

EFL Teacher Trainees' Attitudes and Experiences Considering the Use of Digital Learning Games

A Survey-based Study

Aliisa Rantanen

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Faculty of Humanities

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Author: Aliisa Rantanen

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This Master's thesis examined the attitudes and experiences that English as a Foreign Language (EFL) teacher trainees in Finland had about the use of digital learning games in L2 teaching and learning. ICT is nowadays largely utilized in school environments and the newest National Core Curriculum highlights its use as well. Game-based learning and gamification are popular trends in education and the creation of digital learning games that are purposefully designed for learning, is an expanding field. The aim of this thesis was to discover the respondents' 1) attitudes, 2) practical experiences, and 3) level of ICT skills considering the use of digital learning games.

The study material (N=74) consisted of a Webropol survey that was sent to all six Finnish universities that had English major and EFL teacher training programs in the fall of 2020. The survey had five sections and 39 questions. Both quantitative and qualitative methods were used in the analysis. The figures presented in the analysis were produced with the Webropol 3.0. software. Based on the thesis' research questions and the findings from the survey analysis, three main themes were discovered from the respondents' answers (attitudes, experiences, ICT skills). These themes were then further discussed in the thesis.

Based on the survey analysis, the EFL teacher trainees in Finland had highly positive attitudes towards the use of digital learning games. Over 75 percent of the respondents had also already used digital learning games when teaching English and had acquired positive experiences from their use. While the respondents' thought that they could furthermore develop their ICT skills, 95 percent of them considered the level of their current skills to already be sufficient enough to use digital learning games in education. Future studies about the topic could, for example, focus more on the attitudes and development of comprehensive school pupils.

Key words: digital learning games, ICT in L2 education.

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1 Introduction

Technology is ubiquitous nowadays. The majority of people have a smartphone, computer and/or tablet that contains numerous different applications and software and is constantly connected to the Internet. Technology is utilized both in one's free time and in the workplace, and its use is no longer restricted to specific times or places (f.e., Internet cafés or ICT classes in school). During the 21st century, technology has become a significant part of education and school environments as well. While electronic learning materials (f.e., books, audio materials, and exercises), individual student computers/tablets and SMART boards are already commonly used in schools across Finland (Francke et al. 2017, 5), modern technologies and ways to use technology in education are furthermore constantly emerging. One of the most significant trends in the field of educational technology is the increasing use and popularity of digital games, including both the more traditional games designed as a past-time activity and learning games that are particularly developed for learning (Reinhardt 2019, 225). As of today, the use of game like elements and gamification in education are encouraged even in the newest Finnish National Core Curriculum (The Finnish National Agency for Education 2014, f.e. Ch. 2.5, 4.3.).

In the beginning of the year 2020, COVID-19, an infectious disease caused by the SARS-CoV-2 virus (WHO 2022), developed into a global pandemic, and caused exceptional times all over the world (Cucinotta and Vanelli 2020, 157). Finnish schools closed in March of 2020, and teachers and students nationwide had to rely on technology. All the lessons were held via video call software or otherwise digitally when the traditional classroom-based classes were set aside (Pietiläinen 2020). In the spring of 2022, this exceptional period has continued for more than two years with varying restrictions and lockdowns all over the world. As of today, some levels of education (e.g., universities, universities of applied sciences and adult education centers) still have either full or part-time remote courses in their curricula, and/or they offer hybrid models where students can attend courses and lectures either on-site or remotely (e.g., University of Helsinki 2022). The basis of remote studies usually relies on the use of technology. Lessons are held via online meeting applications such as Zoom or Microsoft Teams, tasks are submitted to education platforms such as Moodle, and studying mostly happens online. It can therefore be argued that the COVID-19 pandemic has furthermore increased the use of technology all over the world and brought it to all levels of education.

The idea for this thesis was inspired by these exceptional global circumstances, the relevance of the topic as a current educational trend, and my personal interest in gaming and the use of game-based learning in education. Due to the status of English as an international lingua franca and the most common L2 in the world (Dörnyei and Ushioda 2021, 11), the study group of my thesis was chosen to be English teacher trainees in six Finnish universities. In my MA Thesis, I will study Finnish EFL teacher trainees' attitudes towards learning games/applications and what experiences they already have of them. This is a relevant time to study the attitudes and experiences that future English teachers have about learning games because the use of technology as a learning tool is highlighted nowadays. The National Core Curricula for Basic and General Upper Secondary education also emphasizes the importance of ICT in both overall studies as well as in individual subjects (The Finnish National Agency for Education 2014). Based on my previous research on the topic, it was discovered that learning games were highly anticipated among comprehensive school pupils but require plenty of self-learning from the teacher (Rantanen 2019, 10-12). Therefore, as a follow up to my previous study, I am now interested to examine whether EFL teacher trainees are willing to use learning games in real life after graduating, or are these technologies something that they consider time-consuming and/or difficult to learn and furthermore use? The method of my study is an online survey with both Likert scale and open-ended questions. My research questions are the following:

- 1) What are EFL teacher trainees' attitudes and experiences considering the use of digital learning games in English lessons? Are they positive/negative? What could be the reason(s) for them?
- 2) Is the amount of ICT training in teacher training programs sufficient?

In this chapter, I will shortly describe the most common and used terms in the thesis. I use the terms Second language and L2 to describe any language that is studied after the first. The terms "SLA" (Second Language Acquisition) and L2 acquisition, however, differ from one another: I use SLA to describe the field of study, and L2 acquisition to mean the concrete process of learning a language other than a learner's first language (Ellis 2015, 7 and Ortega 2009, 5). Besides these terms, the most relevant terms for my study are technology related. To define CALL (Computer Assisted Language Learning) and MALL (Mobile Assisted Language Learning), I use Levy's definition: "CALL (and MALL) is the search for and study of applications of the computer (and/or mobile device) in language teaching and learning."

(1997, 1, parentheses added by me). The term ICT refers to Information and Communication Technologies and can be defined as “technologies that provide access to information through telecommunication. ICT [...] focuses primarily on communication technologies. This includes the internet, wireless networks, cell phones and other communication mediums.” (Ratheeswari 2018, S45). This definition also applies to ICT in education. Finally, the game-related terms that I used in the thesis are gamification, game-based, and learning game. According to Reinhardt (2019, 173), “Gamification is the application of game design elements to activities not traditionally considered gameful, like learning or working.”. Game-based, on the other hand, describes the games, applications and environments that are intentionally designed for (L2) learning (Reinhardt 2019, 8, 10). Lastly, a learning game is designed for educational purposes and meant as a tool or resource for learning (Reinhardt 2019, 4). Other, less significant, terms will also appear in the thesis. Each of these terms are also given a detailed description when first presented.

