theoretical framework for this study, focusing on the role of teachers' beliefs and attitudes about the use of digital games in upper secondary EFL classrooms in Norway. First, relevant concepts, such as digital games, DGBL, and DGBLL, are defined. Subsequently, teacher cognition, beliefs, and attitudes are discussed. This is followed by a review of DGBLL from a theoretical standpoint. Finally, the chapter highlights relevant research on teacher attitudes towards DGBLL in the Norwegian context and abroad.

2.1 Digital Games

The concept of a game is complex and multifaceted, with its definition often contingent on the individual's perspective (Reinhardt, 2019). According to Reinhardt (2019), "a game is perceived as playful, engaging, goal-oriented, and rule-governed" (p. 78). Digital games are unique in that to access digital games, one needs computers, smartphones, or gaming consoles, which are usually used in combination with a television and a handheld device. In essence, a digital game is any game played through a digital platform. Digital games also have rules that must be followed, however, these rules can range from simple to complex, depending on the digital game. These rules are often specific to a game or genre and are limited by the hardware and software of the platform. Players are granted autonomy within these boundaries, allowing them to make decisions and take actions that can influence the outcome of the game. Additionally, some digital games may offer a narrative that provides context for the game and gives players a sense of purpose and meaning. This narrative can also supply motivation for players by providing rewards for completing certain tasks; this can give players a feeling of accomplishment when they succeed, encouraging them to continue playing.

In short, digital games are distinct in that they require the use of a digital device and are characterized by their gameplay and rules.

2.1.1 Digital Game Genres

Most digital games are forms of expression that have been created with financial motives for the purpose of recreation and entertainment. These games are usually understood to belong to a game genre, which can be defined as "a category for games that have similar mechanics, player behaviors, and themes" (Reinhardt, 2019, p. 90). The genre of a game can be determined by its game mechanics, which are the rules and systems that govern how the game works (Reinhardt, 2019). Additionally, the genre of a game can be determined by its theme, which is the underlying story or concept of the game. The genre of a game can also be determined by how it is played (Reinhardt, 2019). Digital games are complex forms of expression that combine various elements. Table 1 below presents the most popular game genres in order of popularity according to Steam (Valve, 2023), along with their key features and a well-known illustrative example for each.

Table 1. *Key Features of the Most Popular Game Genres with Examples*

Game Genre	Key Features	Popular Title
Puzzle/Quiz	Typically requires the solving of puzzles or quizzes, often involving logic, strategy and/or memory to progress within levels or stages.	Portal 2
Role Playing (RPG)	Players typically assume the role of a character and explores and/or completes quests or missions in a virtual world.	Skyrim
Action / Adventure	Combines elements of the action and adventure genres. Typically involves exploration of a virtual world in a character role as well as combat and the solving of puzzles. Here both the individual genres and the combination are referred to as one.	Assassin's Creed
Strategy	Typically requires strategic planning and decision-making, typically involving the managing of resources and/or armies and the construction of structures.	Age of Empires
Simulation	Involves simulations of real-world activities or processes.	The Sims
Sandbox	A space allowing players to explore and/or create.	Minecraft
Massive Multiplayer Online (MMO)	An online access virtual world shared by large numbers of players. Players assume a character role to explore the game world and complete quests or missions.	World of Warcraft
Sports	Typically, simulations of real-world sports activities often involving controlling an athletic team to compete against another player or computer-generated opponent.	FIFA
Massive Online Battle Arena (MOBA)	An online access battle arena. Players assume a character role, and engage in team-based combat, towards a common goal.	League of Legends
Roguelike	Characterized by randomly generated levels and so-called permadeath, i.e., characters are non-revivable. Typically involves exploration, fighting monsters and collecting items.	Stardew Valley

This table does not include the Shooter Games Genre, a subgenre of action video games (commonly referred to as "Shooters" or "FPS" First Person Shooters). This genre was excluded from this study due to ethical considerations, such as its often-violent focus which almost always involves firearms and killing opponents as part of the experience. It should be noted that this exclusion does not imply that the genre is any less useful for the purposes of DGBLL.

In addition to the genres listed in Table 1, another genre of digital games also exists. These games are not necessarily commercially motivated but rather "specifically designed to facilitate learning and behavior modification in businesses […] and education" (Connolly et al., 2012, p. 662). These games are usually referred to as Serious or Educational Games (Reinhardt, 2019, p. 4) and often contain elements of or are modeled on games from other genres. Serious Games or Educational Games encompass a wide range of applications, from Virtual Reality Training, Simulations used by the military to train soldiers in combat scenarios to business simulations used to teach management and leadership skills, as well as educational games used to teach basic math skills to primary school students. They may also be commercially motivated in some instances (Reinhardt, 2019). Examples of commercially motivated Serious games for language learning as of 2023 include Duolingo and Memrise. “Serious Games” or platforms that contain these sorts of gamified learning objectives target language learners and often incorporate elements found in commercial games; they can thus be regarded as belonging to the Puzzle/Quiz genre. To take advantage of the unique characteristics each genre and game brings to the table, it is important that educators have a comprehensive understanding of the different types of digital games available so that they can use DGBLL effectively in the classroom and maximize its potential benefits for educational contexts (Li, 2017; Reinhardt, 2019; Lindskog & Stavroulaki, 2019).

In summary, digital games are becoming increasingly popular for recreational, entertainment, educational and business purposes and it is important for educators to have an extensive understanding of the genres of digital games available in order to use them effectively.

2.2 Digital Game Based Learning

DGBL is an instructional method that connects educational content, or learning principles, with digital games to enhance the learning process (Hung et al., 2018). Numerous studies have attested to the effectiveness of DGBL for teaching a variety of subjects, such as science (Webb et al., 2015), engineering (Joiner et al., 2011), mathematics (Fokides, 2018; Kiili & Ketamo, 2018), and history (Charsky & Ressler, 2011). It has also been suggested that DGBL can help learners overcome barriers to learning such as anxiety, low motivation, and lack of engagement (Yükseltürk et al., 2018).

The efficacy of DGBL can be attributed to various elements. For instance, digital games often require problem-solving skills such as logic, strategy, pattern recognition, sequence solving, word and concept completion. They also facilitate language use and challenge players to understand rules, listen for cues, respond quickly to events, manage time constraints, comprehend stories, make decisions between options, match objects together, solve puzzles, and answer questions. All of these elements have the potential to enhance learning.

DGBL and DGBLL may not be suitable for all students, and the digital games chosen for DGBL and DGBLL may not always be as engaging as those that students select for recreational purposes. Currently, digital games' benefits for learning are demonstrated by numerous studies far beyond the ones listed above. Similarly, although it is also possible that overutilization of a limited range of digital games for DGBLL could lead to students becoming disinterested in them, thus having a detrimental effect on their efficacy as learning tools or that some language skills may be more difficult to target through digital games, potentially resulting in an imbalance in the students' skill development, these are all just factors that educators need to take into consideration when deciding how, whether, why and when to use digital games to enhance teaching and learning.

To ensure the effectiveness of DGBLL, its use must be guided by a sound theoretical framework and supported by appropriate teacher guidance and support. This applies to all tools used for learning, digital games included. In other words, teacher training is critical to become

aware of why and how to effectively incorporate digital games into the classroom for them to be beneficial for language acquisition. Inadequate teacher training and knowledge could obviously lead to suboptimal learning outcomes.

To sum up, DGBL connects learning principles with digital games to enhance the learning process. Although some scholars have expressed concerns about using this method as a substitute for traditional learning strategies, the benefits of digital games for learning cannot be ignored. However, to ensure the effectiveness of DGBLL, its use must be guided by a sound theoretical framework and supported by appropriate teacher guidance and support.

2.3 Digital Game Based Language Learning

DGBLL is a form DGBL specifically used for language learning. A more precise definition of DGBLL can be stated as "the design and use of digital games to learn or teach a second or foreign language" (Osman & Rabu, 2020, p. 56). Recent studies have indicated that the use of digital games can be especially beneficial and advantageous for language learners, with a shift away from more traditional, non-digital methods of language learning observed in schools (Boyle et al., 2016; Hung et al., 2018).

Research has shown that DGBLL can facilitate vocabulary acquisition (Cardoso, Grimshaw & Waddington, 2015; Ebrahimzadeh, 2017; Jensen, 2017; Xu et al., 2020; Dixon et al., 2022) deepen understanding of grammar (Cornillie et al., 2017), and promote both writing (Allen et al., 2014; Lin et al., 2018) and speaking proficiency (Hung et al., 2018). Moreover, studies have indicated that the use of DGBLL can increase motivation and reduce anxiety among students (Reinders & Wattana, 2015; Laremenko, 2017). Furthermore, both mobile games (Wang & Han, 2021; Wu & T.T., 2018) and console games (Groff et al., 2012) have been found to be beneficial for EFL.

In a scoping review conducted by Hung et al. (2018), 50 studies published between 2007 and 2016 were examined, though the age of the participants was not specified. Results indicated that Massively Multiplayer Online Role-Playing Games (MMORPGs) were most used in DGBLL literature, and that most DGBLL studies utilized games to facilitate EFL instruction.

Ultimately, the review revealed that most DGBLL studies found positive outcomes with regards to student learning, with the most frequently reported being related to affective or psychological states, closely followed by language acquisition (Hung et al., 2018).

Building upon the findings of Hung et al. (2018), Xu et al. (2020) conducted a more recent scoping review to investigate the current practices of DGBLL for English language learners. This review included 59 studies published between 2000 and 2018 and included students of varying ages and proficiency levels. Results showed that the most investigated area in DGBLL with English language learners was vocabulary (47.46%), followed by overall English language proficiency (15.25%), pragmatics (8.47%), grammar (5.08%), writing (3.39%) and speaking (1.69%). Of the 59 studies, almost 80% reported a positive impact of DGBLL on learners' English language acquisition, while one study found it to have a negative impact. 8% reported that DGBLL did not have a significant effect on language learning (Xu et al., 2020). This review further supports the overall positive outcomes of DGBLL found in the earlier study by Hung et al. (2018), while providing more detailed information about the specific areas of language learning most frequently investigated.

It has been argued that "for educational institutions to continue to be successful in today's increasingly digital world it will be necessary for the differences between the experiential, discovery-based pedagogy that is inherent in digital games and teacher-centered instruction found in traditional pedagogy to be reconciled" (Reinhardt, 2019, p. 203). In other words, schools and educators are increasingly expected to incorporate DGBLL into their teaching. This is not surprising considering that many young people today (ISFE, 2021) have been raised playing digital games, and thus, and could potentially be more receptive to this type of learning.

Second language learning (L2) can take place while playing digital games in various ways. Narratives in games can be used as L2 learning resources, enabling players to learn from the emergent interactions during gameplay, as well as from the accompanying discourse practices around gameplay through interaction (Reinhardt, 2019) similarly to how any authentic language artifact or media, such as a news article or film can be employed for language learning. Supplementary pedagogical materials can be utilized to direct and focus learners' attention on the language used in, through, and around the game. Additionally, incidental L2 learning both can and does happen through playing games (Reinhardt, 2019).

The substantial body of research supporting DGBL and DGBLL's efficacy for learning, despite some controversy, and critical voices notwithstanding, has garnered interest of language teachers and learners globally. Nevertheless, the efficacy of any instructional tool is contingent upon its implementation within a sound theoretical framework coupled with appropriate teacher guidance and support. Consequently, Second Language Acquisition (SLA) theories play a crucial role in this context.

To sum up, digital games are games played using an electronic device and are usually understood to belong to one of many game genres. Some digital games are specifically designed to facilitate learning, whereas others are created mainly for commercial purposes. DGBL is an instructional method that connects educational content, or learning principles, with digital games to enhance the learning process and many studies have attested to its effectiveness for a variety of subjects. However, for digital games to function as effective tools for learning, their use must be underpinned by a sound theoretical framework and be used with appropriate teacher guidance and support. This is also true for DGBLL which is a form of DGBL specifically used for language learning. Since this thesis focuses on EFL teachers' use of and attitudes to digital games, a closer look at SLA theories in relation to DGBLL is therefore warranted.

2.4 DGBLL and SLA Theories

Knowledge of how learners learn and what can benefit or hinder their learning is of crucial importance to language teachers who want to maximize their students' learning. Because the experience of playing games while learning means that learners acquire target knowledge through highly motivating, interactive activities, it can be argued that SLA theories support the use of digital games for language learning.

Krashen's Hypothesis for reducing affective barriers to language learning (Krashen, 1982) says that language learning necessitates meaningful interaction in the target language and that learners' emotions are an important factor that can help or hurt learning (Krashen, 1982). This relates to DGBLL in that the benefits it provides, such as immersive exposure to the

language learning environment, lowered anxiety, as well as increased use of the target language for interaction, are especially important for language acquisition (Peterson, 2016).

Another influential SLA theory that supports the use of digital games in language learning is Vygotsky's socio-cultural theory. Socio-cultural theory and specifically Vygotsky's sociocultural theory of learning, posits that language learning is a result of social and cultural mediation and highlights the idea that learning necessitates social interaction (McLeod, 2023). DGBLL is well-suited for this approach, as digital games are an important part of popular culture and often involves social interactions turning them into a highly social experience. In both the classroom and online settings, digital games can promote collaboration and communication among learners.

Furthermore, communicative language teaching (CLT) which focuses on teaching language through communicative activities designed to help learners know how to use language with different people in varied situations (Richards & Rodgers, 2014). The CLT emphasis on communicative activities aligns well with game-based instruction as games provide students with a range of opportunities to practice their language skills in authentic and real-world settings, while the teacher can offer feedback and guidance.

According to Klimova & Kacet (2017), DGBLL can facilitate the language learning process by doing three things. First DGBLL can provide visual and auditory exposure to the target language with different digital game genres offering varying degrees of exposure, especially RPGs and MMOs which often contain extensive text. Second, DGBLL can be used to emphasize specific language knowledge and skills, such as vocabulary and grammar, for instance through games in the Serious Games genre, such as Quizlet or Duolingo. Finally, DGBLL can promote engagement and involvement in language learning and practice as they are known for being highly engaging, sometimes even reaching addictive levels.

Different types of games can be advantageous for diverse learning needs. There is a wide selection of games available that provide players with exposure to both written and spoken English. The use of digital games can provide students with the opportunity to practice their language skills in authentic contexts (Reinders, 2015). Many of the same abilities gaming promotes are essential for language learning. These include the ability to “set goals, make consequential choices, and exercise control” (Reinhardt, 2019, pp. 80-81). All of these are key to

language learning success. When properly implemented, digital games can thus be considered effective tools for SLA.

However, no single theory, pedagogy or method is suitable for every situation, class, or group of learners. Additionally, no single game title or genre is right for every learning context. In some cases, avoiding games may be the correct approach because while digital games may be a great tool aligned with the principles of SLA, “if a majority of learners in a class do not enjoy gaming, game-enhanced activities would be an uphill battle” (Reinhardt, 2019, p. 24) and probably be fruitless.

Moreover, many teachers and students still perceive the utilization of commercial games as an unconventional teaching tool unless they have been specifically designed with educational objectives in mind (Lindskog & Stavroulaki, 2019). Although commercial games have only recently begun to be recognized as suitable for teaching, there is growing evidence recommending implementation of DGBLL increasingly more.

To summarize, SLA theories provide valuable insight into the ways in which digital game-based language learning can effectively facilitate language acquisition. DGBLL enables learners to be involved in highly motivating, interactive activities, exposes them to both written and spoken English and provides students with the opportunity to practice their language skills in authentic contexts. Even though different game types cater to diverse learning needs, it is important to consider the unique context, learner preferences, and pedagogical approach for each situation. Although commercial games may be seen as unconventional teaching tools, mounting evidence supports their use in education when aligned with sound pedagogical principles.

2.5 Teacher Cognition

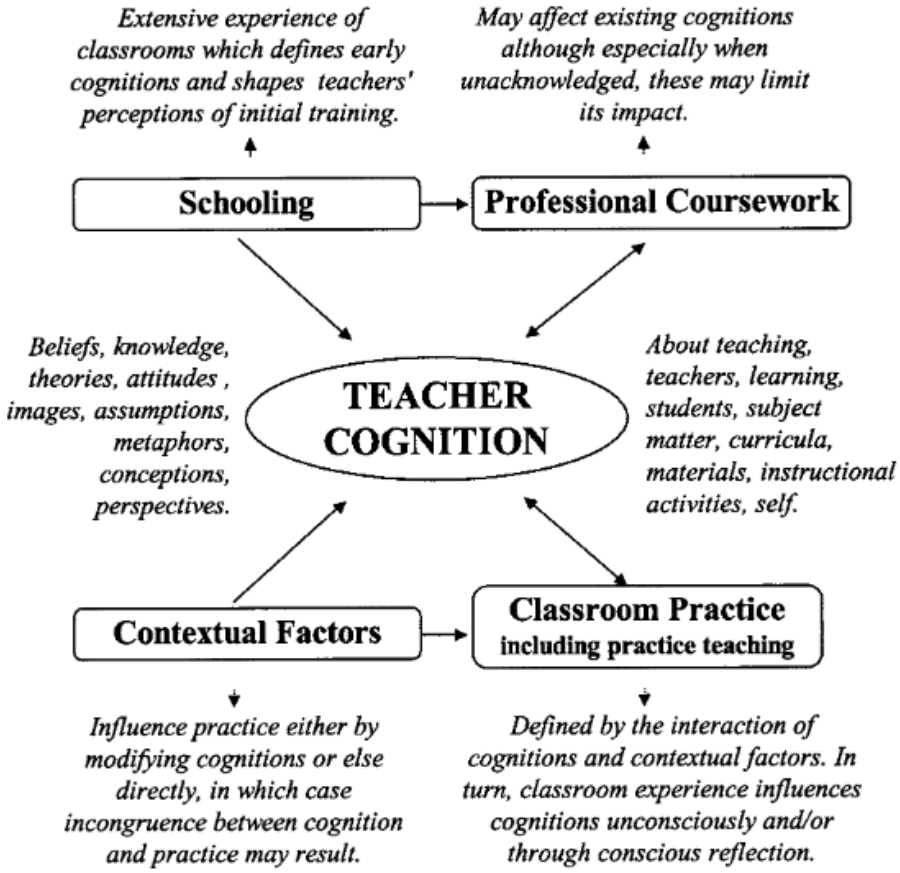
This thesis investigates the cognition(s) (i.e., beliefs and attitudes) of teachers regarding the utilization of digital games in EFL classes. Consequently, an understanding of teacher cognition is essential. Borg (2018) defines cognitions as "what teachers know, believe, and think in relation to language teaching" (p. 77) and refers to it as the unobservable cognitive dimension of teaching of which the different factors influencing teacher cognition are illustrated in Figure 1 below.

Borg (2003) explains, as shown in the figure, that teachers have cognitions about all aspects of their work, and he uses labels to describe the various psychological constructs which work together and collectively make up teacher cognition. Teacher cognition encompasses beliefs, knowledge, theories, attitudes, images, assumptions, and perspectives regarding curricula, instructional activities, the self, among other aspects.

Teacher cognition, therefore, is an umbrella term that embraces the complexity of teachers' lives, the teaching-learning process, and the teaching profession in general. Teacher cognitions are formed by a variety of factors such as educational background, personal experiences, and cultural values. Research has shown that teacher cognition plays a significant role in determining how teachers approach teaching and learning, their classroom management strategies, and their use of instructional techniques. Teacher cognition is strongly linked to student achievement (Borg, 2003).

Teacher cognition is not only influential in shaping what teachers do but is also affected by the experiences teachers accumulate. Teachers' prior knowledge and beliefs about the teaching-learning process can affect how they choose, design, and implement instruction (Borg, 2018). Teachers who prioritize direct instruction may use a more structured approach to teaching while those who favor student-centered approaches may employ a more flexible approach. Teacher cognition can have an impact on the way teachers interact with their students (Borg, 2003).

Figure 1. *Teacher cognition, schooling, professional education, and classroom practice (Borg, 2003)*



In the context of DGBLL for instance, an instructor with experience in conventional classrooms may hesitate to incorporate digital games into their lessons due to a lack of experience with or understanding of the technology involved or may assume that it might prove too challenging for students. However, if the teacher has access to professional support that acknowledges the potential of digital games in education, s/he may be more likely to employ games in the classroom. Contextual factors such as the age and language proficiency of the students may also affect how a teacher uses digital games.

For instance, if a teacher is teaching young learners who are still mastering basic language abilities, they may opt to use simpler digital games such as memory matching or jigsaw puzzles that emphasize vocabulary acquisition rather than complex strategy-based games.