This thesis contains six sections that are furthermore divided into subsections (if needed). After the introduction, I present the theoretical background of the study. The two main themes are ICT in education, and CALL/MALL. ICT is examined from the viewpoint of the newest National Core Curriculum (2014), school environments, and teacher training programs. In the section about CALL/MALL, I also discuss digital learning games, and the aspects of using them. Then in section 3, I present the data and methods used in the study. Since the study was conducted via an online survey, I discuss the platform, question types, and methods of analysis in this section. In section 4, I analyze all the five parts of the survey, and describe the respondents' answers and how they are divided between different options. I also give example answers from the survey whenever necessary. I then further analyze the results of the survey in section 5 and examine whether my research questions (see above) can be answered from its data. Based on my research questions and the survey answers, I examine the data from three different viewpoints. Lastly, in section 6, I briefly summarize my study and its findings, and reflect on the future of digital learning games and their use in education. I also suggest topics for further research.

2 Theory

In the theory chapter of my thesis, I present the main themes affecting my study and discuss the reasons for this selection. The two chosen themes are Information and Communication Technology (later on referred as ICT) in education (sections 2.1. to 2.1.3.), and Computer/Mobile Assisted Language Learning (later on referred to as CALL/MALL), and within it, digital learning games (sections 2.2 to 2.2.3.). In the subsections of the themes I discuss the following topics: ICT in the National Core Curriculum (2014) in section 2.1.1., ICT in school environments in 2.1.2., and ICT in teacher training programs in Finland (especially in the English teacher's viewpoint) in section 2.1.3.. I then discuss the history, current state and future of CALL/MALL in section 2.2.1., digital learning games in 2.2.2, and lastly the positive and negative aspects of using digital learning games in section 2.2.3.. They are presented with a top-down approach where the largest theme (ICT) is discussed first, the more genre-specific theme (CALL/MALL) second, and the most genre-specific theme (digital learning games, discussed under CALL/MALL) last.

The themes of my thesis focus mostly on technology, school environments, and gaming. Therefore, in this theory section I will focus more on the concepts and use of ICT and CALL/MALL instead of the theories of single linguists or individuals. Oftentimes, however, the use of technology as part of foreign language (or any) learning is based on such theories about second language acquisition as motivation (Dörnyei and Ushioda 2020, Ch. 5.7.) behaviorism (Orr and McGuinness 2018, 612-13), and the socio-cultural approach (Grazzi 2018, 435-36). The theories affecting the use of learning technologies and digital learning games will be discussed and briefly described further in the text.

2.1. ICT

The first theme that is discussed in the theory chapter is Information and Communication Technology (ICT). In this subsection, I will shortly describe the general background and purposes of ICT, and then in subsections 2.1.1 from 2.1.3. I focus more on the use of ICT in educational contexts.

As mentioned in chapter 1, ICT refers to “technologies that provide access to information through telecommunication. ICT [...] focuses primarily on communication technologies. This includes the internet, wireless networks, cell phones and other communication mediums.” (Ratheeswari 2018, S45). In education, the use of ICT began in the 1980s although with

limited data and software (Munro 2000, 251). With the development of computers and multimedia in the 1990s (Munro 2000, 253), the use of ICT in school environments started to rise. When the use of Internet became more popular in the late 1990s, the amount of technology education increased, and schools started to have their own computer classes where each class would gather e.g., once a week. As of the 21st century, computers, and other electronic devices have become available to everyone, and nowadays in Finnish schools, it is common for each class, teacher, and student to have their own computer.

According to Beauchamp (2017, 18-19), the unique and positive features of ICT in educational settings are speed, automation, capacity, range, provisionality, and interactivity. Beauchamp (2017, 34) also writes that in interaction, ICT can function as 1) a passive tool, 2) the object, 3) a participant, and 4) an active tool. In educational settings, ICT therefore offers many affordances both for teachers and pupils. While pupils, who are nowadays mostly considered digital natives (Marek & Wu 2019, 5), are quick to utilize the different software and applications that technology has to offer, the teacher's task is to monitor these affordances and select the ones that are best suited for educational settings (Beauchamp 2017, 36). The use of ICT in educational settings is discussed more thoroughly in the next subsections.

2.1.1 ICT in the Finnish National Core Curriculum

In Finland, the National Core Curriculum defines the basis of education. The Finnish National Agency for Education defines the purpose of the core curriculum to “support and steer the provision of education and schoolwork and to promote equal implementation of comprehensive and single-structure basic education” (2014, Ch. 1). The newest National Core Curriculum was published in 2014. The renewed curriculum was introduced for grades 1-6 in the fall semester of 2016 (The Finnish National Agency for Education 2022). The implementation for higher grades (7-9) was done in three steps from 2017 to 2019 and was completed after this (ibid.).

The renewed curriculum had an updated list of taught subjects and it also presented transversal competences (The Finnish National Agency for Education 2022). According to the curriculum, “A changing society demands more and more transversal skills and competences. Therefore, it is important that each subject promotes transversal competences” (ibid.). The curriculum presents seven areas, listed from T1 to T7 (“T” for Transversal), that are included in the teaching of every subject (The Finnish National Agency for Education 2014, Ch. 3.3.).

This renewed curriculum structure is not only restricted in Finland, but it seems to be applied in other western countries, such as the UK, as well (Beauchamp 2017, 1-6).

One of the seven transversal competences is the competence in Information and Communication Technology (The Finnish National Agency for Education 2014, Ch. 3.3.). According to the National Core Curriculum, “ICT is a key part of versatile learning environments. It can help to reinforce the pupil’s participation and skills in communal work and support their personal learning paths. [...] New ICT solutions are introduced to promote and support learning.” (The Finnish National Agency for Education 2014, Ch. 4.3.). The pupils’ ICT competence is furthermore divided into four areas:

- 1) the understanding of the principles of using ICT, and the support of their developing practical competence in producing their own work
- 2) the responsible, safe, and ergonomic use of ICT
- 3) the use of ICT in information management and in exploratory and creative work
- 4) the experience gathered from using ICT in interaction and networking

(The Finnish National Agency for Education 2014, Ch. 3.3.)