Ultimately, classroom practice is determined by how teachers apply their cognitions and contextual factors in the actual learning environment. This includes making decisions such as when to introduce digital games, how often to use them, and which activities would be most suitable for the class in question.

The primary aim of this thesis is to explore what EFL teachers in Norwegian upper secondary schools know, believe, and think regarding the use of digital games in their EFL classrooms. Therefore, it is also important to ask whether their cognitions are likely to affect their practice. Here, "practice" refers to what teachers do in the classroom (Borg, 2018) and in the context of DGBLL it refers to whether, why, and how they use digital games in their instruction. It could be reasonable to assume that teachers with agreeable attitudes toward digital games would be more likely to use them in their instruction, and vice versa. Research has demonstrated that there is a relationship between beliefs and practices, and that teacher cognitions have a significant influence on the decision-making process a teacher undertakes when planning and conducting activities (Borg, 2018). However, this posited relationship is not always consistent. Positive attitudes do not necessarily equate to the use of DGBLL. Variations in the relationship between beliefs and practices can be attributed to both internal factors, such as personality, awareness, motivation, and experience, as well as external factors, such as curricular time constraints and institutional policy (Borg, 2018).

Borg (2018) explains that all the experiences teachers have result in professionals who can draw on complex networks of knowledge, thoughts, and beliefs when redistributing knowledge in their classrooms. Teachers are "active, reflective decision-makers who make pedagogical decisions by drawing upon complex, practically oriented, personalized, and context-sensitive networks of knowledge ideas and beliefs" (Borg, 2018, p. 76). Because this study not only explores what teachers believe but also looks at what they do, the limitations identified by Borg (2018) are important. Accordingly, in this study, teachers are therefore not only asked questions about what they know, believe, and think, but they are also asked whether, why, and how they use digital games in their instruction and what might hinder their DGBLL implementation. (See 3.1 Mixed Methods Research Design and 3.4 Questionnaire)

In sum, as this thesis investigates the beliefs and attitudes of teachers regarding the use of digital games, an understanding of teacher cognition(s) is essential. What teachers know, believe,

and think in relation to language teaching and the different factors influencing their cognition (Borg, 2003) must be carefully considered. Accordingly, in this study, teachers are asked many questions including both what they know, believe, and think and also whether, why, and how they use digital games in their EFL instruction.

2.5.1 Researching Beliefs and Practices

In examining the relationship between teachers' beliefs and practices, Borg (2018) proposes that research should consider the implications of both conceptual and methodological decisions. These include the direction of the relationship between beliefs and practices, the rationale for the investigation, the sample of teachers studied, data collection instruments, reported or observed practices, and the specific issue being examined. When exploring attitudes and practices, it is essential to consider whether the researcher begins from a position that beliefs influence practices, as well as to contemplate the desirability of consistency between beliefs and practices.

Furthermore, it is also necessary to consider factors such as the sample of teachers studied, their characteristics, the choice of research method(s), and data collection instruments employed. It is also important to be aware of the assumed direction of the relationship between beliefs and practices. Moreover, it is of significance to determine if beliefs are seen as an individual construct or more socially defined and to consider the wider real-world purposes of any research study (Borg, 2018).

This thesis acknowledges that, while correlation between beliefs and practice might exist, they are not always present. Instead of measuring the consistency between expressed beliefs and reported practices, this study seeks to understand reported practices in light of expressed beliefs. The rationale of inquiry is to investigate and describe existing conditions rather than to prove or disprove a correlation hypothesis. To achieve this goal, a method of data collection must be developed that gathers substantial information about characteristics that could differentiate teachers, such as gender, age, year and place of education, and place of occupation.

Expectations in this study primarily revolve around acquiring knowledge of Norwegian EFL teachers' beliefs and practices, informed by results from similar previous studies. Although

consistency between beliefs and practices regarding DGBLL is desirable, it is not necessarily expected. This study acknowledges that the relationship between beliefs, attitudes, and practices may not always be positive; thus, it aims to acquire knowledge on both expressed beliefs and reported practices. The findings of this study hold the potential to contribute to the broader understanding of Norwegian EFL teachers' beliefs, attitudes, and practices, while also informing future teacher development in DGBLL in order to contribute to the effective implementation of DGBL in language education.

2.6 Previous Research on Teachers' Attitudes to DGBLL

This study aims to explore the role of teachers' beliefs, and attitudes and their implementation of digital games in the language classroom. To this end, this review focuses on notable studies which have investigated teachers' attitudes toward educational gaming in Norway and abroad. Although there has been considerable research on the efficacy of DGBLL, to the knowledge of this study, less effort has focused to exploring EFL teachers' attitudes towards DGBLL.

To my knowledge, no studies in Norway have yet targeted EFL teachers and DGBLL specifically; however, one study, conducted as part of a Nordic cooperation project, explored the situation in Norway regarding the use of DGBL, with participants that were not exclusively EFL teachers. The study was conducted in English and teachers' attitudes were investigated, so it has been included here (Brooks et al., 2017). Of the studies that have examined teachers' attitudes toward DGBLL, most have primarily used questionnaires to collect data. Questionnaires are one of the most frequently employed techniques to consider educators' perspectives and opinions on digital games, and how they can be used to enhance English language proficiency. Additionally, studies often use interviews to collect qualitative data for the same purpose. Table 2 below presents the authors, context, methods used for data collection and sample size of the studies considered in the following.

Table 2. *Previous Research*

Year	Author	Context	Methods	Sample	Main Findings
2017	Li	Primary School EFL Teachers China	Questionnaire Interviews	76 13	Mostly positive attitudes to DGBLL but noted technical difficulties
2018	Munkvold & Sigurdardottir	Secondary and Upper Secondary School Teachers Norway	Questionnaire	201	Mostly positive but noted technical difficulties and time-management problems
2019	Blume	Pre-Service EFL Teachers Germany	Questionnaire	150	Mostly positive attitudes but noted lack of knowledge, time and resources
2019	Lindskog & Stavroulaki	Secondary and Upper Secondary School EFL Teachers Sweden	Questionnaire Interviews	55 5	Mostly positive attitudes

In 2017, Chengxi Li conducted a survey of primary school EFL teachers in China to explore their attitudes towards DGBL for EFL. The study utilized a questionnaire and interviews, consisting of 25 questions addressing the teachers' attitudes, perceptions of effectiveness, and willingness to use DGBL in their EFL lessons. Results showed that most of the teachers had a positive attitude towards DGBL, although there were differences between urban and rural schools. Additionally, most teachers believed that DGBL was effective for teaching English and were willing to use it in their classrooms due to its potential for motivating students. However, Li also noted some negativity stemming from problems with integration of games with textbooks, lack of compatibility between students' computing and linguistic levels, as well as issues with equal participation and feedback systems. Recommendations included more professional training for the teachers as well as better administrative support.

In 2019, Carolyn Blume ran a survey of pre-service EFL teachers' attitudes to DGBLL in Germany. The study was conducted through a questionnaire with both closed and open-ended questions. The results showed that the pre-service teachers had positive attitudes towards DGBLL and believed that it could be beneficial for their students. However, they also expressed some concerns such as lack of knowledge about DGBLL, lack of time to plan and implement digital game-based activities, and the potential for students to become distracted by the games. Blume suggests that teacher education programs should provide more support and training for pre-service teachers to help them develop their knowledge and skills related to DGBLL, as well as further research into the attitudes and beliefs of pre-service teachers.

Lindskog and Stavroulaki (2019) conducted a survey of in-service EFL teachers at secondary and upper secondary schools in Sweden using primarily a questionnaire supplemented by interviews. Their findings showed that almost all of the teachers were positive to using DGBLL in EFL education and optimistic as to its effectiveness; however, most respondents reported feeling unprepared for the task of implementing DGBLL into their lessons. Only 18% had received instruction about how to employ digital games for teaching purposes and only 30% had read relevant literature about DGBLL (2019). Their work highlights the challenges of incorporating DGBL into the classroom and the importance of teacher preparation for using digital game-based teaching.

In 2018, Munkvold and Sigurdardottir explored the situation in Norway regarding the use of DGBL through a questionnaire sent to two counties of Norway supplemented by appeals using social media such as Facebook. The investigation was part of a larger study previously conducted in Scandinavia by researchers involved in the Nordplus Horizontal project (Brooks et al., 2017). Brooks et al. (2017) identified main obstacles to DGBL in Norway, Denmark and Iceland to be lack of information and knowledge as well technical issues. The study conducted by Munkvold and Sigurdardottir (2018) focused on the 201 Norwegian participants' responses to the survey which was composed as a part of the Nordplus Horizontal project on DGBL (Brooks et al., 2017). Results showed that Norwegian respondents were positive towards DGBL with mathematics and languages being the most common subjects used for application; many games, game coding tools, and gamification tools were reported used for educational purposes. Similar to the other studies mentioned above, Munkvold and Sigurdardottir (2018) noted challenges such

as technical restrictions and time management issues and age and personal gaming interest were found to be deciding factors for how likely teachers were to use digital games or gamification tools for learning.

The four studies discussed here all explore the attitudes and beliefs of teachers towards DGBL. However, while Li (2017) focused on primary school EFL teachers in China, Munkvold and Sigurdardottir (2018) explored the situation in Norway regarding the use of DGBL, Blume (2019) surveyed pre-service EFL teachers in Germany, and Lindskog and Stavroulaki (2019) investigated secondary and upper secondary school EFL teachers in Sweden. Thus, each study was conducted in a different context with different samples. The findings from each study provide a unique perspective on the attitudes towards DGBL in each context.

In summary, all studies found that most teachers held positive attitudes towards DGBL, although differences emerged between urban and rural schools (Li, 2017), age and personal gaming interest (Munkvold & Sigurdardottir, 2018), as well as disparities between pre-service and in-service teachers (Blume, 2019; Lindskog & Stavroulaki, 2019). All studies also identified challenges such as lack of knowledge about DGBL, limited time to plan and implement digital game-based activities, technical restrictions, and unequal participation or feedback systems. The potential of DGBL in motivating students, promoting collaborative and autonomous learning, and facilitating vocabulary learning were highlighted in the perceptions of teachers. Issues such as curriculum compatibility, administrative and financial support, teachers' relevant knowledge, and equal participation of the students were acknowledged as aspects requiring consideration during DGBL implementation. Despite the overall positive attitudes during DGBL implementation, these studies also noted challenges, including lack of knowledge and the need for teacher training.

This review further underscored the importance of teacher cognition. Among the numerous factors influencing the implementation of digital games in the language classroom, this study aims to explore the role of teachers' beliefs and attitudes and their potential impact on the implementation and success of digital games in EFL education. Consequently, the final part of the review focused on examining notable studies that have investigated teachers' attitudes towards educational gaming in Norway and elsewhere.

3. Methodology

This chapter explains the methodology that serves as the foundation for this study. First, the mixed methods approach for the survey is presented. This is followed by an introduction to the participants of the study as well as of the ethical considerations made in that regard. Then the questionnaire used for the data collection is detailed, including information about the pilot study that was carried out, before delving into a description of the data collection procedure and the analysis techniques used to interpret the results.

3.1 Mixed Methods Research Design

In attitudinal studies, data are often collected through two different methods, such as questionnaires and interviews. This helps minimize the risk of biased or unreliable results which can result from a strictly single-method approach. Questionnaires are often used to collect quantitative data, whereas the interviews are used to collect qualitative data. The collected data from both methods are then analyzed together.

However, in the present study, a mixed-methods questionnaire was chosen over using separate data collection methods. This type of questionnaire combines both qualitative and quantitative elements, drawing upon the strengths of each approach to achieve more reliable results and a deeper understanding of the research problem (Dörnyei & Taguchi, 2009). Mixed-method questionnaires have been described as potentially powerful tools for obtaining data (Dörnyei & Taguchi, 2009) as they combine "elements of both quantitative and qualitative approaches" (Dörnyei & Taguchi, 2009, p. 130) and allow for in-depth understanding, making them preferable when attempting to reach a comprehensive understanding of a research problem. In short, "words are collected to add meaning to numbers and numbers are collected to add precision to words" (Dörnyei & Taguchi, 2009, p. 45).

With this in mind, the questionnaire for the present study was designed. The quantitative data was to be collected to provide a broad map of the participants' use, attitudes, and beliefs on DGBLL, while the qualitative data was intended to supplement, further explain, enrich, and add detail and nuance to the quantitative data. Employing a mixed-methods questionnaire enabled the research to reach a larger sample, ensuring generalizability and the highest possible reliability and validity.

Many of the questions in the questionnaire were modeled upon questions from three notable studies previously conducted on DGBLL in different contexts: Li (2017), Lindskog and Stavroulaki (2019) and Blume (2019). This approach aimed to blend the best elements from each study and then adapt them to the Norwegian context. Li (2017) and Blume (2019) used Likert scales to investigate teachers' opinions about DGBLL, whereas Lindskog and Stavroulaki (2019) included both multiple-choice items and true or false questions in their survey, as well as comment fields with some of the questions which enabled qualitative responses. The questionnaire designed for the present study incorporated these different items, except for true/false questions, enabling detailed and nuanced analysis of the subject matter.

3.2 Participant Sampling

Determining the exact number of English teachers among the 27,300 teachers working at the 420 upper secondary schools in Norway (Utdanningsspeilet, 2022a) is challenging due to the fact that most teachers in Norway are qualified to teach two or more subjects and their subject assignments may change yearly. Conservatively estimating that a quarter of all teachers in Norwegian upper secondary schools may teach English results in a target population of approximately 6,800 teachers for the present survey.

To reach as many English teachers as possible, all 420 Norwegian upper secondary schools were contacted directly via e-mail with an invitation for any English teachers at their school to participate by completing the digital, online questionnaire, to which a link was provided in the email. Social media platforms were also utilized to appeal for respondents. All

participants were assured anonymity to encourage open and honest answers, as anonymous respondents tend to provide more accurate responses (Dörnyei & Taguchi, 2009).

Participants were assured that their responses would remain anonymous, and that the questionnaire would not contain any identifying questions; this was emphasized in the email. Similar assurances of privacy and confidentiality were also offered in the questionnaire itself and in the attached "Information letter" *(See Appendix A).* Both the email messages and the social media posts were directed to teachers of English at upper secondary schools in Norway only. In addition, the appeals for respondents were posted in groups for English teachers and educators in Norway. This purposive sampling technique aligns with Dörnyei's (2007) recommendation, as it focuses solely on upper secondary EFL teachers. By utilizing these methods, the study aimed to gather a comprehensive understanding of the attitudes and beliefs of English teachers in Norway's upper secondary schools with respect to DGBLL.

3.3 Study Participants

A total of 219 EFL teachers in Norwegian upper secondary schools participated in the study, providing a diverse range of perspectives on attitudes and beliefs towards DGBLL. Regarding gender, women comprised the majority of respondents at 68.5%. One respondent preferred not to state their gender.

When it comes to experience, the largest group of respondents were those newest to the profession. Teachers with up to 8 years of experience comprised the largest group at 43.3%. The average number of years of service for all respondents was 11.9, highlighting the range of experience among the participating teachers.

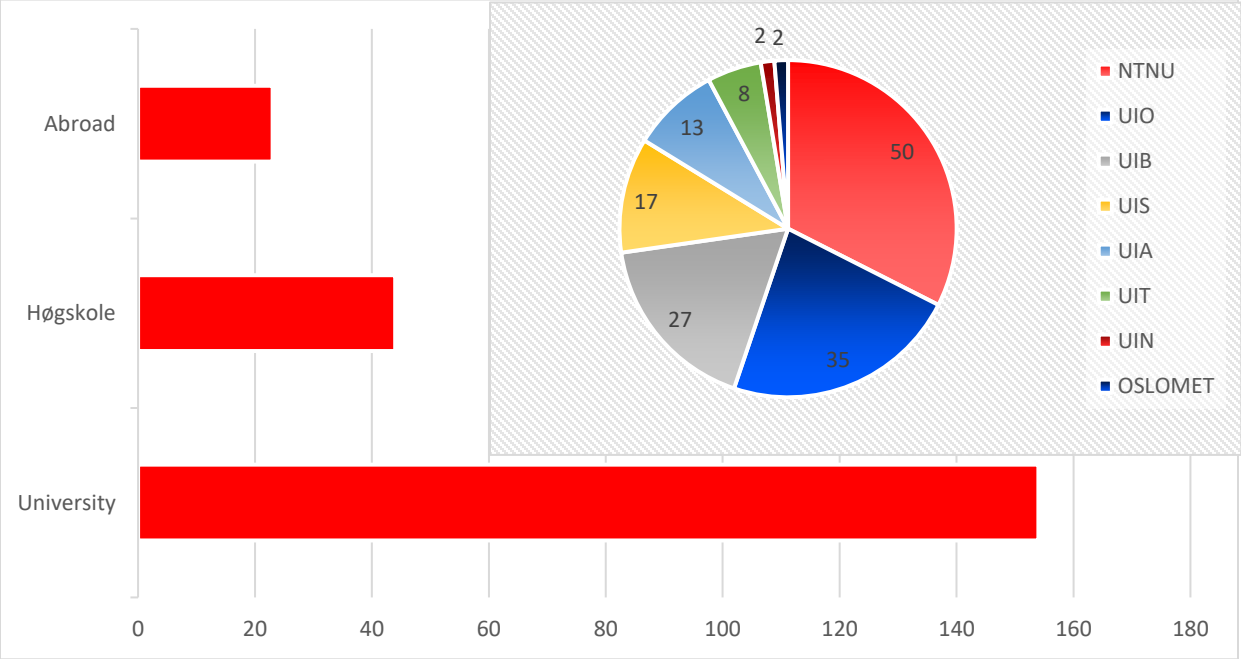
In terms of class size, most teachers reported teaching classes of between 11-20 students. Having smaller groups was more common than teaching larger groups with more than 30 or less than 10 students in a class being rare. The average overall class size was 19.1, providing a sense of the typical learning environment for the surveyed teachers.

Table *3. Participant Characteristics*

		Number	%
Gender			
	Male	68	31.5
	Female	150	68.5
	Unknown	1	0.5
Age	**Years**		
	20-31	51	23.8
	32-43	74	34.5
	44-55	72	33.6
	56-73	17	7.9
Teaching Experience	**Years**		
	1-8	95	43.3
	9-16	63	28.7
	17-24	34	15.6
	25-36	27	12.3
Currently teaching	**Level**		
	Vg1	204	94.4
	Vg2	73	33.8
	Vg3	53	24.5
Class Size	**Students**		
	1-10	18	8.2
	11-20	118	54.1
	21-30	78	35.7
	31-35	4	1.8

As for teaching qualifications, Figure 2 below illustrates that most of the respondents had earned their teaching qualifications from one of Norway's universities, with a smaller number receiving their qualifications from a Norwegian Høgskole, which are independent institutions that provides tertiary education, or at a higher education institution abroad. Some respondents listed two or more institutions, possibly indicating that their bachelor's and master's degrees had been issued by different institutions. As shown in Figure 2 below, most of the 154

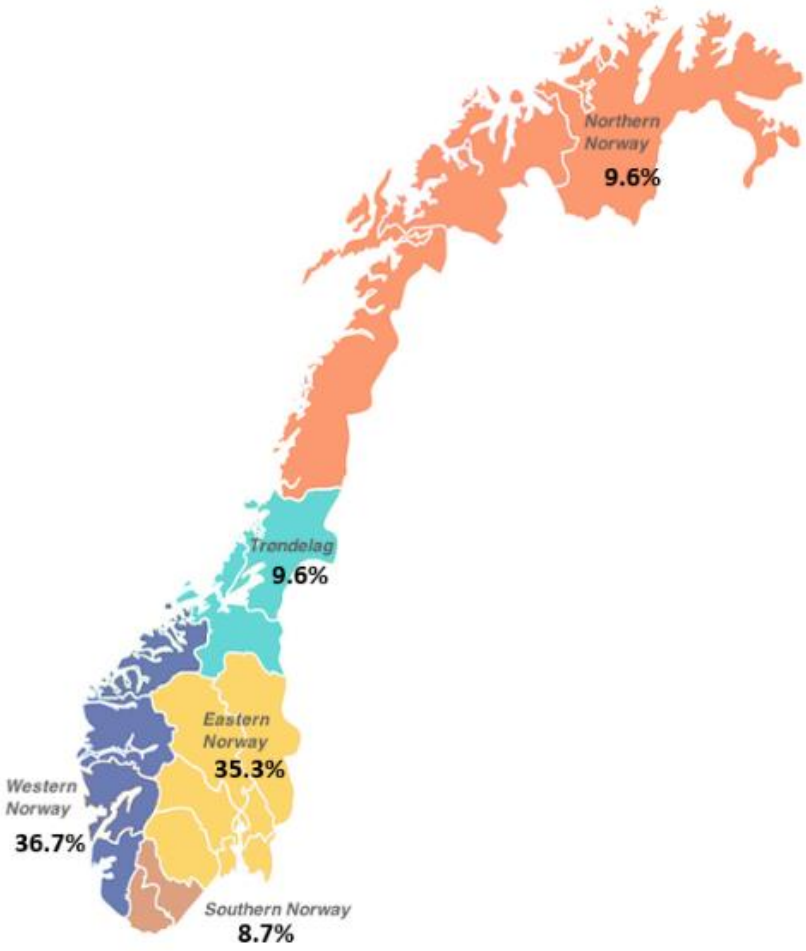
Figure 2. *Teachers' Educational Background*



respondents who said they had studied at a university, listed their alma mater as The Norwegian University of Science and Technology (NTNU) (50). The rest said they had studied at the University of Oslo (35), the University of Bergen (27), The University of Stavanger (17), the University of Agder (13), the University of Tromsø (8), the Nord University (2) and the Oslo Metropolitan University (2). This diversity in educational backgrounds contributes to a comprehensive understanding of the study's findings.

Geographically, responses from all parts of Norway were recorded as shown in Figure 3 below. The two largest groups of teachers who responded were currently employed in Western Norway 36.7% and Eastern Norway 35.3%. This was followed by Northern Norway 9.6%, Trøndelag 9.6% and Southern Norway 8.7%. The broad geographical representation of participants helps to ensure that the study's findings are relevant across the country.

Figure 3. *Percentage of Responses from Different Parts of Norway*



3.4 The Questionnaire

An online questionnaire served as the main data collection method for this study. The online questionnaire was administered to obtain information from upper secondary school English teachers in Norway. The questions targeted information about attitudes towards and use of digital games in English language learning and were designed to collect information to answer the three research questions. The questionnaire was created by using the software program Nettskjema (Nettskjema, 2023) and was comprised of three parts across a total of five pages with a total of 48 questions *(See Appendix B).*

The first part of the questionnaire began with a brief introduction to the study and asked for teachers to indicate their consent to participate in the study by ticking a consent button. This was followed by 13 questions used to collect background information. The first seven questions were used to collect demographic information such as age, gender identity, educational background, region of employment and average classroom size. The remaining six questions enquired about access to digital resources and lesson design. Among these 13 questions, the one targeting educational background was open-ended.

In the second part of the questionnaire, comprising questions 13 through 41, teachers' usage, opinions, and attitudes towards DGBLL were examined. Questions 13 through 16 utilized close-ended multiple-choice items with varying numbers of answer alternatives to assess teachers' attitudes. Questions 17 through 34 employed Likert-scale questions (on a scale of 0–100, where 0 represented strong disagreement and 100 strong agreement) to further explore attitudes. Questions 17 through 25 were positively worded statements to which agreement would indicate a positive attitude to games, gaming, and the use of games as tools for language learning. In contrast, agreement to questions 26 through 34 agreements suggested either negative attitudes towards DGBLL or concerns with and obstacles towards DGBLL implementation.

Additionally, the second part of the questionnaire included five open-ended questions. Four of these were "Why? / Why not?" prompts attached to a previous question, designed to elicit explanations for respondents' answers to that given question. The fifth question, a stand-alone item, asked for teachers' opinions on the role that digital games should play in language education.

The third part of the questionnaire, containing questions 42 through 48, was reserved for teachers who had confirmed that they had previously used digital games in their EFL lessons. This section focused on the specific games and resources employed, as well as teachers' observations of students' and colleagues' reactions and feedback regarding the use of these games. In this section there were three close-ended questions and four open-ended questions.

All open-ended questions in the questionnaire, whether to elaborate on a previous answer or stand-alone, were followed by a blank in a text box for respondents to provide their input in their own words. A number of questions were generally adopted from the surveys Lindskog and

Stavroulaki (2019) and Li (2017) conducted. Question 11 was adopted from the survey Lindskog and Stavroulaki (2019) conducted.

To summarize, an online questionnaire to gather information about attitudes towards and use of digital games in English language learning was designed to collect information to answer the three research questions. The questionnaire was created using the software program Nettskjema (Nettskjema, 2023) and was comprised of three parts across a total of five pages with a total of 48 questions.

3.5 The Pilot Study

In early February 2023, a pilot study was conducted with a group of students at the University of Stavanger to evaluate the questionnaire used in this thesis. Participants were asked to give oral feedback through a group discussion focusing on the visual appeal of the questionnaire, the format and user-friendliness, rate the answer alternatives offered (such as Likert scales, drop-down boxes and/or text boxes), as well as reporting any technical issues encountered.

The primary goal of the discussion was to optimize how the questionnaire might be received by teachers in Norway by removing any unclear elements that might confuse them or discourage them from completing it. Additionally, participants were asked to comment on the length of the questionnaire, the number of questions and the estimated time required to complete it.

Because the pilot participants were students and not teachers, and because the focus was on the technical aspects of the questionnaire, participants were not asked to imagine themselves as actual in-service teachers and attempt to answer the questions in that capacity. Their task was to examine and give feedback on the questionnaire, not answer the questions truthfully. Notes were taken of their feedback both during the process itself, then during the feedback discussion, and of changes made to the questionnaire afterwards because of the feedback.

The pilot study involved six students, four pre-service EFL teacher master's students and two applied linguistics students and the lecturer. Their ages ranged from 22-55, with a gender distribution of four males and two females. Their primary task was to examine the questionnaire

and provide feedback rather than answer the questions truthfully, as they were not teachers themselves.

Participants spent about 20 minutes examining the questionnaire but generally estimated that it would take about 15 minutes for teachers to complete it. Some concerns were raised about teachers' willingness to invest time in writing answers into text boxes, potentially resulting in numerous empty responses. The overall format of the questionnaire was deemed user-friendly and visually appealing, but with a few suggestions made for further improvement, including adding extra instructions for clarity and rephrasing some questions to improve user experience.

The main concerns that emerged from the discussion centered on teacher recruitment and questionnaire completion. For the study to be viable and results reliable, many responses from all over Norway would have to be collected, and it was pointed out that this might prove difficult and time-consuming. In addition, it was noted that busy teachers might be hesitant to spend 15+ minutes completing a 5-page questionnaire or providing detailed answers to open-ended questions, particularly since interviews would not be used for collecting supplementary qualitative data. Finally, participants suggested shortening the definitions, educational theory references, and disclaimers provided in the questionnaire for brevity.

All feedback was carefully considered, resulting in a few changes made to ensure maximum clarity and ease of use. However, all definitions, information and disclaimers were kept unchanged as they were considered necessary from an academic standpoint. The challenges associated with recruiting enough respondents for the study and the potential scarcity of qualitative data obtained using open-ended questions through a questionnaire rather than interviews were considered.

This process was instrumental in helping to refine the questionnaire used as the main data collection method for this study. Thanks to the participants' feedback and the valuable insights that were gained from conducting the pilot study, the questionnaire became better prepared to address the main goals and research questions of this study and collect the relevant information to examine the general patterns of use of digital games as well as teachers' beliefs and attitudes about DGBLL in EFL in the context of Norway.

In summary, a pilot study was conducted to evaluate the questionnaire used in this thesis. The aim was to optimize the questionnaire. The main concerns from the participants' feedback centered on teacher recruitment and questionnaire completion, resulting in a few modifications ensuring maximum ease of use. This process helped refine the questionnaire used as the main data collection method for this study.

3.6 Data Collection Procedure

To recruit responders for this study on attitudes towards DGBLL, extensive searches on individual schools' websites were conducted to gather contact information for upper secondary schools in Norway. This included school names, locations, subjects offered, and contact details. Initially, the search focused on finding English teachers' contact information directly, but this approach was abandoned due to teachers often being listed without reference to the subjects they taught. In some cases, department heads were listed without reference to their department. The addresses collected for each school included those of department heads when available, school secretaries, principals and assistant principals to increase the chances of reaching the target audience. For some schools, no working email addresses could be found.

In mid-February 2023, over 400 upper secondary schools across Norway were individually contacted via email from the researcher's University of Stavanger student email account. The email sent to schools explained why English teachers were invited to participate, and a brief introduction to the research was included. An "Information Letter" (see *Appendix A & C)* with more detailed information was also attached to the messages. Recipients were asked to forward the invitation to all English teachers in their respective schools. Two days later, follow-up emails were sent as reminders and to express gratitude to those who might already have responded.

It is important to note that although all the intended participants were upper secondary English teachers, the emails were sent to schools and administrators as well as to teachers as a result, the Information Letter attached to the emails as well as the questionnaire itself were in

English, while the email invitation and follow-up messages were written in Norwegian (See *Appendix D).*

Social media was also employed to recruit responders. Appeals were posted in the following Facebook groups “Spillbasert Læring”, “English Teacher Network (Vgs Norway)”, “Undervisningsopplegg” and “Engelsklærergruppa - Norwegian English Teachers”. The texts posted were in Norwegian accompanied by a visual and, within closed groups a link to the questionnaire or, for open groups, an offer to provide a link to the questionnaire in response to a comment or direct message.

Following the dissemination of invitation emails and social media appeals posted, the questionnaire remained open for respondents for 10 days before it was closed for responses. None of the participants received any form of compensation for participating in the study.

In summary, to recruit upper secondary EFL teachers in Norway, emails were sent to over 400 schools with an attached Information Letter, a brief introduction to the research, and a link to the online questionnaire. Additionally, social media was utilized to appeal to responders. This data collection procedure aimed to comprehensively gather information from upper secondary English teachers across Norway, thus allowing for a thorough investigation of their attitudes and beliefs regarding DGBLL.

3.7 Data Analysis

The data analysis procedure for this thesis, which focused on the role of teacher attitudes and beliefs in digital game-based language learning, involved examining both quantitative and qualitative questionnaire data. Although traditional data analysis often requires various statistical procedures, the time constraints of this study discouraged the use of inferential statistics. As a result, only descriptive statistics were employed, which means that general inferences beyond the sample (Dörnyei & Taguchi, 2009) could not be made. However, the data may allow for potential future inferential analysis and compatibility (Dörnyei & Taguchi, 2009).

Initially, the data was imported from the survey tool Nettskjema (Nettskjema, 2023) to a Microsoft Excel spreadsheet. Some of the figures were generated by the survey tool while the rest were produced in through Microsoft Excel. While the survey tool generated the descriptive statistics for the quantitative data, coding was required for the qualitative data. In this context, coding refers to the process of labeling and organizing qualitative data to identify different themes and relationships between them with the goal of sorting the information into categories for increased clarity.

For all the responses to the open-ended questions, an inductive approach was used. This entailed exploring the data multiple times to gain a general understanding of the content and identify patterns and similarities. The goal was to identify any distinct content components, substantial statements, or shared key points. Based on these concepts and ideas, categories were established with the goal to explain the content of the responses (Dörnyei & Taguchi, 2009).

Dörnyei and Taguchi (2009) warns that the categorization process may involve potentially subjective elements on the part of the coder. To reduce any potential subjectivity, systematic 'content analysis' is recommended (Dörnyei & Taguchi, 2009). In this study, this was achieved through a second coding stage, where responses were highlighted in different colors according to the categories that had been established in the first coding stage. Subsequently, tables were created in Microsoft Word and Microsoft Excel to display the results.

Furthermore, the filtering options and pivot table functions in the Excel Spreadsheet allowed for simple cross-tabulation such as examining how many of the female and or male respondents had answered yes or no to a question to investigate different gender response trends and distributions in the sample.

The data analysis procedure for examining the relevant questions of this study involved a combination of descriptive statistics and inductive content analysis. This approach enabled a thorough examination of the quantitative and qualitative data. An obvious limitation of this approach was the lack of inferential statistics precluding general inferences; however, this research represents a first step, and the comprehensive approach used in this study has set the foundation for conducting further research on the topic.

3.8 Validity and Reliability

The concepts of reliability and validity are essential components of measurement theory and refer to the psychometric properties of the measurement techniques used, and the data obtained. Reliability is associated with consistency in data, meaning that it reflects how well a measurement instrument and procedure produces consistent results across different conditions (Dörnyei & Taguchi, 2009). Validity is related to the accuracy of the data and/or the quality of the interpretation of the data (Dörnyei & Taguchi, 2009). These two concepts can be used to evaluate the quality and validity of a study. Simply, validity is concerned with the accuracy of a measure, whereas reliability refers to its consistency. To ensure that these criteria were met in this study, several considerations were made.

First, a pilot questionnaire was conducted to ascertain validity. Conducting the pilot study allowed for the identification and rectification of any issues that could potentially impact the validity of the final questionnaire. Additionally, the pilot study helped ensure that the questionnaire was user-friendly, visually appealing, and that questions were clear and concise. Data was presented honestly by recording responses in terms of the number of teachers who answered each question to provide readers with a more accurate and straightforward understanding of the findings.

Moreover, data was processed twice: once through Nettskjema and again through using Microsoft Excel. The use of two different methods for data processing allowed for a more thorough analysis, increasing the likelihood of identifying any inconsistencies or errors in the data. Finally, percentages were not used alone as a means of presentation; responses were reported by number of submissions as well to ensure greater accuracy.

By presenting the data in multiple formats, this study aimed to provide a clearer and more comprehensive understanding of the findings, thus improving the overall reliability and validity of the research.

3.9 Ethical Considerations

There were numerous ethical considerations made in connection with this survey. Consequently, in December of 2022, the research proposal for the current study was submitted to the Norwegian Centre for Research Data (NSD, n.d.) for approval. The present study adheres to the NSD guidelines regarding information requirements, consent procedures, anonymity maintenance, and data use. To ensure respondent confidentiality, the survey was, as mentioned conducted anonymously, and participants were informed about the purpose and anonymity of the questionnaire before taking part. The NSD granted approval for the research on January 26th, 2023.

In addition to following the NSD guidelines, the University of Stavanger's guidelines and interpretations were followed throughout the process to guarantee that all appropriate conditions were met. Suitable templates and protocols were employed to ensure that anonymity was preserved, and that all collected information was kept secure.

The questionnaire was intentionally designed to be as non-intrusive and neutral as possible to minimize the influence on participants' responses as much as possible. Respondents were made aware of the survey's purpose and how their data would be managed. All participants were 18 years old or older and provided informed consent before participating in the study.

Lastly, all data was stored on the University's server and will be destroyed after this study's completion, adhering to the data retention policies, and ensuring the participants' privacy is maintained.

This study has taken care to ensure it adheres both to the NSD requirements as well as to the University of Stavanger's guidelines. Appropriate protocols were used to ensure participants' anonymity and consent, and all collected information was kept secure. This approach contributes to a cohesive and ethically-sound research methodology.

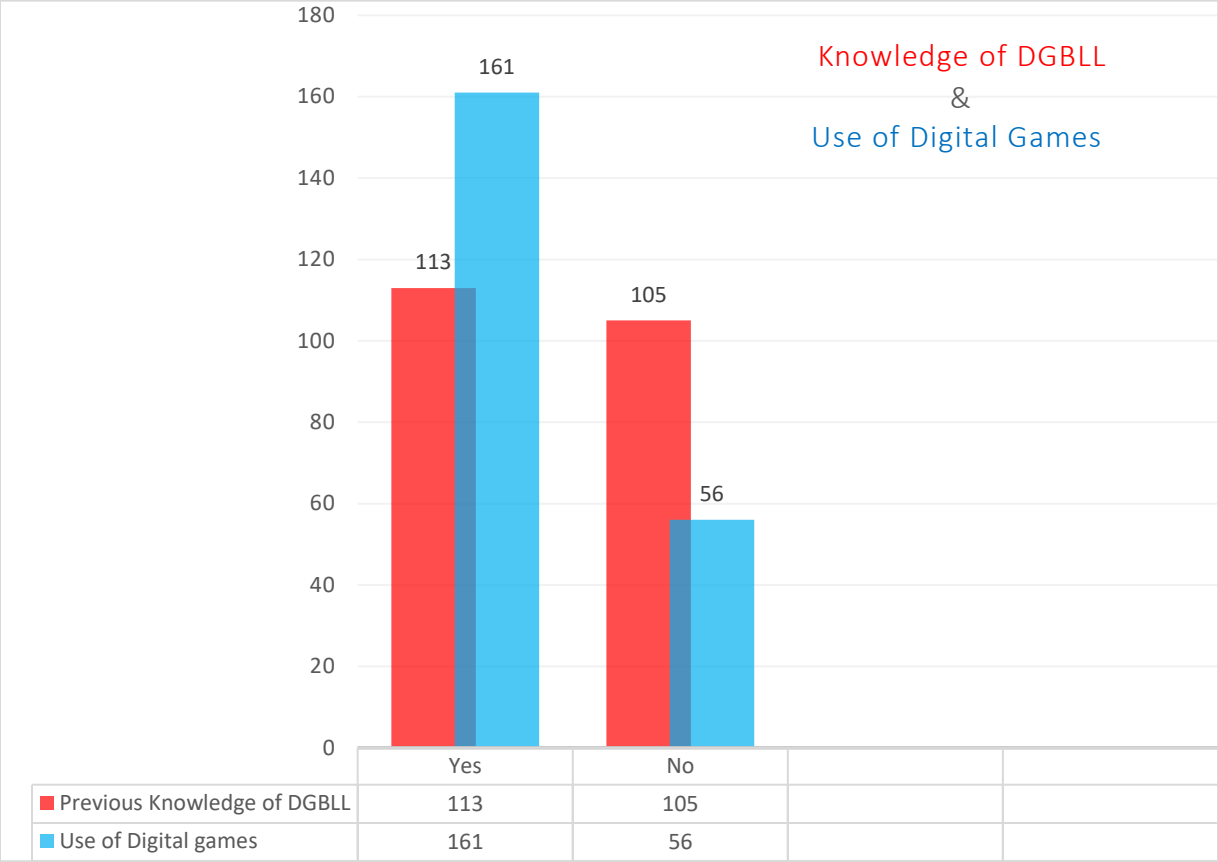
4. Results

This chapter presents the results and findings of this study which aimed at exploring Norwegian upper secondary EFL teachers' beliefs and attitudes towards DGBLL. The data collected from the questionnaire is presented in relation to the three research questions that guided this study. Because all respondents did not answer all the questions, the results are presented in terms of the number of teachers who answered each question. The findings relevant to the first research question are presented first, followed by the findings and results for research questions two and three respectively.

4.1 Use of DGBLL in upper secondary EFL classrooms in Norway

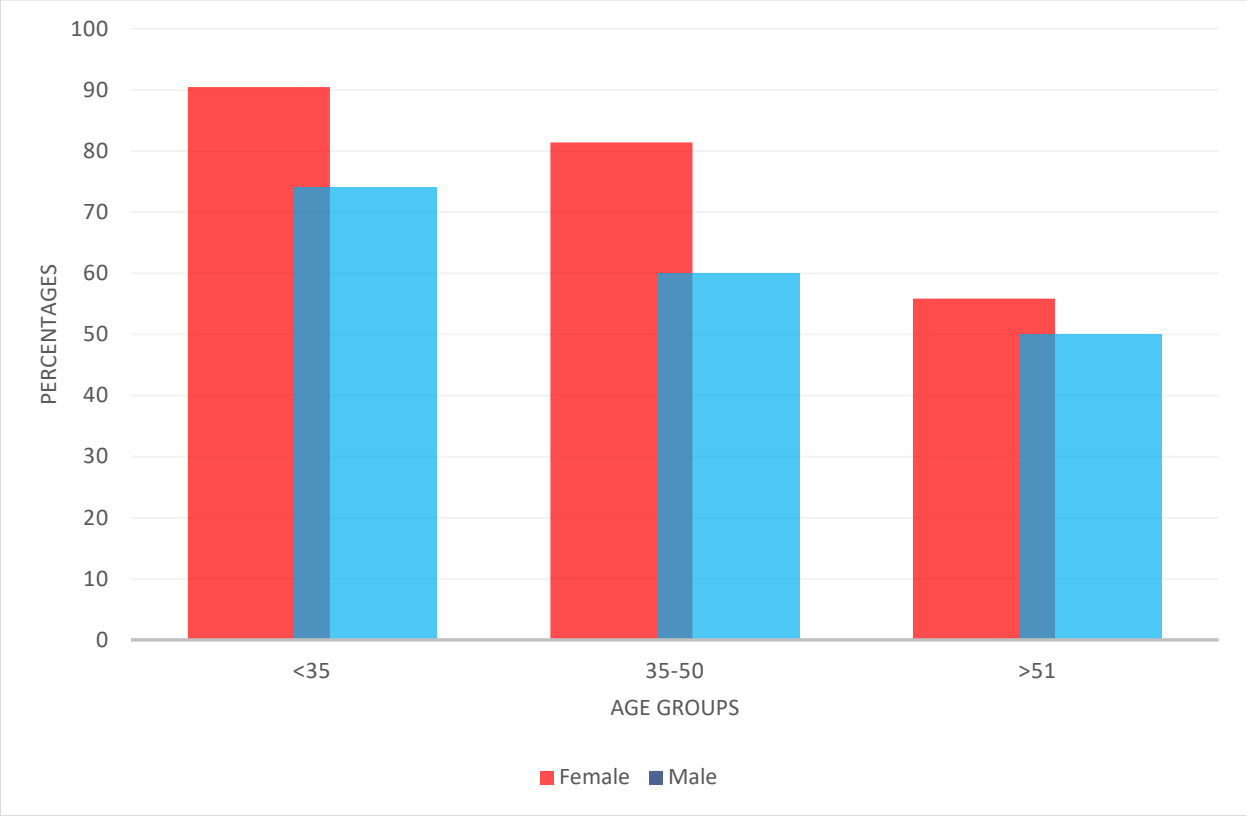
The first research question aimed to explore to what extent DGBLL is used in upper secondary EFL classrooms in Norway today. To address this question, participants were first asked whether they had prior knowledge of DGBLL before participating in this research, whether they had used digital games in their own EFL instruction and if not, to explain why. Finally, teachers were asked what theoretical approaches were most prominent in their lesson design and also what factors most influenced their planning. About half of the 218 responders reported being acquainted with the concept of DGBLL, as shown in Figure 4.