Between 2019 and 2020, the Ministry of Education and Culture published two reports called *Comprehensive Schools in the Digital Age* (Kaarakainen et al.). These reports analyze the results of nationwide studies about digitalization in comprehensive schools. Both teachers and pupils participated in these studies that were conducted in 2017, 2018 and 2019 (Kaarakainen et al. 2020, 15). The need for these reports came from the renewed National Core Curriculum that Finnish comprehensive schools started to follow in the fall of 2016 (Kaarakainen et al. 2020, 16). The new curriculum highlights transversal competence that is divided in seven skills, ICT being one of them (ibid.). The aim of the curriculum is to better prepare pupils for their future by educating them side by side with these universal skills and the more traditional school subjects.

The National Core Curriculum also defines tasks and objectives for each grade and subject. In all definitions for foreign language learning (grades 1-2, 3-6, and 7-9), the curriculum highlights the importance of the use of ICT (The Finnish National Agency for Education 2014, Ch. 13.4.3, 14.4.3, and 15.4.3.). It describes the instruction of languages as “a part of language education and introduction to language awareness” (ibid.). The use of ICT in language learning “provides a natural opportunity for implementing language instruction based on authentic situations and the pupils’ communication needs” (ibid.). Before the use of

the Internet became more common in education, authentic foreign language use was limited to receiving a few letters of international pen pals from partnering schools or going on a field trip to a country in the language region sometime during the comprehensive school years.

Even though the aforementioned National Core Curriculum sets the overall contents and structures of comprehensive and upper secondary schools in Finland, municipalities, cities, and even single schools might also have their own curriculum that is used alongside the national one (The Finnish National Agency for Education 2014). Besides these regional curricula, local authorities can also publish guidebooks focusing on certain areas of education (f.e. special education, the teaching of minority languages in the area, and the arrangement of after-school activities) (The Finnish National Agency for Education 2014, Ch. 1.1.). The use of ICT in teaching is also normally determined in its own manual. The city of Turku has, for example, published a three-year plan for the use of ICT in teaching (Turun kaupungin sivistystoimiala 2019, 23). According to the manual, its purpose is to describe how the use of ICT could be developed in the schools' working culture, and among teachers and pupils (Turun kaupungin sivistystoimiala 2019, 2). Although the plan highlights that it is not an official curriculum, its purpose is to support the National Core Curriculum's aims about the use of ICT in schools (ibid.) (See section 2.1.1.). The Finnish National Agency of Education has also published its own manual about the rights and responsibilities concerning the use of computers and mobile devices in school environments (Francke et al. 2017). This manual is further discussed in the next subsection.

2.1.2. ICT in School Environments

The traditional teacher-led lesson structure has changed during the 21st century. Pupils are nowadays encouraged to take a more active role in their own learning process compared to the more teacher-focused method (Beauchamp 2017, 8). Beauchamp (ibid.) describes education nowadays as something that is done *with* children not *to* children. ICT acts as an essential element in this type of learning since it offers a range of tools used in education (ibid.) As mentioned already in the previous chapter, digital devices are also a notable part of most lessons in Finnish comprehensive schools, general upper secondary schools, and universities (Francke et al. 2017, 5). Both teachers and pupils utilize a variety of digital devices during their school day. In many schools, each pupil has been provided a device (mostly a laptop or a tablet) and teachers and/or classrooms are also equipped with their own computers and SMART boards.

The rights and responsibilities that need to be considered while using computers and mobile devices in schools are defined and described in the Finnish National Agency for Education's manual (Francke et al. 2017). As highlighted in the National Core Curriculum (The Finnish National Agency for Education 2014, Ch. 3.3.), one of the four purposes of ICT education in schools is to teach its responsible, safe, and ergonomic use to pupils. This means discussing both the advantages and risks regarding the use of technology. Anonymity, internet bullying, and copyright violations are among the features that should be considered when discussing the pupils' Internet behavior (Francke et al. 2017, 11-12).

The importance of ICT as a part of education was significantly highlighted during the COVID-19 pandemic. According to the Finnish Education Evaluation Centre's publication (Pietiläinen 2020), both the pupils' and teachers' digital competence was enhanced during the exceptional remote study period in the spring of 2020. Because of the sudden closing of all comprehensive schools, upper secondary schools, and universities in Finland, the remote teaching needed to be arranged efficiently and rapidly on all levels of education and schools were therefore, at the latest, forced to do a "digital leap" (ibid.). According to the survey conducted by the Finnish Education Evaluation Centre (ibid.), the digital tools which were developed the most during this period were e.g., remote meetings with both pupils and staff, digital learning materials, and the overall competence to use ICT in education. Below is a quote from one of the survey answers:

We have learned to use remote connections and noticed that studying works fine like this as well. The school staff could sometimes have remote meetings even in the future, not everybody has to always be present (long distances between the workplace and home). The same applies to pupils (many of them have really long school journeys) (Pietiläinen 2020, translation by me).

Based on the Finnish Education Evaluation Centre's survey answers, the global rise in the overall use of technology during lockdown periods (Statista 2021, 2-3; Kinnunen et al. 2020, Ch. 3.4.2.) and the inevitable conditions that the remote study period in the spring 2020 created, it can be concluded that the COVID-19 pandemic significantly increased and developed the use of technology in the Finnish education system.

2.1.3. ICT in Teacher Training Programs

There are currently six universities (Eastern Finland, Helsinki, Jyväskylä, Tampere, Turku, and Oulu) in Finland that have an English major program. All of these universities also offer a degree program in language learning and teaching. Universities do not have a national

curriculum like comprehensive and upper secondary schools (Luoto, Lappalainen 2006, 59-61). Therefore, the degree structures can slightly differ depending on the university.

Universities commonly make curricula for one to three academic years, and each faculty and school designs and creates their own curriculum (ibid.). In the university of Turku, for instance, the newest curriculum is from 2020 to 2022 (The university of Turku 2020).

The teacher training in Finland is divided between several universities (Jyrhämä 2021, 72). Since each institution follows their own curriculum and primary school teachers have different course structures than for example, the teachers of foreign languages, the contents of pedagogical studies are disunited (Jyrhämä 2021, 167). While primary school teachers have their entire study program focusing on teacher studies, subject teachers only spend one year, or 60 credits, doing their pedagogical studies (Jyrhämä 2021, 145). In the comparison done by the Ministry of Education and Culture (Jyrhämä 2021, Ch. 3.3.1.), the contents of subject teachers' pedagogical studies varied between universities. This disunited course structure might significantly affect the quality of education that the subject teachers receive during their one-year pedagogical training. None of the universities that had the 60-credit pedagogical studies offered courses focusing on technology, although the universities of Jyväskylä and Oulu emphasized digitality and online pedagogy (Jyrhämä 2021, 165). If the number of technology-related courses is related to each university's decisions and consideration, future teachers might have vastly different ICT skills after graduating, and therefore also different requirements for using ICT in education. By standardizing the teacher studies of all Finnish universities and universities of applied sciences, both the teacher students and individual course structures, such as courses focusing on ICT, could benefit from it (Jyrhämä 2021, 168-70).

In Katajamäki's thesis, four out of five interviewed teacher students felt that their ICT skills were not sufficient (2018, 39). The interviewees claimed that the amount of ICT training and/or courses in the university was inadequate. They had only had one obligatory course about learning technologies during their studies, and some of them had had some subject-related (e.g., music studies) technology counseling. Three of the students would have required more ICT-related courses during their studies (ibid.). Since the importance of ICT skills is nowadays indisputable and schools are required to give children and adolescents coping skills for adulthood, it is almost mandatory for future teachers to have a good knowledge of different technologies. Universities should therefore significantly increase the number of

studies focusing on ICT and offer courses particularly tailored for each school and major program. English teacher trainees' opinions about the level of ICT-related studies in universities are further discussed in sections 4.2. and 5.3.

2.2. CALL and MALL

In the following subsections, I present the second theme of my theory: Computer and Mobile Assisted Language Learning (CALL/MALL). As mentioned in the beginning of this chapter, the discussion of themes is structured top-down. After discussing the use of ICT in education in subsections 2.1. to 2.1.3, I will in the following subsections focus more specifically on the technologies used in L2 teaching and learning. Lastly, in subsections 2.2.1. and 2.2.2, I discuss the use of digital learning games in (L2) education for it is the most genre-specific theme of this chapter.

As mentioned in chapter 1, "CALL (and MALL) is the search for and study of applications of the computer (and/or mobile device) in language teaching and learning." (Levy 1997, 1, parentheses added by me). The term Computer Assisted Language Learning (CALL) was first introduced in the 1960s (Butler-Pascoe 2011, 17). Nowadays CALL is often accompanied by the term Mobile Assisted Language Learning (MALL). Due to the rapid development of mobile and tablet devices, many digital platforms from social media (f.e. *Facebook*) to learning applications (f.e. *Quizlet*) can be used both with a computer and a phone/tablet, it therefore seems natural that CALL and MALL tools also often go hand-in-hand nowadays.

The use of CALL and MALL applications as a part of L2 learning and teaching has been shown to have both positive and negative effects. Kukulka-Hulme (2021, 126-129) distinguishes five notable themes that are seen as advantages in studies about MALL (and could be applied to CALL as well). These themes are 1) breaking down barriers, 2) unfettered flow of information, 3) frequent interaction and reflection, 4) enjoyment and perception of personal gains, and 5) multiplicity of technologies, methods, and modalities (ibid.). These features highlight the benefits and strengths of mobile and computer-based learning and are also presented in studies about the use of MALL and CALL (ibid.). When examining the studies about CALL and MALL, the most common positive results of using CALL and/or MALL in second language acquisition are that they normally create better learning results than the traditional printed materials, they increase student motivation, and that the game-like elements might encourage students who are normally less active in L2 learning (e.g., Reinhardt 2019, 31; Deris and Shukor 2019, 134-36).

Whereas the studies using CALL/MALL tools e.g., in L2 vocabulary learning have discovered significant advances when using the tool, the novelty, variation, and game-like elements of tested applications compared to more traditional teaching methods has probably had an effect on the results as well (e.g., Göksün and Gürsoy 2019, 27; Hirschel and Fritz 2013, 650). Studies have shown that the enhanced learning results from CALL and MALL applications are not always long-lasting, and the students' overall language competence might not be increased but rather they are just memorizing the required words and structures (Deris and Shukor 2019, 135). It could therefore be argued that MALL and CALL applications are sometimes preferred due to the novelty and excitement they provide rather than actual learning enhancement, and better learning results are not necessarily even listed as the application's positive feature by students.

Although technology, CALL, and MALL have been a part of school environments for several decades now, researchers are still sometimes considering, "What must CALL provide today and into the future for it to be valued by second language teachers and learners?" (Butler-Pascoe 2011, 28). Whereas the use of technology itself is only going to increase in the following years, some digital language learning applications and tools are inevitably disappearing while other technologies are being invented. One of the newest trends in CALL and MALL for several years has been digital learning games that are also the topic of this thesis and its study (Reinhardt 2019, 225). Therefore, in the next subsection, I will discuss digital learning games as a phenomenon more thoroughly.

2.2.1. Digital Learning Games

As mentioned in chapter 1, digital learning games refer to games that are designed for educational purposes and meant as a tool or resource for learning (Reinhardt 2019, 4). Although digital learning games have existed since the 1970s (Reinhardt 2019, 5), their use and development has been widely omitted only in the last decade or so. The term "game-based (learning)" is largely used to describe all applications or games used in second and foreign language teaching and learning (Reinhardt 2019, 8). While almost any digital (and non-digital) game can be utilized for educational purposes, digital learning games are designed to educate its players. This might sometimes also be problematic for some digital learning games might have visually pleasing features but a dull and inconvenient content (Reinhardt 2019, 10). Therefore, games that are not originally designed for learning might sometimes be suited for learning even better than actual digital learning games (Reinhardt

2019, 141). Thus, the selection of suitable games for each learning situation needs to be conducted carefully by the teacher.

Learning games often utilize the concept of gamification. Reinhardt defines gamification as “is the application of game design elements to activities not traditionally considered gameful, like learning or working.” (2019, 173). In learning games, this application can f.e. mean using designs, characters, tasks, and rewards that are similar to popular console, computer, or mobile games. Another significant term in the development of learning games is praxis that is also influential in CALL and MALL (Reinhardt 2019, 2). Games are often designed in a practice-oriented way in which designers discuss with players in order to develop the game according to the players’ needs (Reinhardt 2019, 2-3).

Many digital learning games also utilize Student Response Systems (SRS, also known as Electronic Response Systems [ERS], or Audience Response Systems [ARS]) that allows full teacher-student interaction in the classroom (Celik et al. 2016, 1). In digital game-based learning, SRS allow students to use their mobile phones or computers for answering questions, and their responses are instantly reported in the game (ibid.). Student Response Systems (SRS) were created in the 1960s to make college mass lectures more interactive (Judson & Sawada 2002, 170). With the use of Electronic Response Systems (ERS) students could affect the pace and contents of the lecture (ibid.). The SRSs have been found to have a positive impact on classroom dynamics, student, and teacher perceptions, and learning performance (Wang & Tahir 2020, 1). Some of the most popular digital learning games (e.g., *Kahoot* and *Quizlet*) are based on these systems for they create temporary gameshow into the classroom and students need to compete and interact with each other (and the teacher) in order to be successful (ibid.). With the use of SRS and game-like elements that are familiar to the pupils, the goal of *Kahoot*, for example, is to increase engagement, motivation, enjoyment, and concentration to improve learning performance and classroom dynamics (Wang & Tahir 2020, 2).