Figure 4. *Previous Knowledge of DGBLL & Use of Digital Games in EFL Instruction*



However, more than two-thirds of the respondents nevertheless reported having used digital games in their EFL instruction. Of the 56 teachers who said that they had not used digital games in their EFL instruction, 22 were female and 34 were male. Of the 161 who said they had used digital games in their EFL instruction, 44 were male, and 117 were female. Overall, 77% of the responding female teachers had used games in their EFL instruction compared to only 66.7% of the responding men.

Figure 5. *Use of Digital Games by Age Group and Gender*



As shown in Figure 5, the results showed that of the teachers above 51 years of age, 55% of the female teachers had used digital games compared to 50% of the males. For teachers between 35 and 50, 80% of the females had used digital games compared to 60% of the males. For teachers younger than 35, 90% of the female teachers had used digital games compared to 74% of the males. When looking at both male and female teachers and drawing the line between young and old at 40, there was a 10% difference between the older and younger teachers regarding their reported use of games in EFL instruction. The results suggest that the reported use of games in EFL instruction varied depending on age and gender.

49 of the 56 teachers who said they had not used digital games in their EFL instruction also explained why in their own words. The commonalities found within these explanations are shown in Table 4.

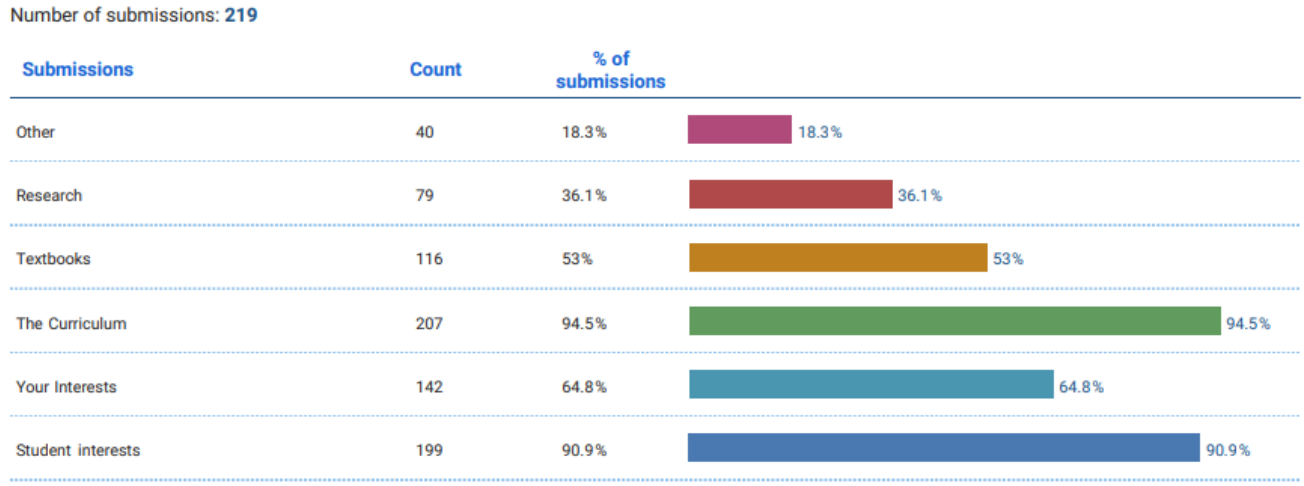
Table 4. *Reasons for not Using Digital Games*

Category	Responses	%	Examples
Interest	7	15.2	"Not interested", "I don't play myself" and "I don't really have enough interest to learn enough about it".
Knowledge	12	26	"Lack of knowledge and information", "Don't know how" and "I do not even know where to begin".
Resources	18	39.1	"Because of a lack in resources/time and management", "there are budget restraints" and "I am not aware of any relevant digital game".
Unacceptable	3	6.5	"I would get hell from my superiors" and "The 'Kommune' [county] has blocked all gaming access thus far".

The most common reason given for not having used digital games in the participant's EFL instruction was lack of resources such as time to plan and money, as shown in Table 4. Lack of knowledge was the second most frequent reason, while lack of interest and administration not accepting it were less commonly mentioned.

Regarding the factors that most influence their lesson design, the teachers reported that the curriculum and student interest were the primary factors, as shown in Figure 6 and Figure 7 below. Teachers' own interest came in third place. Textbooks were also identified as an important influence, but to a lesser degree than the curriculum and student interest.

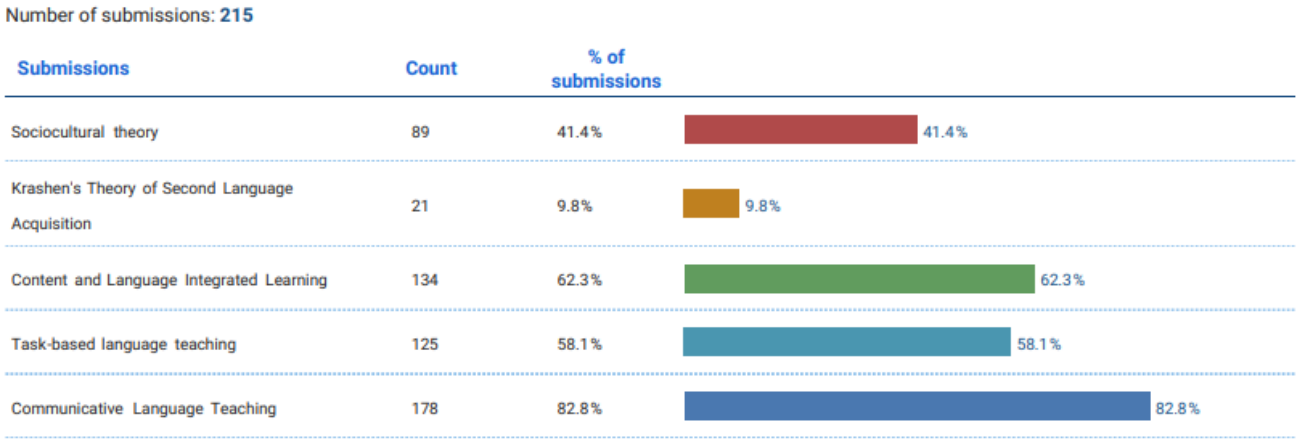
Figure 6. *Factors influencing lesson design*



Number of submissions: **219**

Submissions	Count	% of submissions
Other	40	18.3%
Research	79	36.1%
Textbooks	116	53%
The Curriculum	207	94.5%
Your Interests	142	64.8%
Student interests	199	90.9%

Figure 7. *Lesson Design and SLA Approaches*



Number of submissions: **215**

Submissions	Count	% of submissions
Sociocultural theory	89	41.4%
Krashen's Theory of Second Language Acquisition	21	9.8%
Content and Language Integrated Learning	134	62.3%
Task-based language teaching	125	58.1%
Communicative Language Teaching	178	82.8%

From a theoretical approach standpoint, teachers mostly reported using a communicative approach (82.8%). More than half of the respondents also said that the theoretical approach most prominent in their lesson design included content and language integrated learning (62.3%) and task-based language teaching (58.1%). Somewhat fewer were influenced by sociocultural theory (41.4%) and less than 10% reported using Krashen's theory of second language acquisition (9.7%).

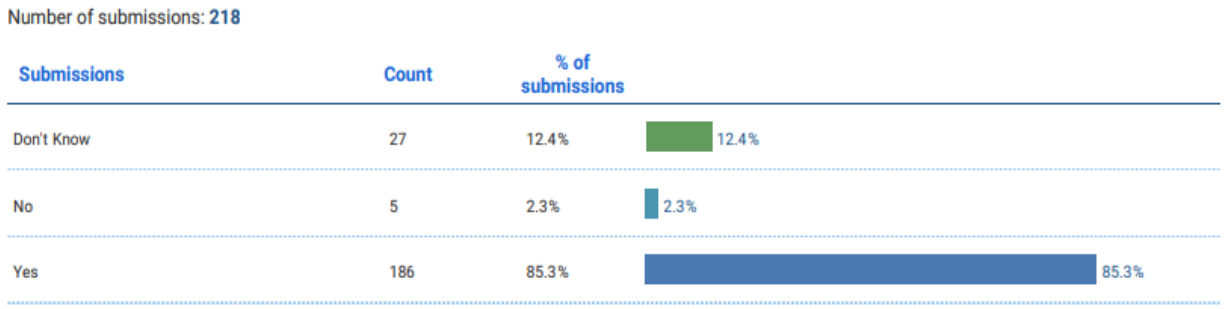
In summary, the findings related to the first research question revealed that only approximately half of the respondents had prior knowledge of DGBLL, but nearly 75% had

employed digital games in their EFL instruction. The reported use of games varied depending on age and gender. The most frequent explanations for not having used digital games were lack of resources and knowledge. Among the factors that most influenced teachers' lesson design were primarily the curriculum and student interest, followed by the teachers' own interests and the textbooks. The CLT approach was most prominent when lesson planning.

4.2 Attitudes to DGBLL

The second research question addressed in this study aimed to explore the attitudes of upper secondary EFL teachers in Norway towards DGBLL. Although many teachers said they had not previously been familiar with the concept of DGBLL, the majority believed that digital games could be effectively used as tools for teaching English, as shown in Figure 8.

Figure 8. *Digital Games are Useful for Teaching English*



Additionally, a total of 153 responders provided their own opinions on how and for what purpose digital games could be effectively used. Responses include "[games] have been effective in my classroom to activate or motivate students, to reinforce acquired knowledge, to build a positive social environment, and to learn new information in a fun way" and "[games] can be used as a supplement to more theoretical teaching, and apps such as Quizlet have minigames that are useful for practicing vocabulary. Minigames make the repetitive nature of vocabulary learning more interesting and entertaining for students". When all the explanations given for

believing that digital games could be used effectively for teaching English were grouped, a total of five categories emerged from their explanations as shown in Table 5.

Table 5. *Why Digital Games are Considered Useful for Teaching English*

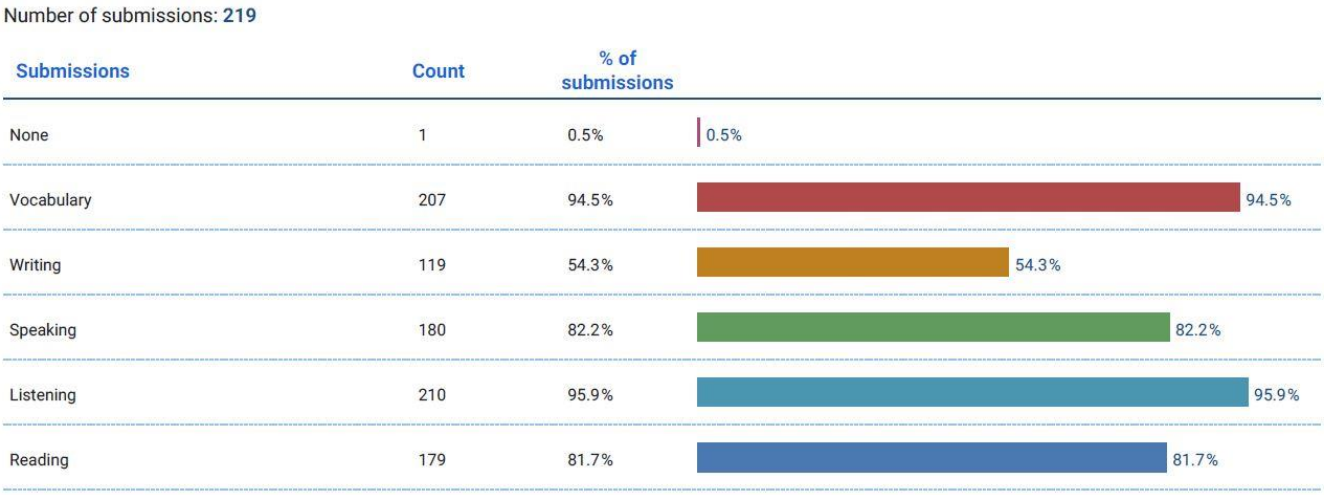
Category	**Responses**	**Sub-categories**	**Responses**
Observed Learning through Games	14	Students	9
		Teacher, self-observation	5
Interest & Motivation	97	Engagement	27
		Motivation	13
		Fun	22
Language Learning	68	Communicative skills	28
		Vocabulary	18
Instructional Strategies	22	Differentiation	7
		Variation	7
		Language Exposure	8
Research	4		

As shown in Table 5, the most frequent explanation given by teachers for believing that digital games could be effectively used as tools for teaching English related to student interest and motivation for learning, with 97 references made to the fun, interesting, motivating, and engaging nature of digital games for students. Examples of typical responses included describing digital games as being fun, interesting, motivating and/or engaging include “it leads to increased student engagement and motivation”, “I believe that using digital games can help engage and motivate students”, “Interest based learning for the students. A fun way to learn another language and new skills” and “great way to engage and interest unmotivated pupils”. A wordsearch revealed that the words “engage/engaging” were mentioned 27 times, “fun” 22 times and “motivate/motivating” 13 times.

The second most important reason given by teachers was related to language learning and skills development with 68 references of this kind. Examples include “Games are engaging and build upon those essential language skills: speaking, reading, listening and comprehension”, “Games and gaming give students access to English outside of the classroom, practicing their language skills” and “Different games can teach different things that are relevant to the English curriculum”. Within this category, teachers highlighted that digital games were suitable for developing communicative skills and strengthening oral English, with 28 references, and for vocabulary learning, with 18 references. Examples of responses include “Enhance vocabulary and communicative skills”, “they will improve their English communicative skills”, “It is fun, a great way to vary lessons and to learn both written and oral English”, “It is a fun way of learning English vocabulary” and “Games that require reading comprehension in English will help students learn vocabulary and grammar”.

Teachers were also asked to indicate, in a close-ended question with six answer alternatives, what skills they thought digital games might help build or strengthen.

Figure 9. *Skills Targeted using Digital Games*



Number of submissions: 219

Submissions	Count	% of submissions
None	1	0.5%
Vocabulary	207	94.5%
Writing	119	54.3%
Speaking	180	82.2%
Listening	210	95.9%
Reading	179	81.7%

As shown in Figure 9, teachers believed that digital games could be used for listening and vocabulary building skills, while a large majority thought that they could also be used to develop speaking and reading skills. However, only about half thought games were suitable for strengthening writing skills and only 1 of 219 responders or 0.5% said they didn't think digital games could be used to develop any skills in English.

Although most teachers expressed positive attitudes towards DGBLL, 25 of the responses included concerns as well, such as pointing to prerequisites for games considered useful or warning of drawbacks or dangers associated with the use of digital games. For instance, one responder observed that "[games] can be helpful, but they must be used efficiently in the right manner. Simply giving pupils games (e.g., Minecraft education) is not sufficient for learning without clear structure and objectives". Another explanation was: "I think [games] can be useful when applied in a specific learning context and when used appropriately". Table 6 summarizes the concerns expressed by teachers, highlighting that for games to be considered useful as tools for teaching English, the purpose, the learning objectives, and the learning context should be carefully considered as well as the quality, suitability, and age appropriateness of the game. Of practical concerns, sufficient time both for planning and playing as well as access to resources were mentioned.

Table 6. *Concerns Connected to the Use of Digital Games*

Category	Responses	Examples
Quality	5	"But it has to be well designed" "The game design has to be very good in order for it to work as an educational game"
Age Appropriate	3	"it has to be […] made for that age group" "[…] making English learning more fun for younger students"
Learning Objective Alignment	8	"I think it can be useful when applied in a specific learning context and when used appropriately", "When used purposefully as a part of a topic and with clear learning goals I think games can be an effective learning tool"
Practical Concerns	5	"games can be time-consuming and distracting from actual learning" "[…] too expensive for a school", "Unfortunately, there are also many limitations, such as time (many games last much longer than the average film or even novel), lack of proper equipment and actual games to play (they are not cheap)"
Dangers of overuse	4	"They can be useful once or twice a year, for variation" "As long as they are not the primary tool to teach English, they can be very effective"

In summary, the initial set of questions related to the second research question, concerning teachers' attitudes towards DGBLL, revealed that the majority of the responding teachers believed digital games could be utilized effectively as tools for teaching EFL. This belief was attributed to the entertaining, interesting, motivating, and engaging nature of digital games for students. Most respondents also emphasized DGBLL's efficacy for language learning and highlighted digital games' suitability for developing communicative skills and strengthening listening, vocabulary, speaking and reading skills.

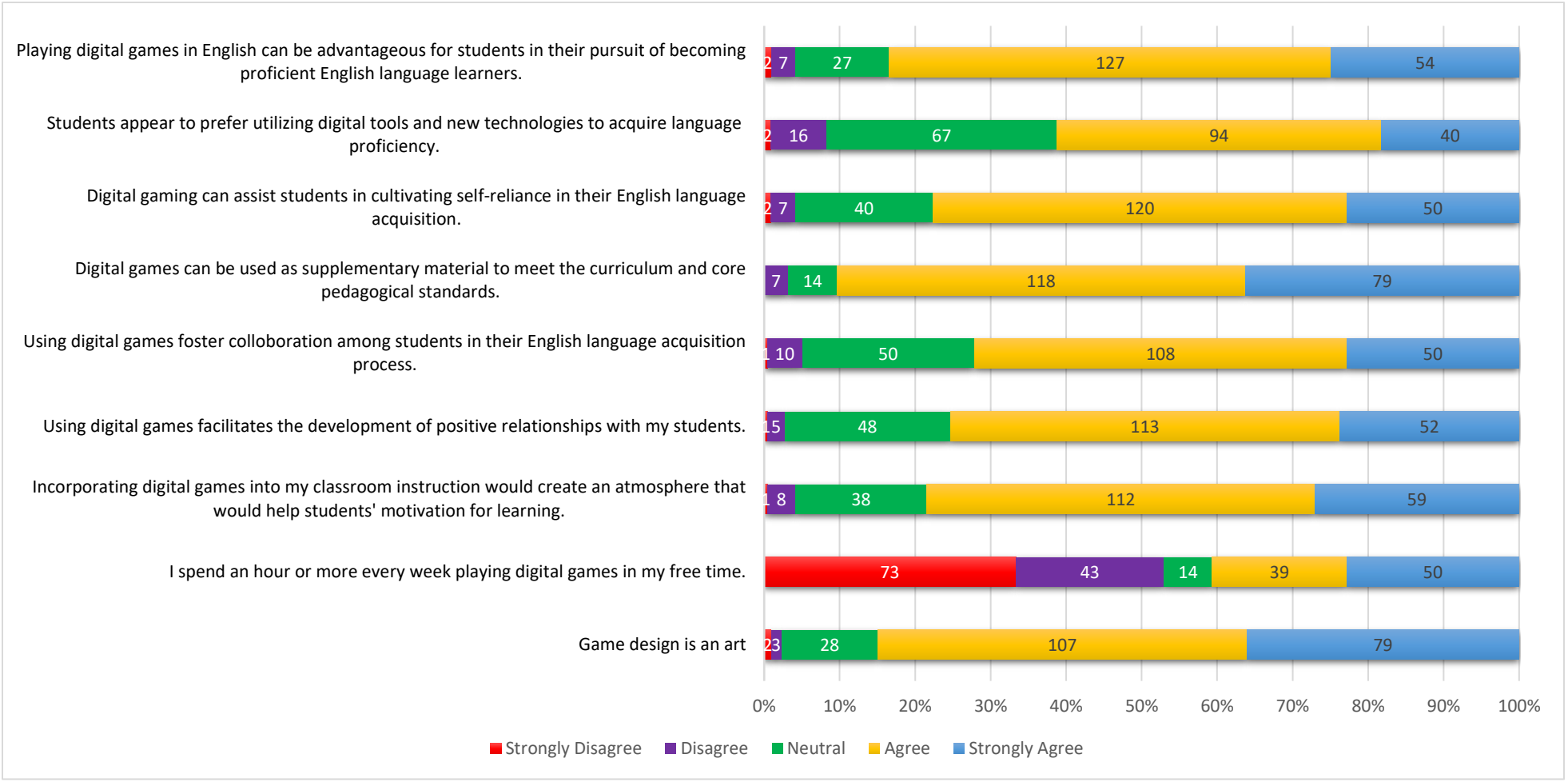
Although positive attitudes towards DGBLL were prevalent, respondents also stressed the need for careful consideration of the purpose, learning objectives, and learning context, as well as the quality, suitability, and age appropriateness of a game before application. Practical concerns, such as lack of time and access to resources, were also mentioned.