While the most popular digital learning games (e.g., *Kahoot*, *Quizlet*, and *Classcraft*) globally usually come from English speaking countries, some digital learning games have also been developed in Finland and in Finnish. The Finnish publishing company SanomaPro, for example, has created a digital learning environment called *Bingel* for their learning materials. According to SanomaPro, *Bingel* is the first gaming world that supports the newest National Core Curriculum in Finland (SanomaPro 2020a). *Bingel* offers exercises from various book

series and subjects and can therefore be used throughout the school day (Sanomapro 2020b). In my previous research about digital learning games, the interviewed English teacher also highlighted the desire to utilize Bingel in L2 learning, for it was easy to use and an entirely Finnish innovation (Rantanen 2019, 26). SanomaPro also owns an early learning brand called *Oppi ja Ilo* that mostly publishes printed learning materials in several topics (Sanomapro 2022). In EFL, *Oppi ja Ilo* offers both printed materials and digital learning games for early language learning (ibid.). Games like *Ekapeli (Grapholearn)* and *Lola Panda* are more specifically designed in language learning and can be used in learning both Finnish and English (Niilo Mäki Instituutti 2022; Beiz Oy 2022). Both of these aforementioned games are also played internationally, and especially the *Lola Panda* mobile game series has been downloaded over 20 million times worldwide (Beiz Oy 2022).

Both digital and non-digital gaming increased in Finland and all over the world in the year 2020 (Kinnunen et al. 2020, 13; Statista 2021, 8). The exceptional circumstances caused by the COVID-19 pandemic forced people to work and study from home. These circumstances most likely also influenced people's gaming habits by increasing the popularity of games as a pastime activity (ibid.). Gaming, especially multiplayer games, also had positive effects on the people's lives during the times of social distancing (Statista 2021, 42). Gaming was described to make the players feel happier, less anxious, less isolated, and more connected to their friends when it was not possible to meet people face to face (ibid.).

According to the 2020 Finnish Player Barometer (Kinnunen et al., 14), mobile gaming is the most popular gaming style. 59 percent of Finns play mobile games and an even bigger number (63,5 percent) of Finns play digital games (ibid.). The youngest respondent group (10–19-year-olds) played digital games the most: 79 percent of these respondents played digital games at least once a week (Kinnunen et al. 2020, 48-49). This age group also played different sorts of digital games very diversely (ibid.). Learning games, on the other hand, were played in all but one respondent group in the newest Finnish Player Barometer (Kinnunen et al. 2020, 50-51). Their popularity increased significantly during the pandemic and for the first-time older respondent groups also played learning games (ibid.). Kinnunen et al. (2020, 51), however, speculate that might be because of the home school periods in the spring of 2020. Since most school days were arranged via online platforms, the use of learning games that are not limited to classroom settings was a natural part of studying.

Nowadays, international organizations such as TESOL (Teachers of English to Speakers of Other Languages) have even published detailed manuals on how to diversely use games in language teaching. In their chapter about digital learning games, the book contains 18 different exercises focusing on different L2 areas (f.e. vocabulary and writing). Each exercise provides detailed instructions and a step-by-step process on how to use the game/application as a learning tool (Nurmukhamedov & Sadler 2020, part V). The teacher is only required to download/purchase the chosen game and familiarize him/herself with it. These manuals can provide useful information especially to teachers who are not as familiarized with digital learning games but would be interested in using them in their classes.

2.2.2. The Aspects of Using Digital Learning Games

Studies about the use of digital learning games in education have revealed both positive and negative effects to learning. The use of digital learning games is found to have positive effects on, e.g., performance, classroom dynamics, students' anxiety, and students' and teachers' attitudes and perceptions (e.g., Wang & Tahir 2020, 2; Hitosugi et al. 2014, 33–34). On the other hand, games are often described, e.g., too time-consuming, difficult to acquire, unfit for current curricula, and entertaining instead of educating (Vu & Fye 2020, 280-281). In the following paragraphs I will discuss these aspects more in-depth.

One of the most commonly mentioned features when examining the use of digital learning games is motivation. According to Dörnyei and Ushioda (2021, 4) motivation is about *choice*, *persistence*, and *effort* to do something, and it describes *why* something is being done, *how long* the activity will continue, and *how hard* it is pursued. The use of technology as part of L2 teaching and learning has been a popular method for decades now and is considered to have a definite motivating capacity (Dörnyei & Ushioda 2021, 131). Gaming and video games are considered universally appealing and therefore attract and motivate users even when used in learning (Dörnyei & Ushioda 2021, 132). Long-term studies have also shown that the use of digital learning games in education is motivating to children (e.g., Ronimus 2012, 131-133).

Although the use of technology, and games in particular, are seen as highly motivating elements in L2 teaching and learning, its use has not actually transformed the field of SLA or changed the learners' motivational practices (Dörnyei & Ushioda 2021, 131). According to Dörnyei and Ushioda (2021, 132), the use of technology in SLA has five topics of concern: 1) the extremely vast definition of technology, 2) the novelty element that might not last long

and is not so strong among the pupils of current age, also known as the “digital natives” (Marek & Wu 2019, 5), 3) the superficial engagement in taught elements and the additional distractions that an access to Internet enables, 4) student reluctance to use technology instead of the traditional printed materials, and 5) teacher reluctance to use technology due to the lack of knowledge or limited ICT skills. These elements are also discussed in several research mentioned in this thesis.

Sociality and social interactions are central elements of all learning. This is highlighted in Vygotsky’s socio-cultural theory (Vygotsky et al. 1978, 24), in which he describes that “the most significant moment in the course of intellectual development [...] occurs when speech and practical activity, two previously completely independent lines of development, converge”. In L2 learning, the lack of communication and interaction with other learners might significantly affect the learner’s skills. Reinhardt (2019, 109) writes that within the social-informed perspective, gameful L2 learning can happen through 1) interaction with game discourses, 2) enacting roles and developing identities, 3) negotiation with other players, and 4) participation in gameful social practices. In order to achieve this social-informed learning, the teacher have to carefully select learning games that enables the aforementioned features.

In his socio-cultural theory, Vygotsky et al. (1978, Ch. 7) also highlight the role of play in development. In play, children can freely use their imagination and forget the possible rules that are otherwise existent. According to Vygotsky et al. (1978, Ch. 7), “In play a child always behaves beyond his average age, above his daily behavior”. Therefore, the children may also be speaking and use words in play even before acquiring grammatical and written language (ibid). This similar phenomenon can be seen with young children who are playing digital games that are in language other than their L1. In the game (i.e., in play) the child may well use foreign expressions that he has acquired from the game, before actually learning it. Nowadays even first grade elementary school children could have learned a significant amount of English vocabulary from gaming even before his first actual English lesson.

When teachers are asked about the most common barriers they face in using games in the classroom, insufficient time is often listed as the biggest one (Vu & Fye 2020, 280-281). Other notable barriers are, e.g., the difficulty to find games that fit the curriculum, lack of technology resources, emphasis on test scores, and insufficient ICT skills (Vu & Fye 2020, 281). In my previous study about the topic (Rantanen 2019, 10-11), I interviewed a fifth-grade English teacher about the use of *Classcraft*, a fantasy-themed digital learning game that

was developed for classroom management originally at the high school level. (Sanchez et al. 2016, 497) (see Ch. 2.2.2.). In the interview, she also highlighted that familiarizing herself with the game was time-consuming and required plenty of independent studying (Rantanen 2019, 10-12). Although once learned, using the game requires much less effort in the future.

The use of digital learning games in school environments is still privileged because it requires access to electronic devices during lessons. Although even children from an early age nowadays have smartphones, they are not necessarily present in their schooldays. Cities and schools have different resources which means that not all schools have individual devices (usually computers or tablets) for each pupil (Jokinen 2020). It depends on the schools whether or not they are offering each pupil their own device, and if yes, from which age. Whereas some schools offer tablets as early on as first grade and computers in older grades, many schools also have chosen only to purchase common devices that can be reserved in advance and used occasionally. This kind of selection therefore puts pupils in an unequal position when it comes to all ICT-based contents (ibid.).

Safety considerations also apply to the use of digital learning games. Although many digital learning games can be monitored by the teacher and only played in restricted groups (i.e., between the pupils of one class), the teacher should still advise pupils on the safe use of the game before it is played for the first time. The same rules considering e.g., bullying should be applied in virtual environments as well, and it should be made clear before gaming. The safety considerations and risks regarding the use of ICT and Internet is also discussed in subsection 2.1.2..

3 Data and Methods

For the thesis, I created a mixed methods survey that examines the attitudes and experiences that Finnish English teacher trainees have about learning games. The survey was made and conducted with Webropol, an online survey-making tool. The original survey was in Finnish which was assumed to be the L1 of respondents and therefore facilitated the answering. In this thesis, both questions and answers, however, are translated into English by me. Appendices 1 and 2 at the end of this thesis contain the original and translated survey forms. Due to the survey's formatting, the data presented in the thesis is analyzed mostly quantitatively.

The most crucial factors that influenced the survey's question forming were the two aforementioned research questions, and my personal interest towards digital learning games and the use of technology in L2 learning and teaching. The survey has 39 questions in total, and it consists of five sections that are 1) basic information, 2) ICT skills, 3) digital learning games in L2 teaching, 4) practical experiences, and 5) attitudes towards the use of digital learning games. Most of the questions are Likert scales. In some questions, the survey also contains follow-up questions that are open-ended in order to better understand the respondents' thoughts.

The criteria for survey respondents was that they needed to have English as a major or minor subject, and they either had to have completed their teacher training or be completing it during the current academic year. Besides these two criteria, the survey was completely anonymous, and respondents' identity or home university was not asked at any point of the answering process. University of Turku's privacy notice was also linked at the beginning of the survey (University of Turku 2022). All the respondents were over 18-year-old adults, and therefore the data gathering did not require any additional permissions. Conducting a survey with minor respondents is examined more in the last section of the thesis.

The survey was sent to every Finnish university (i.e., Swedish universities in Finland were not included) in Finland that had an English major program (Eastern Finland, Helsinki, Jyväskylä, Tampere, Turku, and Oulu) in September 2020, and it remained open until the end of October. The survey link was forwarded to students mostly via each university's English e-mail list. During the one-month answer period, a total of 74 students completed the survey. Because of the limited number of qualified respondents (the number of English students accepted in pedagogical studies per year varies between 18 and 40 depending on the university), the number of responses is less than a hundred. Since the overall number of

English teacher trainees that are currently studying in some of the six universities is limited (approximately 450 students, if the maximum number of English students per year is accepted to the pedagogical studies in each university, and if it is assumed that all teacher students from the last three semesters are still enrolled into their home universities). In reality, the number of qualified respondents can be even smaller because students take pedagogical studies in various parts of their degree, and the maximum quota of English teacher students is not necessarily fulfilled every year. Therefore, I consider this response amount (74) to be sufficient for providing an overall picture of the whole response group, which is major or minor English teacher students.

In the next chapter, I will further analyze the results of the aforementioned survey. The survey analysis follows the original survey structure, and responses are presented in chronological order from section-to-section and question-to-question. Accurate response rates and the distribution of answers are described thoroughly and accompanied with figures and example answers when necessary. Most questions (Likert scale) are presented quantitatively, however, the responses in open-ended questions are presented thematically. Based on the findings from the survey analysis, chosen themes are furthermore discussed in chapter 5.

4 Analysis

In this section of the thesis, I will go through the 39-question and 5-part survey made for this study. Each part of the survey has its own subsection where all the questions and the respondents' answers are presented in an explicit and effective way. The figures presented in the analysis were made with Microsoft Excel. All examples from the survey are originally written in Finnish and are translated in English by me. All the additional information in the examples are written in parentheses and are added by me. The respondent number of each example is written in parenthesis after the quote. Both the original Finnish version and the English translation of the survey are found at the end of the thesis, in appendices 1 and 2.

4.1. Background Information

The first section of the survey consisted of four background questions. These were 1) the respondent's age, 2) the year that the respondent had done his/her pedagogical studies, 3) their study status (either an English major or minor student), and finally 4) other studied subjects besides English. The reason for these background questions was that they could be significant variables when analyzing and comparing the study results. All the questions in this section were obligatory.