4.2.1 Positive Attitudes

The second research question focused on the attitudes of upper secondary EFL teachers in Norway towards DGBLL. In other words, it aimed to explore what Norwegian EFL teachers know, believe, and think about DGBLL. To explore these attitudes comprehensively, teachers were asked to indicate their level of agreement with two sets of nine statements each about games, gaming, and the use of games as tools for language learning. The first set consisted of positively worded statements that reflected positive attitudes, while the second set also had positively worded statements that either expressed negative attitudes or pointed to concerns with or obstacles to DGBLL. Likert scales were used for both sets, with scores ranging from 0 to 100, where 0 represented strong disagreement, and 100 represented strong agreement. Figure 10 on the following page presents the responses to the first set of statements, which were positively worded.

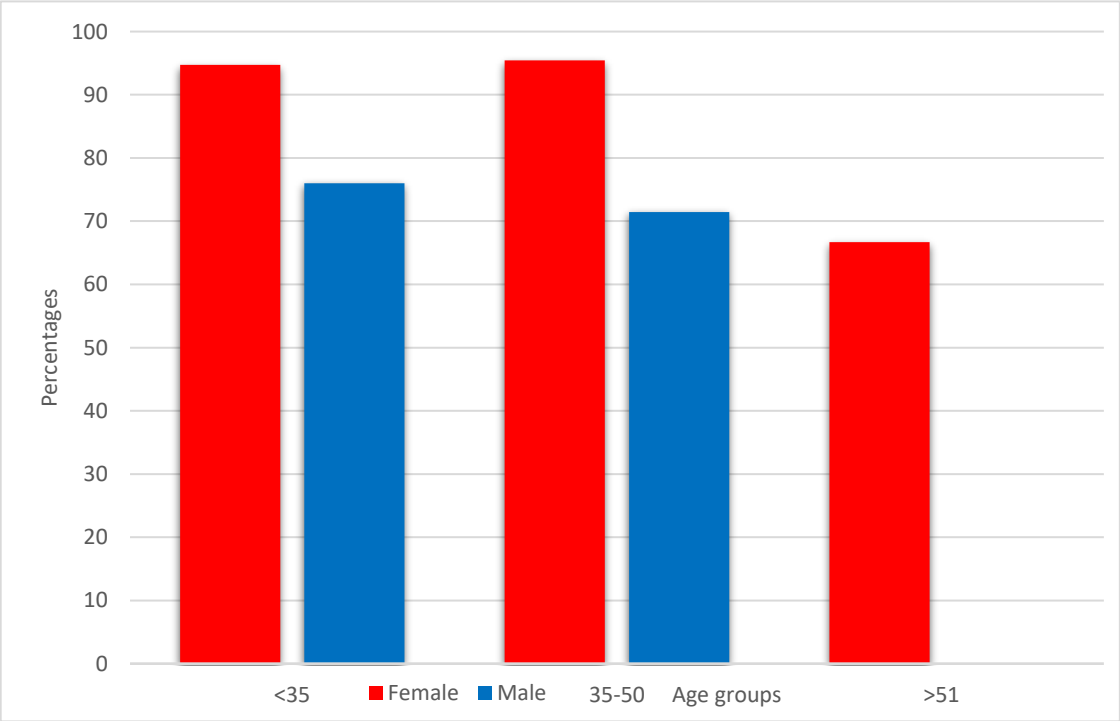
As shown in Figure 10, respondents generally agreed or strongly agreed with the statements which expressed positive attitudes to digital games, gaming, and use of games. Almost all of them (94.4%) for instance agreed or strongly agreed that digital games could be used to meet the curriculum and core pedagogical standards. However, there was one statement to which only a minority of the teachers agreed. Only 40.6%, (89 respondents) said they agree or strongly agree that they spend at least an hour of their own free time every week playing digital games.

Figure 10. *Positive Attitudes to Games, Gaming and Use of Games*



When comparing answers from teachers who said they had used games in EFL instruction with their answers to whether they played games for at least one hour a week in their free time, the results showed that most teachers who said they play for leisure had also used digital games in their EFL instruction (75 respondents). Additionally, 14 teachers reported playing themselves but not using games in their EFL instruction. The largest number of respondents (85) did not play in their free time but had nevertheless used games in their EFL instruction. Figure 11 below shows the percentage of the respondents who said that they both spend at least an hour a week playing games in their free time and had used games in EFL instruction, by age group and gender. There was one male respondent over 50 years who also reported both using digital games in class and playing digital games in his free time, but he was not included in the figure because it would distort the figure given that he alone would represent a 100%.

Figure 11. *Teachers Who Play Games in their Free Time and Use Games in EFL Instruction by Gender and Age*



To gain more insight into students' reactions and feedback to the use of digital games in the classroom, teachers were also asked two open-ended questions: "How do your students react when digital games are used in the classroom?" and "Please describe students' comments and their feedback on the use of digital games in the classroom. The answers were of varying length. Of the 218 respondents, 137 teachers responded to the first question, and 113 responded to the follow-up question. Three main categories of responses emerged to both questions. These are summarized in Tables 7 and 8 below.

Table 7. *Student Reactions to the Use of Digital Games*

Categories	**Entirely Positive**	**Positive and Negative**	**Entirely Negative**
Examples	They react very positively. Oh, the joy. Usually, they like it a lot. Very positive (of course).	Varies by group and game. Some are excited, others are negative. Differently, there is no one reaction. Some like it, others hate it.	Unfortunately, they thought it was boring. I think they expected games including more action.
Responses	102 / 74.4%	33 / 24%	1 / 0.7%

Table 8. *Student Feedback on the Use of Digital Games*

Categories	**Entirely Positive**	**Positive and Negative**	**Entirely Negative**
Examples	"I like this way of learning" "Can we have more projects like this?" "This was fun!" "Can we do this again?" They clearly become engaged.	Can we play more next lesson? Do I have to? This was interesting. It's boring. Everything from "How do you manage to make even games boring?" to "Yes! Gaming during class!"	Many think games in school are boring because they are supposed to teach them something, haha.
Responses	83 / 73.4%	21 / 18.5%	1 / 0.8%

As seen in Tables 7 and 8, both student reactions to the use of games and feedback after the use of games in the classroom were mostly positive. Also numerous were the responses that said that not all students like games. Whether or not the students were positive was reported as contingent on the type of game by 16 of the respondents. Examples of this include: “Some games are boring, and some games are fun”, “Depends on the game, really...” and “It depends on which class I am in and which game I have chosen.” Seven responders reported gender differences noting that “more boys than girls have shown an interest”, “Possibly slightly more positive, if they are boys”, “typically boys, enjoy it a lot” and “Some girls react negatively”. A few teachers also reported that some students expressed doubt as to the educational value of playing games in the classroom: “some students fail to see educational relevance”, and “Some question the efficacy of the method, which gives us the opportunity to develop consciousness around language learning”.

When summing up the responses to the first set of nine statements about games, gaming, and the use of games as tools for language learning, findings indicated that the responding teachers generally agreed or strongly agreed with all the statements, which expressed positive attitudes to games, gaming, and use of games. The one exception concerned teachers’ use of games for leisure. Responses further indicated that most teachers who play games for at least an hour weekly had also used digital games in their instruction. Additionally, student reactions to the use of games and feedback after the use of games in the classroom were reported as mostly positive.

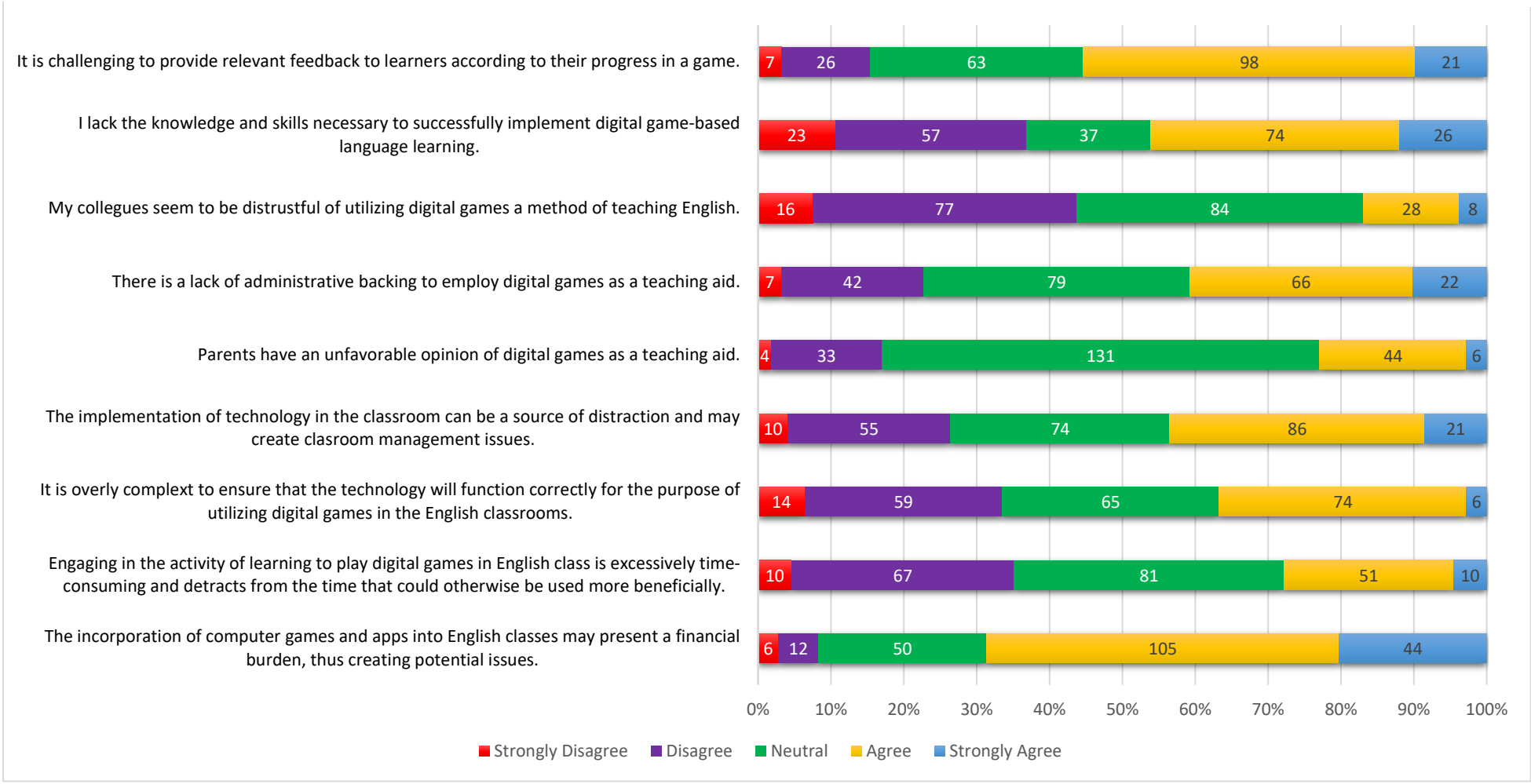
4.2.2 Negative Attitudes and Obstacles to DGBLL Implementation

As for the second set of statements, where agreement would indicate either negative attitudes to DGBLL or point to concerns with or obstacles to DGBLL, the results revealed that many teachers do have some concerns regarding the use of DGBLL and/or think certain obstacles to its implementation exist. The results are summarized in Figure 12.

As shown in Figure 12, the majority of teachers expressed concern about the cost of games and apps. Many respondents also agreed that providing feedback might prove difficult as

well as that games might cause a distraction and create classroom management issues. Notably, a total of 63.1% of the responding teachers indicated that they “lack the knowledge and skills” for implementing DGBLL in their classrooms, is noteworthy. To the related question “Do you feel that your teacher training adequately prepared you for implementing digital games in your teaching practice?”, almost all the responders, (91.2%) answered negatively.

Figure 12 *Negative Attitudes or Concerns Connected to Games, Gaming and Use of Games*



Upon further examination of teachers' explanations for their negative responses, as prompted by a follow-up "why/why not?", several common themes emerged. As can be seen in Table 9, a large percentage of the teachers explained that their training had not prepared them for implementing digital games in their teaching practice because this had not been a topic or part of the curriculum during their training. Examples of this type of response include "I have not received any training whatsoever in this field", "We were taught near to nothing about using digital tools in general during our teacher education", "It was not covered", "No one mentioned games at all. I love games and would have taken note" and "I did not learn anything about digital games in my teacher training". Additionally, 51 of the responses stated that their training occurred too long ago, before the advent of digital games in education. Examples of this type of response include "I was educated in a pre-digital society", "I got my teacher education before the internet", "Did my teacher training over 20 years ago now. Video games were not such a 'thing' then and certainly were not considered appropriate for the classroom" and "There was no focus on using gaming when I studied to become a teacher 10 years ago".

Table 9. *Preparedness for Implementing Digital Games into EFL Instruction*

Explanations for feeling unprepared	**Responses**	**%**
It was not a part of the teacher-training curriculum	129	83.7
Teacher-training was received before games and gaming was a topic for education	51	33.1
Deficiencies within teacher-training institutions	14	9
Explanations for feeling prepared		
Self-taught or having learnt from colleagues/PD workshops	20	12.9
Received adequate teacher-training	6	3.8

On the other hand, a small percentage of teachers (3.8%) believed that their training had sufficiently prepared them for DGBLL implementation. Example responses include: “My teacher training included lots of examples of ways we could incorporate digital games and skills in our teaching, and because of this I feel capable to use such activities in my own teaching”, “I was trained early that games are just as relevant as other tools” and “We had specific subjects during my studies that focused on using technology and games in teaching/learning”.

Twenty teachers (12.9%) reported they had either had to learn on their own, through professional development workshops or courses and/or they credited knowledgeable colleagues for their skills in this area. One such response was: “most of what I know and use now I have had to learn on my own or from colleagues”. Other responses included “I was lucky to have a colleague that was very interested in implementing games and gaming in the classroom. This created a work environment that supported the rest of us to try and use it in our own teaching”, “it is more something that I have researched on my own accord later due to personal interest”, “I've had to seek out resources, work out the logistics, and plan lessons about this myself” and “Everything I know I have learned on my own, through some courses and seminars, other colleagues and through education taken later”.

It is also noteworthy that 9% of the teachers, expressed dissatisfaction with either the training they had received or with the teacher training institution they had received their training from. Examples here include “The level of digital competence among teachers and lecturers at Universities is generally low”, “We had a unit covering the topic, but it was somewhat outdated”, “There was only one seminar on it, and it was non-obligatory” and “the base teacher education is not sufficient”.

Lack of training was an answer-alternative to another question in the questionnaire as well. The question read “What would prevent you from utilizing Digital Games in your English classroom? As can be seen from Figure 13, four main obstacles to the use of digital games were selected by many teachers.

Figure 13. *Obstacles to Utilizing Digital Games*

Number of submissions: 211

Submissions	Count	% of submissions	
Other	28	13.3%	13.3%
Lack of supporting material (Such as Textbooks for the Digital Games)	106	50.2%	50.2%
Perceived negative effects of gaming	24	11.4%	11.4%
The curriculum	35	16.6%	16.6%
Lack of time	150	71.1%	71.1%
Lack of training	96	45.5%	45.5%
Lack of gaming experience	95	45%	45%

The main hindrance however, chosen by 71.1%, was not lack of training but lack of time. Lack of supporting material, training and/or gaming experience was an issue for around half of the respondents at 50.1%, 45.5% and 45% respectively. The three remaining alternatives, "The curriculum", "Other" and "Perceived negative effects of gaming" were only considered as obstacles by 16.6%, 13.3% and 11.4% of the respondents respectively.

Although, as can be seen in Figure 13, the lack of supporting material was an issue for 106 of the teachers, access to software resources such as games and apps was considered adequate by 59.6% and abundant by 16.5% of the teachers. This is illustrated by Figure 14. Less than a fourth of the respondents, 23.9%, felt that they had poor access to said resources.

Figure 14. *Software Availability to Students and Teachers*

Submissions	Count	submissions	
Poor	52	23.9%	23.9%
Adequate	130	59.6%	59.6%
Abundant	36	16.5%	16.5%

Reported access to hardware resources for both students and teachers is shown in Figure 15 below. Both students and teachers generally had access to laptops, projectors/smart boards, and smart phones. Most also have access to a printer/photocopier but much fewer had access to TVs or Gaming Consoles and less than 10% had access to stationary computers or computer labs. At home, 78.1% of teachers reported using smart phones, 65.8% PCs and 41.6% Gaming Consoles. A smaller number mentioned Mobile Gaming Consoles (16.4%) and Virtual Reality technology (10.5%). Almost no one reported using Augmented Reality (0.9%) or other (1.8%). 10% of the respondents said they did not use any gaming platforms in their home environment.

Figure 15. *Hardware Availability to Students and Teachers*

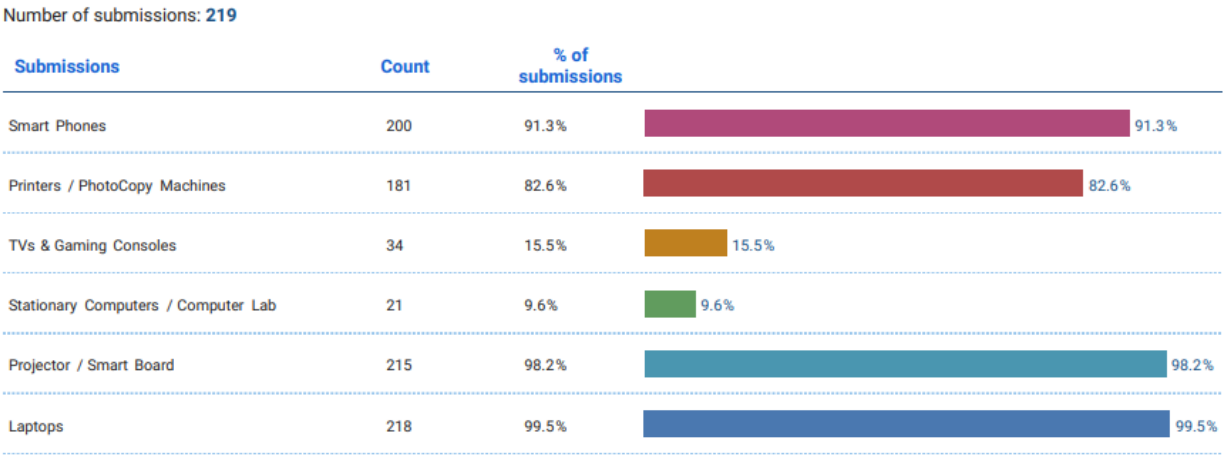


Table 10. *Colleagues' Reactions to the Use of Digital Games*

Categories	Entirely Positive	Positive and Negative	Entirely Negative
Examples	They are positive to it. If we knew more about digital games, we would probably use more of it. No one is negative, most of them positive, even though not everyone chooses to use it themselves.	Some of them are positive and use digital games in their own English classes. Others are negative and think that it is difficult and time consuming. Some teachers find it to be a waste of time others welcome it.	In general, rather negative. Sceptical They feel they do not have the time to use it, nor the training.
Responses	58 / 45.3%	46 / 35.9 %	8 / 6.2%

Because negative attitudes from peers might also influence attitudes or be seen as an obstacle to DGBLL implementation, observed reactions from colleagues to the use of digital games in class were also requested. There were 128 responses to this. After grouping similar responses, again three main categories of answers emerged. These are shown in Table 10 above.