The respondents' age ranged between 20 and 43 years. Most respondents were between 23 and 26 years old. The year of the respondents' pedagogical studies was divided between several semesters starting from 2005 and ending in 2021 (meaning that they are currently being done). The respondents' division between English majors and minors was clear. Most of the respondents (65) were English majors and only nine were minor students (see Figure 1 below). One reason for this could be the distribution of the survey which was mostly done via the universities' English student e-mail lists or other groups. These lists or groups do not always include minor students. Some minor students also purposely decide not to join in these lists or groups.

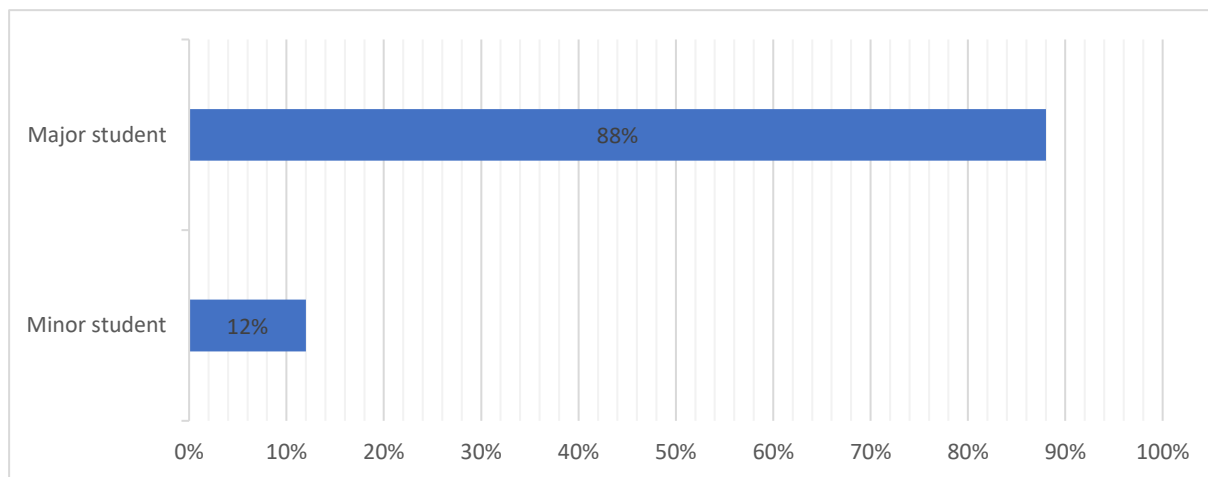


Figure 1. Question 3: Are you a major or minor student of English? (N=74).

In question 4, the respondents were asked to list their minor subjects. Most of them listed other languages which was expected since most English teachers' second or third subjects are languages. Ten respondents did not have any minor and therefore studied only English. This could be explained with the status of English as a *lingua franca* and being the most taught foreign language in Finnish schools as well (Dörnyei & Ushioda 2021, 11; The Finnish National Agency for Education 2014, Ch. x). Among the students of “minority” languages (in this context meaning the less studied languages in Finland) such as French, Spanish, and German the lack of minor subjects is rarer.

4.2. ICT Skills

Section two of the study examined the respondents' ICT skills. It contained eight questions in total, five of which were obligatory Likert scale questions and three that were open-ended supplementary questions. The motivation for these questions was to investigate the level of the respondents' ICT skills, in which environments they have learned them, and how eager they were to further develop their ICT skills.

Almost 80% of the respondents (N=74) considered their ICT skills to be either good (option 3) in Likert scale), or very good (option 4) in Likert scale). This was a positive finding that might correlate with the respondents' age (a majority of them were under 30 years old). Millennials are often considered as the first generation that are “digital natives”, i.e. have grown up in the digital age and been in close contact with the internet, computers, cell phones, tablets, etc. their whole lives. (Marek & Wu 2019, 5) Working with different technologies and acquiring new software and tools might therefore be easier for future language teachers compared to the older generations. Only 16 respondents considered their

ICT skills to be decent or weak. When asked to list ways for improving their competence, most respondents mentioned independent studying of ICT-related topics, and/or courses focusing on the use of ICT (see example 1 below).

- 1) *(ICT skills could be improved by) 1. independently practicing and familiarizing yourself with the topic, and 2. participating in various training and orientation. (14)*

In question 7, “During my university studies, I have received a sufficient amount of teaching and information regarding ICT skills.”, I was keen to examine what other teacher trainees thought of the amount of technology-related teaching. Almost 60% (N=74) of the respondents agreed or strongly agreed with the claim (see Figure 2 below). Since most respondents had also studied ICT skills both outside their university studies and/or independently (asked in questions nine and ten), they might have felt a lesser need for university-based ICT studies.

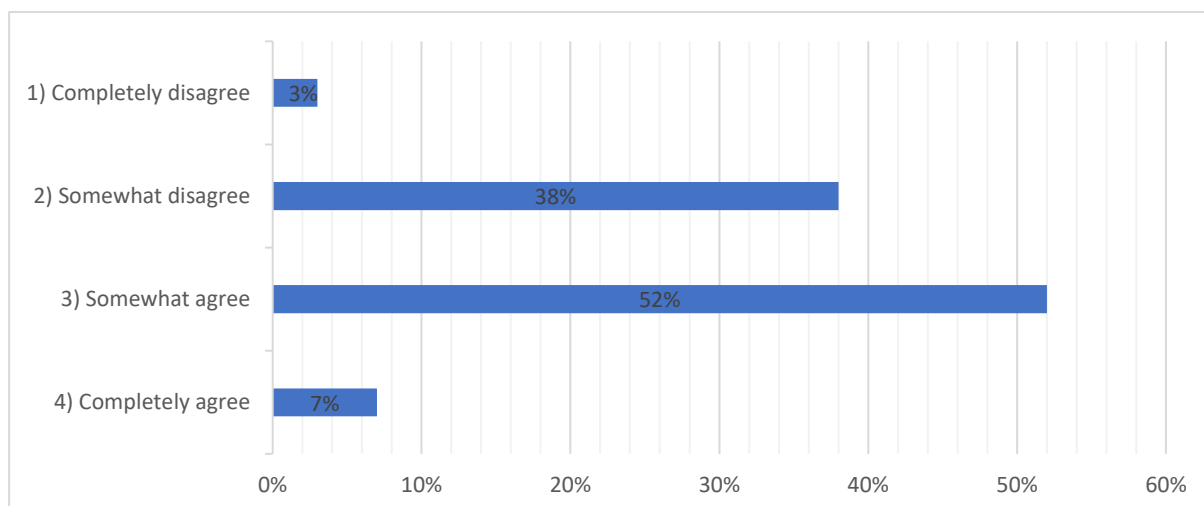


Figure 2. Question 7: During my university studies, I have received a sufficient amount of teaching and information regarding ICT skills (N=74).