Although the colleagues' reactions were less positive overall compared to the students', entirely negative reactions were rare. Age was mentioned as an influential factor by six of the respondents. Examples include "I find that the younger generation of teachers are more open to learn and try, while the older generation stick to what they know", "They [negative reactions] are mainly from senior educators that have little to no experience with gaming themselves", "There is a difference between the young and the older colleagues" and "Some (usually the elder) are negative because they don't know anything about how digital games work". Gender

differences were only mentioned by two respondents. One said, “Male teachers seem to like it more” and another offered “That depends on age and gender”.

In summary, the responses to the second set of statements regarding games, gaming, and the use of DGBLL, revealed that many of the responding teachers perceived that certain obstacles exist to its implementation. Notably, 63.1% of the teachers indicated that they “lacked the knowledge and skills” for implementing DGBLL in their EFL classrooms, and 91.2% responded negatively when asked if their teacher training had adequately prepared them for using digital games in their teaching practice. The main hindrances for utilizing DGBLL were reported as lack of time, supporting material, training, and gaming experience. However, access to software resources and hardware resources for both students and teachers was generally considered adequate. Additionally, colleagues were, in general, described as mostly neutral or positive to the topic of DGBLL. A few responders noted age and gender differences in this regard.

4.2.3 The Role of Digital Games in Language Education

156 responders provided their own opinions, in their own words, on what role digital games should play in language education, these are summarized in Table 11.

At one end of the spectrum, 32 responders, or 20.5%, expressed the opinion that digital games should only play a very small or no real role in language education. These responders expressed the opinion that digital games should either not be used or be used only occasionally, mostly to motivate, reward and/or draw student interest. Digital games should not be relied upon for teaching or learning English. Example responses include “I see little value in educational games in secondary schools”, “I leave it to individual students to pursue or not the playing of digital games in their free time”, “I think the role should be minimized, students already game a lot outside of school and while they enjoy gaming, they also must learn other ways of approaching the world to prepare them for further studies and life in general. Not everything has to be a game” and “It should get some focus, but not much. I wouldn't spend too much time on it since there are many other topics to cover and other ways to learn English”. Other, more positive

example responses within this category were: “It should be used to boost students' motivation to learn English”, “I often use digital games as a "dessert" at the end of a lesson” and “Occasionally having some games can be motivational and fun for the students”.

The middle category, by far the largest group of responders, expressed the opinion that digital games should play a supporting role in language education. More than half of the teachers, at 56.4%, said digital games should be used, but that they should be regarded as only one of many available tools or resources for language exposure and learning. The words “supplement” and “supplementary” were mentioned 39 times by these responders.

Table 11. *The Role of Digital Games in Language Education in Norway*

Categories	**Small Role**	**Supporting Role**	**Main Role**
Description	Digital games should be used sparingly, for purposes other than explicit language learning such as to increase motivation, interest, and fun.	Digital games should be used in moderation and be considered as supplementary tools or resources for language exposure, learning and skills building.	Digital games should be regarded and used as multimodal texts integral to language learning.
Responses	32 / 20.5%	88 / 56.4%	24 / 15.3%

Within this middle category, responses ranged from very cautious to enthusiastic. Example responses include “just a supplement to be used once in a while”, “should be a supplement, not the main tool” and “Should be used to teach English skills to the students and should be a (small) part of the curriculum”. Examples of the most positive responses within this category include “Digital gaming is a fun and useful supplement in the context of language education” and “I believe digital games can be implemented quite successfully as a supplement to other learning strategies in the classroom”.

In the third category responders expressed the opinion that digital games should play an important, main role in language education. Responders explained that digital games should be used as multimodal texts integral to language learning. Only 24, or 15.3% of the responses fell into this category. Examples include: “Games are a massive part of popular culture and should be viewed similarly to books and movies”, “Games should be a natural integrated part of language learning, the same way other types of texts and media are (written texts, cartoons, film/videos etc.)” and “It should be a vital part of the language education, similarly as other multimodal texts”.

In summary, 156 respondents shared their perspectives on the role digital games should play in language education. Overall, it seems that while a minority of approximately 20% of the responding EFL teachers expressed caution about using DGBLL, there is a general consensus that digital games can be beneficial in the context of EFL learning when used appropriately.

4.3 Games Teachers Play

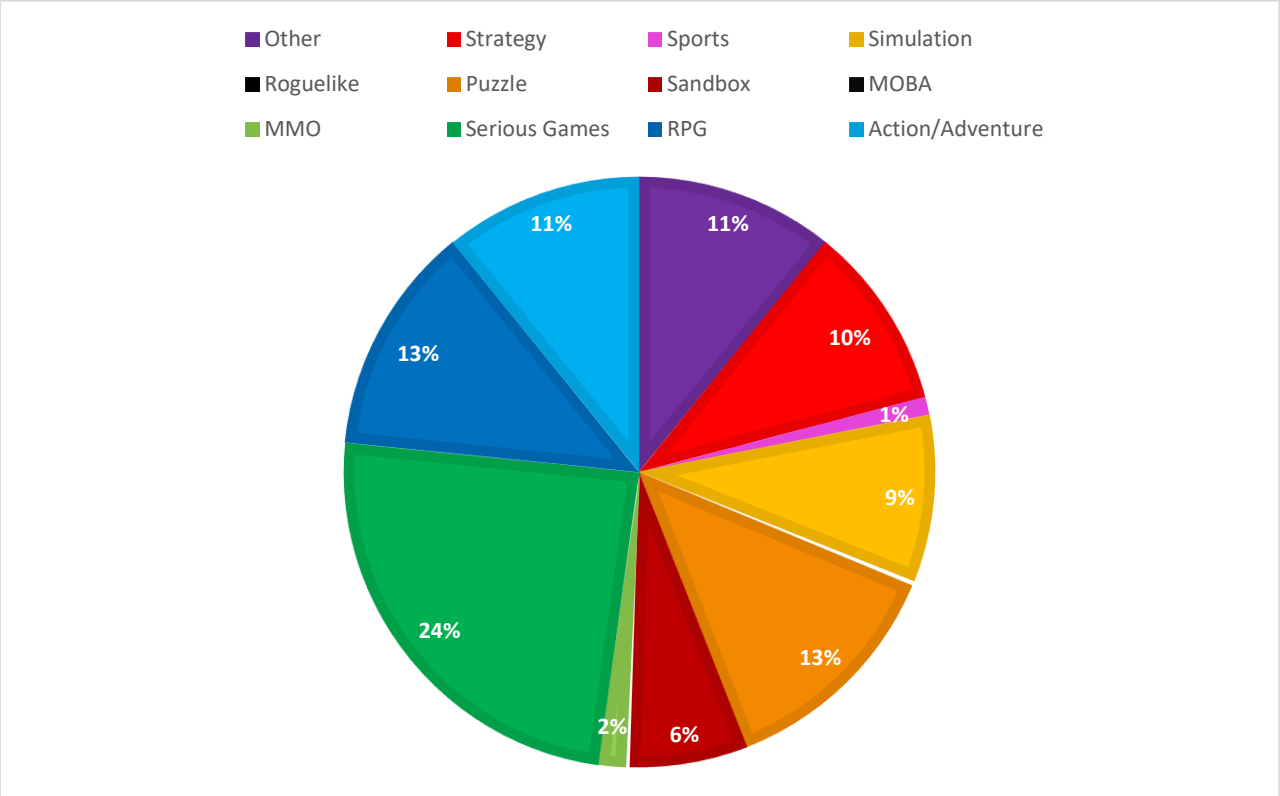
The third research question aimed to explore what digital games are used in upper secondary EFL classrooms in Norway today. Two questions were posed to collect information on this topic. The first was concerned with genres and the other asked specifically for the game titles used. Table 12 shows the submissions by 160 responders to the first question.

Table 12. *Genres of the Digital Games Used*

Genres	**Submissions**	**%**
Serious Games	99	61.9
Puzzle/Quiz Games	52	32.5
Role Playing Games (RPG)	51	31.9
Other	45	28.1
Action / Adventure Games	44	27.5
Strategy Games	41	25.6
Simulation Games	37	23.1
Sandbox Games (Minecraft)	26	16.3
Massive Multiplayer Online (MMO)	6	3.8
Sports Games	4	2.5
Massive Online Battle Arena (MOBA)	1	0.6
Roguelike Games	1	0.6

In Table 12, the game genres are arranged according to the number of submissions. The most popular game genre was Serious Games. Almost twice as many teachers had used games from this genre in their EFL instruction compared to any of the other genres. Also favored were Puzzle/Quiz Games, RPG and Other with 52, 51 and 45 submissions respectively. Strategy, Simulation and Sandbox Games had been used by 41, 37 and 26 of the respondents respectively. Only 6 of the teachers had employed MMO games and only 4 Sports games in their classrooms. One teacher reported having used MOBA and Roguelike Games. This distribution is illustrated in Figure 16 below.

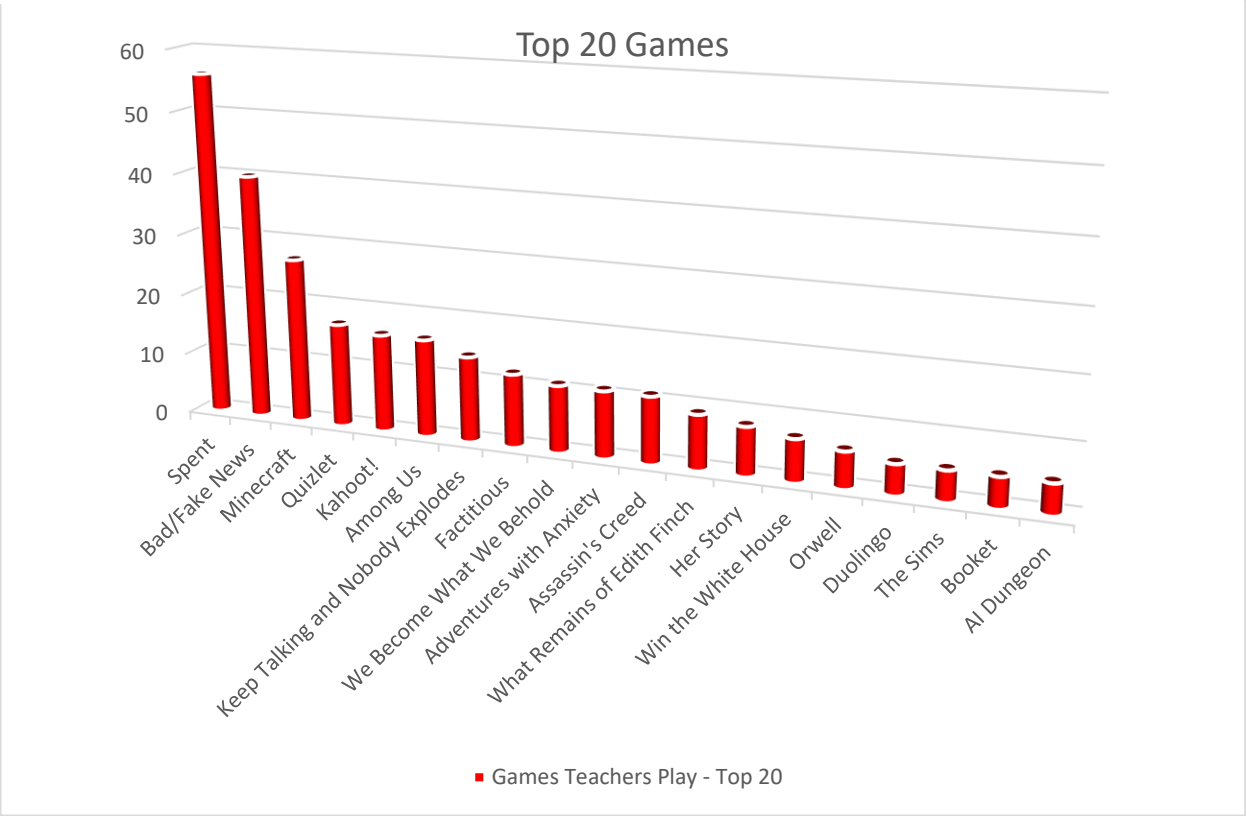
Figure 16. *Genre Popularity*



146 responders provided the titles of games they had used in their lessons. Although some teachers did not remember the game-titles, other responders provided lists containing several titles. Some supplied parts of titles or explained the content of the game(s) when the titles could not be recalled. For instance, “What Remains of Edith Finch” was also listed as “Edith Finch” and “Remains of Edith Finch”. Such references were grouped together. Also, the spelling of game titles varied. For instance, “Spent” was also referred to as “Spend” and “Bad News” and “Fake News” were used to refer to the same game. After mentions were grouped and counted, a

top 20 list of games that EFL teachers in upper secondary schools in Norway remembered having used in their EFL instruction appeared, as shown in Figure 17.

Figure 17. *Games Teachers Play*



The game that had been used by most of the teachers was Spent, which is "an online game about poverty and the challenges it brings forth for each and every person" (Spent, 2023). It had been used in class by 57 of the 146 teachers. On the other end of the spectrum was games like AI Dungeon which had been used by five of the respondents. AI Dungeon is a single and multiplayer text-based, AI-generated fantasy simulation/adventure game. Game titles mentioned by less than five teachers were not included in the top 20 list.

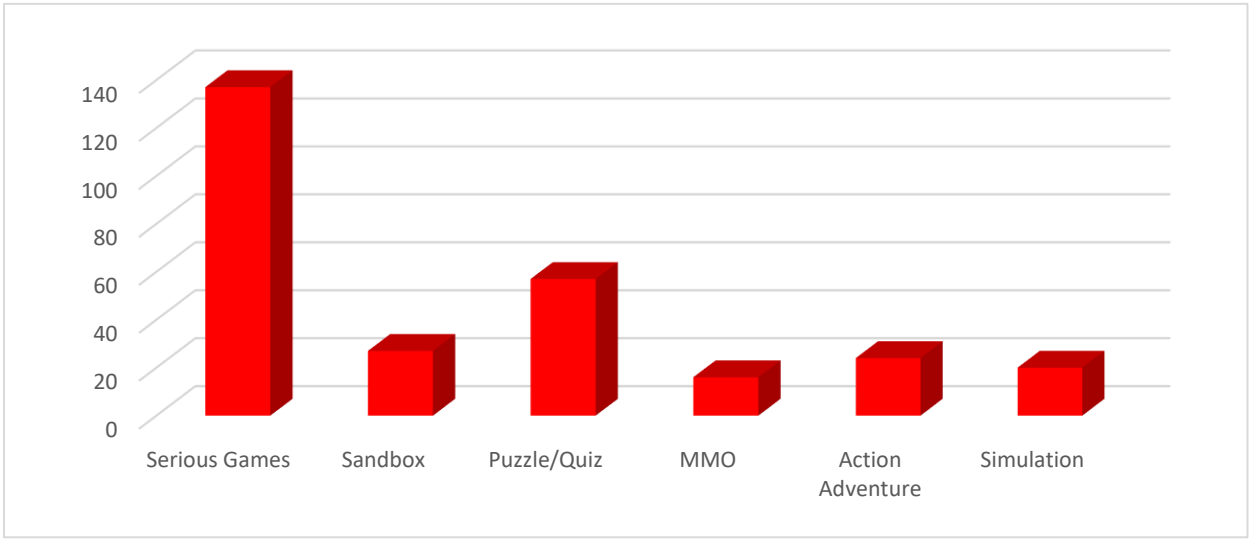
Five of the twenty most popular games, Bad News, Spent, Adventures with Anxiety, Factitious and We Become What We Behold are the five digital games listed for EFL on NDLA, a joint county enterprise offering digital learning resources specifically for upper secondary

education in Norway (NDLA, n.d.). An additional six, Kahoot!, Her Story, Keep Talking and Nobody Explodes, Assassin's Creed, Minecraft and Her Story are listed for secondary and upper secondary school on the Statsped website (Statsped, 2023), a national service for special needs education in Norway. Both websites provide links to recommended games along with supporting resources and information.

All the games on the Top 20 list are free or have versions of which can either be played for free or downloaded free of charge from various websites. Some are only free when played on certain platforms and some can be downloaded free of charge through online game platforms such as Steam. However, paid 'premium' versions of many of the games are also available. All the games on the Top 20 list except Her Story and Orwell are also browser-based games, meaning they can be played using a web-browser over the internet. Some also offer versions that necessitate download. Another similarity is that with the exception of the five puzzle/quiz games (Quizlet, Kahoot!, Duolingo and Booklet), all the games on the Top 20 list are text-based meaning that there is a lot of written (and with Keep Talking and Nobody Explodes spoken) text that must be processed by the player(s) to progress in the game.

When grouped by genre, it became clear that almost half of the most popular games the teachers had reported using were Serious Games. This is illustrated in Figure 18.

Figure 18. *Top 20 Games Teachers Play by Genre*



In summary, although only half of the teachers had been familiar with the term DGBLL prior to this research, a large majority thought digital games could be effectively utilized for teaching English, and almost 75% reported using digital games in their EFL instruction. The skills targeted through this use were mostly vocabulary, listening, speaking, and reading. Teachers who had not used digital games attributed this to a lack of time, resources, and/or teacher training. Attitudes towards DGBLL were positive overall and a large majority of the teachers believed that digital games should play a supporting role in language education and be considered a useful tool for teaching and learning. Colleagues were described as mostly supportive and interested in the topic of digital games, but age and gender differences were mentioned as potential factors. The genres of the games used by most of the teachers were Serious Games and Puzzle/Quiz Games.

5. Discussion

This chapter examines the results and findings of this study concerning Norwegian upper secondary EFL teachers' beliefs and attitudes towards DGBLL. The three research questions that guided this study are addressed sequentially and are interpreted and discussed in relation to the previously reviewed literature and research.

5.1 To what extent is DGBLL used in upper secondary EFL classrooms in Norway today?

The results of this study revealed that while only approximately half of the respondents were familiar with the term DGBLL, nearly 75%, from all regions of Norway had employed digital games in their EFL instruction. Interestingly, a higher proportion of the responding female teachers reported having used digital games compared to male teachers. Furthermore, a greater percentage of younger teachers had incorporated games into their EFL instruction compared to their older colleagues. These findings suggest that the use of digital games in upper secondary EFL classrooms is quite prevalent, with a majority of both male and female teachers of various ages and from all over Norway employing digital games in their EFL instruction.

When contextualizing within the findings of the relevant studies reviewed earlier, it appears that the use of digital games for EFL education may be on the rise. In 2017, less than half of the EFL teachers in Li's (2017) study reported using digital games. In 2018, Munkvold and Sigurdardottir (2018) found that about half of their respondents had implemented games in education and a similar percentage of Lindskog and Stavroulaki's (2019) EFL teachers "had used digital games themselves in their teaching" (p. 37). In contrast, the present study conducted in 2023 with a larger sample and more focused scope as it only included EFL teachers from upper secondary schools in the context of Norway, found that almost 75% of the respondents had utilized digital games in their EFL instruction. A potential increase in the use of digital games in Norwegian classrooms would not be surprising, given the growing interest in digital games,

DGBL and DGBLL in Norway in recent years (Medietilsynet, 2022). This trend may have been further accelerated by the Covid-19 pandemic in 2020 (Toquero et al., 2021; Utdanningsspeilet, 2022g; OECD, 2022).

Moreover, the results indicated that the reported use of games in instruction varied by age and gender. The finding that a higher proportion of younger teachers had employed games in their EFL instruction compared to older teachers aligns with the findings of Munkvold and Sigurdardottir (2018), which stated that the use of DGBL was "less common the older the respondents" (p. 6). Additionally, the findings reveal a higher proportion of female responders compared to males in this study who said they had used games in their EFL instruction. This seems to contradict Munkvold and Sigurdardottir's (2018) findings, as they did not find any "differences between men and women when it comes to […] how much they use DGBL in their teaching" (p. 6). However, it is possible that some of the respondents in the present study interpreted 'games' differently than intended. Some explanations from teachers who reported not using games in their EFL instruction suggest that this may be the case, such as "I am not that into gaming. But we do use Kahoot!, Quizlet, and similar tools" and "I have used quizzes and stuff like that but not big interactive games as you find in e-sports or on the big gaming platforms (PS, Xbox etc.)". Therefore, even though definitions of digital games and DGBLL were provided in the questionnaire, some teachers may have considered puzzle/quiz games more as 'tools' than 'games', which could have influenced their responses.

To summarize, this study explored the prevalence of DGBLL in upper secondary EFL classrooms in Norway. Results revealed that although only approximately half of the respondents were familiar with the term DGBLL, nearly three-fourths had employed digital games in their EFL instruction. Compared to prior studies, it seems that the utilization of digital games for educational purposes might be on the rise. The findings also suggested that the reported implementation of games in EFL instruction varied based on age and gender, with younger teachers being more inclined to use games than older counterparts, and female teachers being more likely to do so than male teachers. However, it should be noted that some respondents may have interpreted the term 'games' differently than intended, which could have influenced their responses.

5.2 What are the attitudes and beliefs of upper secondary EFL teachers in Norway towards DGBLL?

The main aim of this study was to explore Norwegian EFL teachers' attitudes and beliefs towards DGBLL in upper secondary schools in Norway. The results suggest that the EFL teachers who participated in the study generally hold positive attitudes towards DGBLL, with a large majority believing that digital games can be effectively used as tools for teaching EFL. This belief was primarily attributed to the capacity of digital games to enhance student interest, engagement, and motivation for learning. However, some teachers cautioned that not all students enjoy games, and that factors such as gender differences and the type of games used can influence student interest and engagement.

Most teachers in this study also deemed digital games to be effective for language learning. Nearly 95% of the respondents agreed or strongly agreed that digital games could be used to meet the Norwegian curriculum and core pedagogical standards. Most of the respondents also expressed similar confidence in the potential of digital games to enhance listening, vocabulary, speaking, and reading skills. In contrast, fewer teachers believed digital games were suitable for strengthening writing skills.

Many of these findings are consistent with previous research. For example, 78.9% of Li's (2017) participants believed that DGBL could promote English learning. Other relevant studies also confirm that most teachers are receptive to the idea of using digital games in EFL instruction and optimistic about their effectiveness (Lindskog & Stavroulaki, 2019; Munkvold & Sigurdardottir, 2018). Similarly to the current study, Li's (2017) EFL teachers emphasized the potential of digital games to increase students' interest, engagement, and motivation. They also stressed "the motivational quality of games and their potential of creating interest with the students" (Lindskog & Stavroulaki, 2019, p. 26). Additionally, Munkvold and Sigurdardottir (2018) found that "motivation and interest development" (p. 5) was the most frequently cited reason given for DGBL implementation, mentioned "by an overwhelming 83% of the respondents" (p. 8).

The belief that DGBLL is effective for language learning and particularly useful for strengthening listening, vocabulary, speaking and reading skills was also supported by previous studies. Li (2017), for instance, reported that a significant number of teachers felt digital games could be beneficial for vocabulary learning, and most believed that digital games could help improve reading and listening competence. However, as found in the present study, only a smaller proportion of Li's (2017) teachers thought students' writing skills might benefit from DGBLL. However, the teachers in this study also emphasized certain prerequisites for games to be useful for language learning. Respondents mainly underlined the importance of considering the purpose, learning objectives, the learning context, as well as the quality, suitability, and age appropriateness of the games. Such concerns have also been noted in other studies (e.g., Xu et al., 2020; Dixon et al., 2022).

The predominantly positive attitudes towards DGBLL among the teachers in this study were also evident in their responses to a set of positively worded statements about games, gaming, and the use of games. The only exception concerned teachers' use of games in their leisure time. Only a minority of respondents agreed or strongly agreed that they spent an hour or more weekly playing digital games for leisure. This finding aligns with Li's (2017) results, where only 29% of the respondents reported spending an hour or more each week playing digital games. The fact that many teachers in the present study reported not playing games in their free time is noteworthy, as other studies have found that a teacher's personal interest in games affect their willingness to use DGBLL (Munkvold & Sigurdardottir, 2018). Although many of the teachers in this study reported playing digital games and using them in their EFL instruction, 14 teachers reported playing but not using them, and the largest number of respondents (85) reported not playing games in their leisure time, but nevertheless using them in their classrooms. Findings suggest that, personal gaming interest does not seem to have been a relevant (or deciding) factor for this study's respondents when deciding whether to use digital games in their EFL instruction.

When teachers who had not used digital games in their EFL instruction were asked to explain why, they primarily cited time-constraints, budgetary issues, and lack of knowledge. The main obstacle, indicated by 71.1% of the respondents, was lack of time. This aligns with the findings of previous studies, such as Lindskog and Stavroulaki (2019), where in-service teachers

identified the lack of time and resources as the main hindrance to using digital games. Brooks et al. (2017) also found that time management was the main obstacle to DGBLL implementation.

Another important obstacle to the implementation of DGBLL identified in this study was teachers feeling they lacked the knowledge and skills for implementing DGBLL. This was also found by Li (2017), where 71.1% of the EFL teachers lacked confidence in their knowledge and skills for successful DGBLL implementation. Munkvold and Sigurdardottir (2018) also found the lack of knowledge/skills to be an obstacle, but to a lesser degree at 11%.

There may be different explanations for the perceived lack of competence to implement DGBLL. One possible reason may be insufficient teacher training. In this study, a resounding 91.2% of EFL teachers reported that their teacher training had not adequately prepared them for implementing digital games in their teaching practice. Most respondents explained that digital games had not been a part of the teacher-training curriculum, or that their training was outdated. Others expressed dissatisfaction with their training and criticized the teacher training institutions. These findings echo those of the related studies reviewed earlier. Both Blume (2019) and Lindskog and Stavroulaki (2019) indicated that the lack of integration of digital game-based teaching into teacher training programs should be addressed. Munkvold and Sigurdardottir (2018) likewise recommend "that policy makers and educational leaders provide training […] for teachers" (p. 8).

The findings in this study also revealed a potential connection between playing games for leisure and perceived competence for implementing DGBLL, especially concerning male respondents. A larger portion of the male respondents reported playing games for leisure compared to female respondents, and fewer males felt they lacked the knowledge and skills to implement games successfully in their teaching, even though more males than females reported that their teacher training had not adequately prepared them for DGBLL implementation. Thus, it appears that more time playing games for leisure may have helped educate and strengthen some of the male EFL teachers' self-confidence for using DGBLL in their teaching. This aligns with Munkvold and Sigurdardottir's (2018) finding that a teacher's ability and confidence for using DGBL can be affected by personal interest in games given that a larger portion of the male respondents in this study reported playing games for leisure. However, the results of this study contradict those of Munkvold and Sigurdardottir (2018) who found "no significant differences

between men and women when it comes to whether or not they play games themselves" (p. 4). However, that more women reported lacking knowledge and skills to implement games was also noted by Brooks et al. (2017) which aligns with the findings of the present study.

For both genders, the findings of this study suggest that many teachers use digital games even though they also report having received inadequate training. This is potentially concerning, as suboptimal teacher guidance and support might possibly lead to learning opportunities being lost. Other studies have also found that many teachers "do not have enough information and knowledge about games and gamification tools to be used in teaching" (Brooks et al., 2017, p. 8). However, some teachers (12.9%) in this study reported learning about DGBLL on their own or from colleagues. A few also mentioned in-service training or workshops. This may also help explain why only 63.1% of the teachers felt they lacked skills and knowledge when more than 90% of them reported having received inadequate training. However, teachers educating themselves on DGBLL could also be seen as problematic, since lack of time was reported as the main obstacle to implementing digital games in their teaching.

When asked what role DGBLL should play in upper secondary EFL education in Norway, more than half of the responders expressed the belief that digital games should be considered a useful supplement, as one of many available tools or resources for language exposure and learning. A much smaller portion of the respondents thought digital games should play a main, integral role in language education or, contrastingly, not be used at all. These findings align with those of Lindskog and Stavroulaki (2019) who noted that most of their interviewees agreed that the role of digital tools should be to support the main content of the lesson and only be used when appropriate.

Overall, the upper secondary EFL teachers in this study expressed mostly positive attitudes towards DGBLL but also pointed out some obstacles to DGBLL integration, mainly lack of time, lack of knowledge and skills, and lack of teacher training. Concerns related to the appropriate use of DGBLL were also numerous, and a majority of the participants believed DGBLL should play a supplemental role in education in Norway.

5.3 What are the digital games used in upper secondary EFL classrooms in Norway?

The findings of this study indicate that the upper secondary EFL teachers who participated in the study had mainly utilized Serious Games in their EFL instruction. Many teachers had also employed Puzzle/Quiz and RPG games. For the full list of genres used, see Table 12. The individual game that had been utilized by most of the respondents was Spent (Spent, 2023), a Serious Game about poverty, followed by Fake News, Minecraft, Quizlet and Kahoot! For the full list of the twenty most popular game titles used in instruction by the EFL teachers in this study, see Figure 17.

Munkvold and Sigurdardottir (2018) also found Serious Games and Puzzle/Quiz games (referred to in their study as Educational games and Gamification Tools, respectively) to be the two most frequently utilized genres. However, whereas this study found that almost twice as many respondents had used Serious Games compared to games from any of the other genres (see Figure 18), Munkvold and Sigurdardottir's (2018) findings revealed that almost the same number of teachers had used Serious Games and Puzzle/Quiz games and highlighted that Kahoot! was "by far the most frequently chosen game" (p. 4). Kahoot! was popular among the present study's respondents as well, but more mentioned Quizlet, another Puzzle/Quiz game also frequently chosen by Munkvold and Sigurdardottir's (2018) respondents. The differences between the findings may be explained by their study not exclusively targeting EFL teachers and not being limited to upper secondary schools. While Quiz/Puzzle games can be adapted for use with a variety of subjects, interests, ages, and skills, the Serious Games used by many of the EFL teachers in the present study are better suited for a more limited audience, such as in this case upper secondary EFL students. It is worth noting that five of the most frequently utilized Serious Games in this study were recommended for use with upper secondary EFL students by the NDLA.

The game that had been employed by most of the teachers in this study was Spent, a game about poverty. Interestingly, eleven of the twenty most popular games used by the teachers in this study can be found either on the NDLA or on the Statsped (Statsped, 2023) websites. The five games for upper secondary EFL education recommended by the NDLA were all Serious

Games, whereas Statsped lists games for secondary education from various genres, including the Puzzle/Quiz and Sandbox games used by many participants in this study, such as Kahoot! and Minecraft. Teachers may have chosen games recommended by these websites for several reasons, for instance, they may be considered more trustworthy and suitable for the Norwegian context compared to other websites due to the websites' affiliation with national authorities. Additionally, since supporting materials for lesson planning are often offered along with information about the games, sometimes including links to the Norwegian curriculum and corresponding LK20 competency aims, the use of games featured on these websites may have helped alleviate the reported obstacles to DGBLL implementation, such as lack of time, knowledge, and skills. Another factor that may have promoted the use of these games include them being mostly free, as budget issues were mentioned as an obstacle by many teachers in this study. Additionally, that most of the games were online browser-based, i.e., not necessitating downloads or installation and therefore both time-efficient for use and not requiring any technical expertise on the part of the teacher, might also have appealed to the participants of this study.

In summary, EFL teachers in this study reported using a variety of digital games in instruction, mostly Serious Games but also Puzzle/Quiz, RPG, and games from other genres. The most popular games were Spent, Fake News, Minecraft, Quizlet and Kahoot!. The need for careful consideration of the suitability of games as well as the need for overcoming obstacles to DGBLL such as lack of time, knowledge, skills, and supporting resources were highlighted by many teachers in this study. The games that teachers reported using in their EFL instruction reflect these beliefs and concerns, as they were suitable for upper secondary students and EFL, mostly free to use, and mostly did not require technical expertise. Furthermore, the availability of supporting resources on well-known Norwegian state-affiliated websites may have helped teachers surmount some of the reported obstacles to DGBLL implementation.

6. Conclusions

This thesis investigated Norwegian upper secondary EFL teachers' cognitions about DGBLL, guided by three research questions. The findings revealed that approximately 75% of the teachers in this study had used digital games in EFL instruction, primarily Serious Games, and that while there was generally a positive attitude towards DGBLL among the upper secondary EFL teachers in the context of Norway, prevalent obstacles such as lack of time, knowledge and skills for implementing DGBLL must be addressed.

6.1 Practical Implications

The overarching aim of this study was to provide empirical data regarding the attitudes and beliefs of upper secondary school EFL teachers in Norway towards DGBLL. In doing so, this research contributed to a better understanding of teacher cognitions in relation to the current use of DGBLL in Norwegian upper secondary EFL classrooms. Moreover, a comprehensive understanding of the games and game genres used in Norwegian upper secondary EFL classrooms has been achieved.

The teachers in this study demonstrated mainly positive attitudes and willingness to use DGBLL in their EFL instruction in spite of obstacles such as lack of time, knowledge and skills, and inadequate or outdated teacher training. These findings suggest that in-service training on DGBLL in upper secondary schools in Norway may be both welcome and beneficial. Furthermore, authorities might be advised to continue supporting and perhaps potentially strengthen agencies and services such as NDLA and Statsped, which may help support teachers who wish to educate themselves and/or use DGBLL in their EFL instruction. Finally, teacher-training institutions might be encouraged to assign a greater importance to DGBLL in their curricula.

The potential contribution of this study may ultimately benefit present and future EFL teachers in Norway who wish to implement DGBLL in their practice and help inform the choices they make in that regard.

6.2 Limitations

This study has some limitations. One is that although the data for this study were collected from a relatively large number of respondents, higher than some other research done in this area, including the relevant research reviewed earlier (See 2.6), it was not significantly high and since the time constraints of this study discouraged the use of inferential statistics, only descriptive statistics were employed. Consequently, general inferences beyond the sample (Dörnyei & Taguchi, 2009) could not be made. Another limitation is that because the topic of the present study was to investigate teachers' attitudes towards and use of DGBLL and because the data was collected anonymously via an online questionnaire with voluntary participation, it is possible that many of the teachers who chose to participate were those with positive attitudes towards DGBLL or who were interested in digital games and DGBLL. Teachers with negative attitudes towards DGBLL, digital games, or technology use in general may have declined to participate. It is therefore not possible to claim that the participant pool for this study is truly representative of all upper-secondary EFL teachers in Norway. Yet another limitation concerns the methodology of the study. Although a definition of the term digital game was provided in the questionnaire, there is a chance that some teachers interpreted some of the questions differently, according to their own definitions of what constitutes a digital game, and this may have affected the responses (See 5.1). Thus, the study might have benefitted from an additional question in the questionnaire on teachers' perceptions of the term digital game itself.

6.3 Recommendations for Future Research

Based on the results of this study, some recommendations for future studies can be made. First, it is important to note that although this study found that the teachers' attitudes to DGBLL were mostly positive, many obstacles to its implementation were revealed, and more research on this

topic is warranted to find solutions to alleviate difficulties or help teachers overcome the challenges that were found. Additionally, research into the specific supporting resources available for upper secondary school EFL teachers who wish to use DGBLL in their EFL instruction would be interesting and useful. While this study speculated that websites such as NDLA and Statsped may have been helpful to some teachers, other resources, and services, such as YouTube channels, gaming blogs, textbooks, and social media, are also available. Thus, investigating the influence of the availability and use of different resources on DGBLL implementation in upper secondary schools in Norway would be valuable. Also, future research could explore the effectiveness of specific games in promoting language learning and student engagement, as well as investigating the best practices for integrating digital games into the curriculum. Furthermore, examining the role of teacher training in preparing educators to effectively implement DGBLL and developing resources to support teachers in their efforts to integrate digital games in their classrooms would be valuable. Finally, further studies on digital games and EFL to gain knowledge about how teachers interpret key concepts within this field might be interesting.

In conclusion, this study has contributed to a better understanding of Norwegian upper secondary EFL teachers' cognitions about DGBLL. Despite the abovementioned limitations, the findings offer valuable insights into attitudes, beliefs, and current practices of these teachers in relation to DGBLL. By addressing the identified obstacles and providing adequate support, it may be possible to further enhance the use of DGBLL in Norwegian upper secondary EFL classrooms, ultimately benefiting both teachers and students.

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Appendices

Appendix A, Information Letter:

Please help by participating in this research project!

"Games Teachers Play: An analysis of upper secondary EFL teachers' behaviours and beliefs regarding digital game-based language learning (DGBLL) in Norway"

What is the purpose of the project?
The data collected will be used as a basis for a master's Thesis. The main aim of the thesis is to examine the current situation regarding the use of DGBLL in EFL upper secondary classrooms in Norway. A secondary aim is to investigate teachers' attitudes and beliefs regarding the use of DGBLL tools in their EFL lessons and see whether there is a relationship between teachers' attitudes and beliefs and the extent to which they currently use (in quantity and quality) DGBLL tools in their classrooms.

Who is responsible for the research project?
The University of Stavanger.

Why are you being asked to participate?
Your participation is requested because you are a secondary school English Teacher.

What would participating mean for you?
Participants will remain anonymous. However, information on your age and gender, geographical location, educational background, experience with and attitude towards digital games and access to resources would be collected through a detailed online questionnaire. It will take approximately 15 minutes to complete the questionnaire.

Participation is voluntary
Participation in the project is completely voluntary. If you chose to participate, you can withdraw your consent at any time without giving a reason. There will be no negative consequences for you if you should choose not to participate or later decide to withdraw.

Your personal privacy – how we will store and use your personal data
We will only use your personal data for the purpose(s) specified in this information letter. We will process your personal data confidentially and in accordance with data protection legislation (the General Data Protection Regulation and Personal Data Act). It is only my supervisor and I who will have access to the data. Neither names nor contact details will be gathered so the information on individual participants will be virtually indiscernible. The data will furthermore be coded, and the respective codes will be stored separately. In addition, all collected data will be stored on an encrypted research server.

What will happen to your personal data at the end of the research project?
The project is scheduled to end May 2023 and all the data will then be destroyed.

Your rights
If you can be identified in the collected data, you have the right to: access the personal data that is being processed about you - request that your personal data is deleted - request that incorrect personal data about you is corrected/rectified - receive a copy of your personal data (data

portability), and - send a complaint to the Data Protection Officer or The Norwegian Data Protection Authority regarding the processing of your personal data.

How will we process your personal data?
We will process your personal data based on your consent. Also, based on an agreement with the University of Stavanger, Data Protection Services has assessed that the processing of personal data in this project is in accordance with data protection legislation.

Where can I find out more?
If you have questions about the project, or want to exercise your rights, contact:

- University of Stavanger via Kagan Daniel Tirasin. (kd.tirasin@stud.uis.no) +4740674651
- Supervisor Alicia Luque, Ph.D. (aluque@nebrija.es)
- Our Data Protection Officer: Rolf Jegervatn (personvernombud@uis.no)
- Data Protection Services, by email: (personverntjenester@sikt.no) or by telephone: +47 53 21 15 00.

Yours sincerely,

Project Leader	Student
Alicia Luque, PhD.	Kagan Daniel Tirasin

Appendix B. Questionnaire

You are invited to participate in a research study!

Dear future colleague!

This is an invitation for you, a teacher of English at an upper secondary school in Norway, to participate in a master's research project about Digital Games in English language education. Please take a moment to read the form and consider helping me out by participating in this study. Thank you in advance!

"Games Teachers Play: An analysis of upper secondary EFL teachers' behaviors and beliefs regarding digital game-based language learning in Norway"

This research study seeks to analyze the current use of Digital Game-based learning in Norwegian upper secondary EFL classrooms. It will assess teachers' attitudes and opinions about using DGBLL.

Why are you being asked to participate?

Your participation is requested because you are a secondary school English Teacher. Participating in this study requires completing a survey, which should take approximately 8-15 minutes. This questionnaire seeks to gain insights into your experiences as an English teacher in Norway, such as your views on digital games in the English classroom, and if you have implemented them, what, how, and why you have used them.

Your personal privacy – how we will store and use your personal data

We will only use your personal data for the purpose(s) specified in this information letter. We will process your personal data confidentially and in accordance with data protection legislation (the General Data Protection Regulation and Personal Data Act). It is only I, who will have access to the data. Neither names nor contact details will be gathered so the information on individual participants will be virtually indiscernible. The data will furthermore be coded, and the respective codes will be stored separately. In addition, all collected data will be stored on an encrypted research server.

1. Voluntary Participation: Your participation in this study is completely voluntary. There is no penalty for not participating.

2. Right to withdraw from the study: You have the right to withdraw from the study at any time without penalty.

3. What would participating mean for you? Information on your age and gender, geographical location, educational background, experience with and attitude towards digital games, and access to resources would be collected.

4. What will happen to your personal data at the end of the research project? The project is scheduled to end in May 2023. Termination of all collected data follows.

Who is responsible for this project?

Kagan Daniel Tirasin, an MA student at The University of Stavanger is responsible for this project.

Email: kd.tirasin@stud.uis.no Phone: +4740674651

Where can I find out more?

If you have questions about the project

University of Stavanger via Kagan Daniel Tirasin. (kd.tirasin@stud.uis.no) +4740674651

Yours sincerely,

Kagan Daniel Tirasin

Please indicate your consent by checking the box below.

☐ Yes, I consent to participate in the study.

Appendix B. Questionnaire

Page 2

1.How old are you?

Verdi

2.What is your Gender?

- Male
- Female
- Prefer not to say

3.How long have you been employed as an English Teacher?

Verdi

4.From which academic institution did you receive your qualifications to teach English?

5.Where in Norway are you presently employed?

- Northern Norway / Nord-Norge
- Trøndelag
- Western Norway / Vestlandet
- Southern Norway / Sørlandet/Agder
- Eastern Norway / Østlandet

6.Which Grades do you currently teach?

Select all that apply

- 1st Year VGS
- 2nd Year VGS
- 3rd Year VGS

7.On average, how many pupils are typically present in each class?

Verdi

8.According to your experience and perception, what are your students' general attitudes towards learning English at your school?

My students are ..... during the English lesson.

- ○ Enthusiastic
- ○ Neutral
- ○ Unwilling / Disinterested

9.What types of digital recources do you and your students have access to at school?

Please select all that apply.

- ☐ Laptops
- ☐ Projector / Smart Board
- ☐ Stationary Computers / Computer Lab
- ☐ TVs & Gaming Consoles
- ☐ Printers / PhotoCopy Machines
- ☐ Smart Phones

10.How would you describe your students' and your access to software resources including games and apps?

- ○ Abundant
- ○ Adequate
- ○ Poor

11.What are the major factors that influence your lesson design?

Please select all that apply.

- ☐ Student interests
- ☐ Your Interests
- ☐ The Curriculum
- ☐ Textbooks
- ☐ Research
- ☐ Other

12.What are the (SLA) theoretical approaches most prominent in your lesson design?

SLA: Second Language Acquisition [Theories]

Please select all that apply.

- ☐ Communicative Language Teaching
- ☐ Task-based language teaching
- ☐ Content and Language Integrated Learning
- ☐ Krashen's Theory of Second Language Acquisition
- ☐ Sociocultural theory

Page break

Page 3

In this study, a "Digital Game" and "Digital Game-Based Language Learning" (DGBLL) are defined in the following way:

A digital game (also called a video game) is any game played through a computer or other electronic device.

A digital game, or video game, is a computer- or console-based form of play that involves the use of visual and auditory feedback and interactive input from a player.

Digital Game-Based Language Learning (DGBLL) is an approach to language learning that uses digital games as an educational tool to create engaging learning experiences for language learners.

13. Which of the following gaming platforms do you use in your home environment?

Please select all that apply.

- ☐ Gaming Console
- ☐ PC
- ☐ Smart Phone
- ☐ Mobile Gaming Console
- ☐ Virtual reality
- ☐ Augmented Reality
- ☐ Other
- ☐ None

14. Were you acquainted with the concept of Digital Game Based Language Learning (DGBLL) prior to your participation in this research?

- ○ Yes
- ○ No

15. Do you believe that digital games can be effectively used as a tool to for teaching English?

- ○ Yes
- ○ No
- ○ Don't Know

Why? / Why not?

Page break

Page 4

16. Using Digital Games have the potential to facilitate the improvement of these English language skills.

Please select all that you agree with.

- ☐ Reading
- ☐ Listening
- ☐ Speaking
- ☐ Writing
- ☐ Vocabulary
- ☐ None

To what extent do you agree or disagree with the following statements?

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
17.Game design is an art.	○	○	○	○	○
18.I spend an hour or more every week playing digital games in my free time.	○	○	○	○	○
19.Incorporating digital games into my classroom instruction would create an atmosphere and that would be motivating and would help students' motivation for learning.	○	○	○	○	○
20.Using digital games facilitates the development of positive relationships with my students.	○	○	○	○	○
21.Using digital games fosters collaboration among students in their English language acquisition process.	○	○	○	○	○

22.Digital games can be used as supplementary material to meet the curriculum and core pedagogical standards.	○	○	○	○	○
23.Digital gaming can assist students in cultivating self-reliance in their English language acquisition. (Learner Autonomy)	○	○	○	○	○
24.Students appear to prefer utilizing digital tools and new technologies to acquire language proficiency.	○	○	○	○	○
25.Playing digital games in English can be advantageous for students in their pursuit of becoming proficient English language learners.	○	○	○	○	○
26.The incorporation of computer games and apps into English classes may present a financial burden, thus creating potential issues.	○	○	○	○	○
27.Engaging in the activity of learning to play digital games in English class is excessively time-consuming and detracts from the time that could otherwise be used more beneficially.	○	○	○	○	○
28.It is overly complex to ensure that the technology will function correctly for the purpose of utilizing digital games in the English classrooms.	○	○	○	○	○
29.The implementation of technology in the classroom can be a source of distraction and may create classroom management issues.	○	○	○	○	○
30.Parents have an unfavorable opinion of digital games being used for educational purposes.	○	○	○	○	○
31.There is a lack of administrative backing to employ digital games as a teaching aid.	○	○	○	○	○
32.My colleagues seem to be distrustful of utilizing digital games as a method of teaching English.	○	○	○	○	○
33.I lack the knowledge and skills necessary to successfully implement digital game-based language learning.	○	○	○	○	○

34.It is challenging to provide relevant feedback to learners according to their progress in a game.	○	○	○	○	○
35.Computer games employed in English classes are only suitable for reinforcing vocabulary or grammar rules.	○	○	○	○	○
36.Digital game-based language learning can often not fulfill desired educational objectives.	○	○	○	○	○
37.Students who play English video games in their free time could become more proficient in English compared to students who do not.	○	○	○	○	○

38.Do you feel that your teacher training adequately prepared you for implementing digital games in your teaching practice?

- ○ Yes
- ○ No

Why, Why not?

39.What would prevent you from utilizing Digital Games in your English classroom?

Please select all that apply.

- ☐ Lack of gaming experience
- ☐ Lack of training
- ☐ Lack of time
- ☐ The curriculum
- ☐ Perceived negative effects of gaming
- ☐ Lack of supporting material (Such as Textbooks for the Digital Games)
- ☐ Other

40.In your opinion, what is or should be the role of digital games in the context of language education"?

41.Have you used digital games in your English instruction?

- Yes
- No

If no, Why not?

If you haven't used Digital Games in your English lessons, please navigate to the end of the questionnaire to submit your answers.

Page break

Page 5

The following part of the Questionnaire is only intended for teachers that have used Digital Games in their English classrooms.

42.What type(s)/genre(s) of games have you used in English lessons?

Please select all that apply.

- ☐ Action / Adventure
- ☐ RPG (Role Playing Games)
- ☐ Educative (Serious Games)
- ☐ MMO (Massive Multiplayer Online)
- ☐ MOBA (Leauge of Legends, Dota2)
- ☐ Sandbox (Minecraft)
- ☐ Puzzle
- ☐ Roguelike
- ☐ Simulation
- ☐ Sports
- ☐ Strategy
- ☐ Other

43.What are the names/titles of the games you have used in your English lessons? (1-5)

44.When you integrate Digital Games in your lessons, which language skills do you expect this will help the students in developing?

Please select all that apply.

- ☐ Reading
- ☐ Writing
- ☐ Listening
- ☐ Speaking
- ☐ Vocabulary

45.When you integrate Digital Games in your lessons, which (SLA) theoretical approaches are most prominent in your lesson design?

Please select all that apply.

- [ ] Communicative Language Teaching
- [ ] Task-based language teaching
- [ ] Content and Language Integrated Learning
- [ ] Krashen's Theory of Second Language Acquisition
- [ ] Sociocultural theory

46.How do your students react when digital games are used in the classroom?

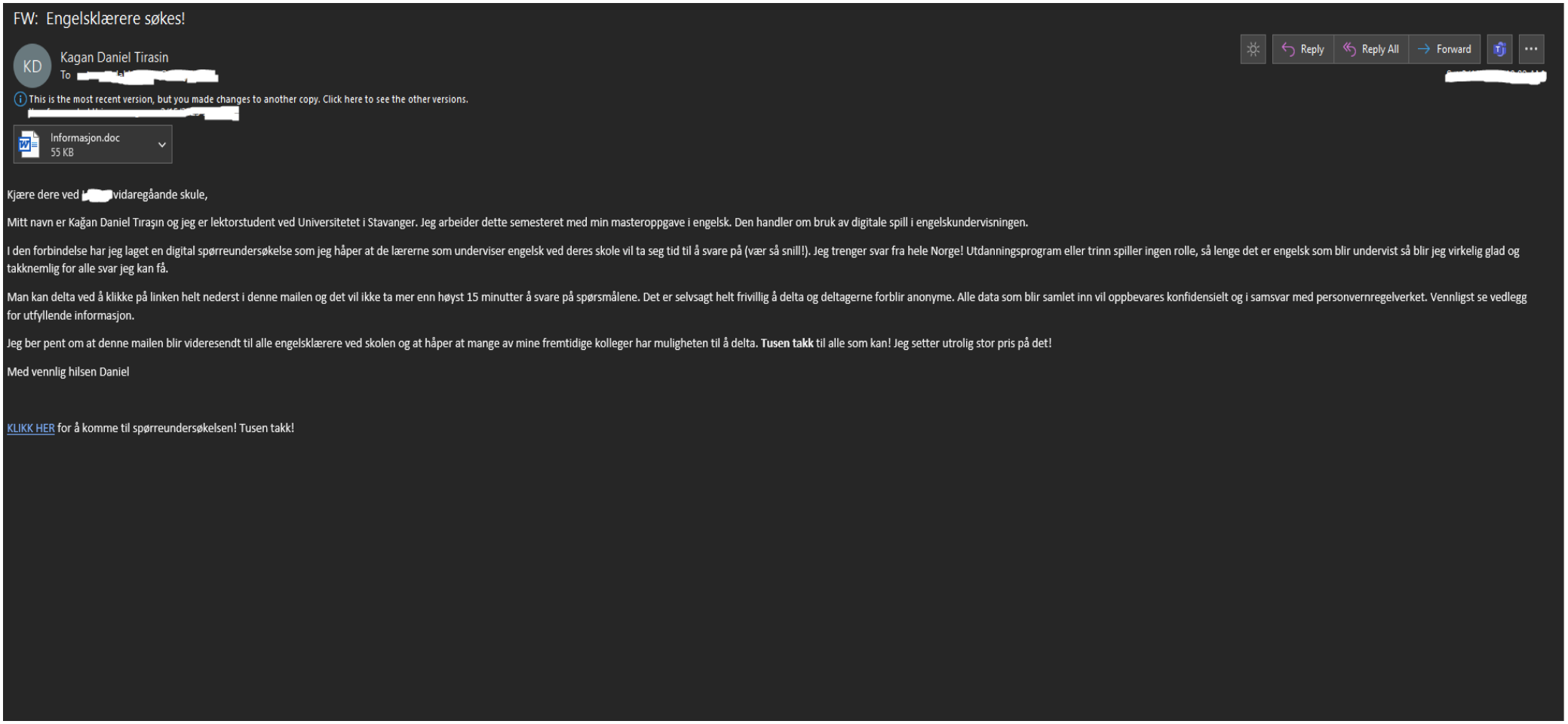
47.Please describe students' comments and their feedback on the use of digital games in the classroom.

48.How do your colleagues react to the topic of using digital games in your English classes?

Dear participant, if you wish to receive the findings of this study, please feel free to contact me at: kd.tirasin@stud.uis.no

Thank you so much for taking part in this study!

Appendix C. Norwegian Invitation Letter sent to Norwegian schools



FW: Engelsklærere søkes!

KD Kagan Daniel Tirasin
To [redacted]

Reply | Reply All | Forward

This is the most recent version, but you made changes to another copy. Click here to see the other versions.

Informasjon.doc
55 KB

Kjære dere ved [redacted]vidaregåande skule,

Mitt navn er Kağan Daniel Tıraşın og jeg er lektorstudent ved Universitetet i Stavanger. Jeg arbeider dette semesteret med min masteroppgave i engelsk. Den handler om bruk av digitale spill i engelskundervisningen.

I den forbindelse har jeg laget en digital spørreundersøkelse som jeg håper at de lærerne som underviser engelsk ved deres skole vil ta seg tid til å svare på (vær så snill!). Jeg trenger svar fra hele Norge! Utdanningsprogram eller trinn spiller ingen rolle, så lenge det er engelsk som blir undervist så blir jeg virkelig glad og takknemlig for alle svar jeg kan få.

Man kan delta ved å klikke på linken helt nederst i denne mailen og det vil ikke ta mer enn høyst 15 minutter å svare på spørsmålene. Det er selvsagt helt frivillig å delta og deltagerne forblir anonyme. Alle data som blir samlet inn vil oppbevares konfidensielt og i samsvar med personvernregelverket. Vennligst se vedlegg for utfyllende informasjon.

Jeg ber pent om at denne mailen blir videresendt til alle engelsklærere ved skolen og at håper at mange av mine fremtidige kolleger har muligheten til å delta. **Tusen takk** til alle som kan! Jeg setter utrolig stor pris på det!

Med vennlig hilsen Daniel

KLIKK HER for å komme til spørreundersøkelsen! Tusen takk!

"Games Teachers Play" PILOT STUDY

What is your Gender?

- ○ Male
- ○ Female
- ○ Other

How long have you been employed as an English Teacher?

In which educational establishment did you receive your qualifications to teach English?

In which geographic region of Norway are you presently employed?

- ○ Northern Norway / Nord-Norge
- ○ Trøndelag
- ○ Western Norway / Vestlandet
- ○ Southern Norway / Sørlandet/Agder
- ○ Eastern Norway / Østlandet

Which Grades do you currently teach?

VGS = Highschool

On average, how many pupils are typically present in each class?

What is the size of your classroom?

- ○ 1-10
- ○ 10-20
- ○ 20-35
- ○ 35+

What is your perception of your students' attitudes toward learning English?

- ○ Enthusiastic
- ○ Neutral
- ○ Unwilling / Disinterested

What types digital recources do you have access to in order to utilize at school?

- ○ Laptops
- ○ Projector / Smart Board
- ○ Stationary Computers / Computer Lab
- ○ TVs & Gaming Consoles
- ○ Printers / PhotoCopy Machines

How would you assess, your students' and your access to resources such as software, games, and apps?

- ○ Abundant
- ○ Adequate
- ○ Poor

As a Teacher, what are the major factors that influence your lesson design?

- [ ] Student interests
- [ ] Your Interests
- [ ] The Curriculum
- [ ] Textbooks
- [ ] Research
- [ ] Other

What theoretical approaches do you typically use in your instruction and lesson preparation?

- [ ] Task Based Teaching
- [ ] Content Based Teaching
- [ ] Communicative and Sociocommunicative Approaches
- [ ] Game Based Teaching
- [ ] Top down / Down- top Teaching
- [ ] Other

What is a Digital Game?

A digital game, or video game, is a computer- or console-based form of play that usually involves the use of visual feedback and interactive input from a player. Digital games often involve story elements as well as puzzles and challenges to complete tasks within a virtual world. Examples include first-person shooter games, role-playing games, and MMOs (massively multiplayer online games).

What is Digital Game-Based Language Learning (DGBLL)?

Digital Game-Based Language Learning (DGBLL) is an approach to language learning that utilizes digital games as an educational tool. It uses gameplay elements such as levels, missions, rewards, and characters to create engaging learning experiences for language learners. DGBLL also incorporates elements of gamification by adding objectives and achievements that allow players to progress through the game and track their progress.

To what extent do you agree or disagree with the following statements?

Game design is an art and a game an artistic expression of its creators.

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

I enjoy playing digital games in my free time

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

I spend an hour or more every week playing digital games in my free time

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

Which of the following gaming platforms do you use in your home environment?

- ☐ Gaming Console
- ☐ PC
- ☐ Mobile Phone
- ☐ Mobile Gaming Console
- ☐ Virtual reality
- ☐ Augmented Reality
- ☐ Other
- ☐ None

Were you acquainted with the concept of Digital Game Based Language Learning (DGBLL) prior to your participation in this research?

- ○ Yes
- ○ No

Do you believe that digital games can be effectively used as a tool to facilitate language teaching and learning?

- ○ Yes
- ○ No
- ○ Don't Know

Why? / Why not?

To what extent do you agree or disagree with the following statements?

It possible for computer games to act as a tool in teaching students authentic English language.

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

Digital games have the potential to facilitate the acquisition of English language skills.

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

Incorporating computer games into my classroom instruction would create a motivating atmosphere for my students.

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

The incorporation of computer games into the educational process could lead students to believe that learning should be enjoyable.

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

Utilizing digital games can facilitate the development of positive relationships with my students.

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

Utilizing digital games can foster collaboration among students in their English language acquisition process.

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

Digital games can be used as supplementary material to meet the curriculum and core pedagogical standards.

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

Digital gaming can assist students in cultivating self-reliance in their English language acquisition. (Learner Autonomy)

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

Students can improve their listening competency through the use of English digital games.

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

Students can enhance their reading ability by partaking in English digital games.

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

Digital games could improve students' writing abilities.

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree

Students can enhance their vocabulary by engaging in English digital games.

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

Students have an inclination toward utilizing digital tools and new technologies to acquire language proficiency.

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

Playing digital games in English can be advantageous for students in their pursuit of becoming proficient English language learners.

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

The incorporation of computer games and apps into English classes may present a financial burden, thus creating potential issues.

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

Engaging in the activity of learning to play digital games in English class is excessively time-consuming and detracts from the time that could otherwise be used more beneficially.

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

It is overly complex to ensure that the technology will function correctly for the purpose of utilizing digital games in the English classrooms.

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

The implementation of technology in the classroom can be a source of distraction and may create classroom management issues.

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

Parents have an unfavorable opinion of digital games being used for educational purposes.

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

There is a lack of administrative backing to employ digital games as a teaching aid.

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

My colleagues seem to be distrustful of utilizing digital games as a method of teaching English.

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

I lack the knowledge and skills necessary to successfully implement digital game-based language learning.

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

It is extremely challenging to provide relevant feedback to learners according to their progress in a game.

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

Computer games employed in English classes are only suitable for reinforcing vocabulary or grammar rules.

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

Digital game-based language learning can often not fulfill desired educational objectives.

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

Have you read any literature regarding Digital Game-Based Language Learning?

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

Do you feel that your teacher training adequately prepared you for implementing digital games in your teaching practice?

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

The student who plays video games in comparison to the student who does not could have an advantage over the other's capacity in English. Gaming as a form of recreation can provide insight into that student's general aptitude in the language.

- ○ Strongly Agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly Disagree

What would prevent you from utilizing DGBLL in your English classroom?

- ☐ Lack of gaming experience
- ☐ Lack of training
- ☐ Lack of time and recources
- ☐ The curriculum
- ☐ The Negative Effects of Gaming
- ☐ Lack of supporting material (Such as Textbooks for the Digital Games)
- ☐ Other

In your opinion, what is or should be the role of digital games in education?

Have you used digital games in your English Classroom?

- ○ Yes
- ○ No

If you've answered yes to the last question, please answer the following page of questions. Thank you!

If you've answered no, please ignore the next questions and proceed to send in your answers! Thank you!

What type(s)/genre(s) of games have you used in English lessons?

- [ ] Action / Adventure
- [ ] RPG (Role Playing Games)
- [ ] Educative (Serious Games)
- [ ] MMO (Large-Scale Multiplayer Online)
- [ ] MOBA (Leauge of Legends, Dota2)
- [ ] Sandbox (Minecraft)
- [ ] Puzzle
- [ ] Roguelike
- [ ] Simulation
- [ ] Sports
- [ ] Strategy
- [ ] Other

What are the names/titles of the games you have used in your English lessons?

What domains of English language proficiency do you aim to facilitate through the integration of Digital Games in your lessons?

- [ ] Reading
- [ ] Writing
- [ ] Listening
- [ ] Speaking
- [ ] Vocabulary

Have you heard anything from your students regarding the use of digital games as a part of the lesson?

- ○ Yes
- ○ No

Could you briefly elaborate on what you've heard?

Have you heard anything from your colleagues regarding the use of digital games as a part of the lesson?

- ○ Yes
- ○ No

Could you briefly elaborate on what you've heard?

To what extent can the utilization of Digital Game-Based Language Learning as a pedagogic aid be effective in improving English instruction?