Respondents who had either disagreed or strongly disagreed with the claim (approx. 41%) were asked to give examples on how to improve or increase the amount of teaching of ICT skills. Most respondents wished to have technology-related courses either during their pedagogical studies or sometime during the university years (see example 2 below). The importance of teaching ICT skills for future teachers was highlighted in the answers.

- 2) *Particularly in pedagogical studies, ICT skills could be taught by just showing how to use and utilize them. Teaching ICT skills could be included in the courses. (2)*

The respondents' answers to these two questions (7 and 8) provide significant information about the current state of English (teacher training program) studies in Finland. The partial discontent towards the amount of technology-related teaching in Finnish universities, and the possible reasons for this lack is discussed more in chapter 5.

Lastly, in questions 11 and 12 the respondents were asked whether they could still develop their ICT skills and if answered 1) Yes, give examples of the ways for the development. Astonishing 93% of the respondents (N=74) thought that they could improve their ICT skills which correlates with the current pedagogical idea of lifelong learning, i.e., learning happens throughout one's life and is not restricted to schools or other formal institutions. The most common ways for future development according to the respondents were independent studying (example 3), courses arranged by universities or other institutions (example 4), and practical use of different ICT tools (example 5). Below are three example answers, one from each category.

3) *It is possible to learn a lot from independent studying, but it is hard to find different options alone. In my opinion, during independent studying one should actively search various options for better teaching.* (45)

4) *I imagine that a course about ICT skills could be useful for teachers. It could be taken as a further education course later on.* (23)

5) *(I could develop my ICT skills) by practicing their use during my free time and in my everyday life, or by watching tutorials online.* (50) (Parentheses added by me.)

4.3. Digital Learning Games in Language Teaching

In section three, I started to examine the respondents' knowledge about learning games and technologies. The four questions (three Likert scale, one multiple choices, and one open-ended question) included key terms related to digital (language) learning, why and how these terms were familiar to the respondents, and had they had any university courses about digital language learning or digital learning in general.

67 respondents had heard of at least one of the four key terms (digital learning game, CALL, MALL, gamification) in question 13 (see Figure 3 below). The two most well-known terms were "digital learning game" and "gamification" both of which were familiar to almost 80%

of the respondents (N=74). Most respondents were also familiar with more than one term which was quite predictable since they are often discussed in the same contexts and

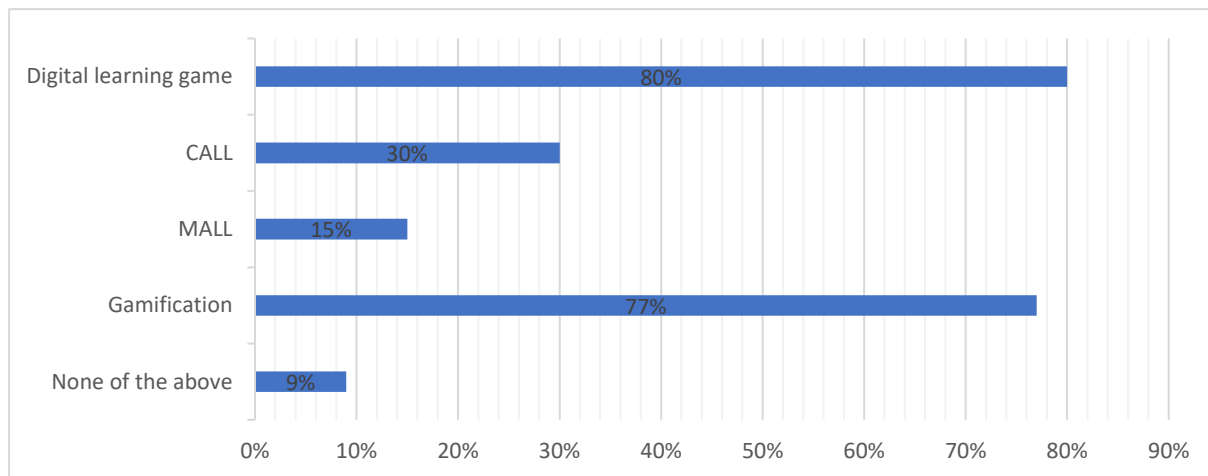


Figure 3. Question 13: Select the terms that are familiar to you (N=74).

environments (CALL and MALL, for example, are closely related to each other and widely used simultaneously nowadays). Only seven respondents were not familiar with any of the terms. This might indicate that they either were not interested in the topic (digital language learning/learning games), their universities did not offer courses related to the topic, or that their studies were in such an early stage that they had not yet had courses about learning technologies. Although the respondents' lack of knowledge about digital (language) learning was disappointing, it does not mean that they necessarily have negative attitudes about it. And since the vast majority of respondents (over 90%) were familiar with at least one digital learning-related term, I found the results of this question still to be positive.

In question 14, the respondents (N=66) who were familiar with at least one of the four terms were furthermore asked to specify the occasion where they had heard about these terms. Most common responses were different university courses (not necessarily focused on digital language learning, see next paragraph) and pedagogical studies which all the respondents needed to have completed or be completing at the moment (see example 6 below). A few respondents had also examined the terms independently in their free time due to personal interest.

- 6) *They (the aforementioned four terms) have been mentioned, for example, in the themes of our proseminar and during teacher training. (They have been) however, seldomly (mentioned) in the actual university teaching. (19) (Parentheses added by me).*

Lastly, in questions 15 and 16 I asked if the respondents had attended any courses that focused on language learning technologies or learning technologies in general. The majority of respondents in both questions (N=74) answered “No.” About $\frac{2}{3}$ of the respondents (68 percent) in question 15 had not participated in any courses about language learning technologies, and an even greater number of respondents (88 percent) had not participated in courses about other learning technologies either.

4.4. Practical Experience

The goal of my survey was to find out the thoughts and experiences that English teacher trainees had about digital learning games. After gathering the necessary background information about the respondents, I wanted to focus on the practical, real-life experiences that they had about the use of digital learning games. Therefore, in section four, I examined the types of digital learning games that had been used and the situations where they occurred. This section had 13 questions in total. Questions 17, 23, 25, and 27 were obligatory yes or no questions about the different situations where digital learning games might have been used. If the respondent’s answer to these questions was 1) Yes, specifying questions about the situations appeared. Questions 18, 24, 26 and 28 contained a list of ten different CALL and MALL games and/or applications and one open-ended option that was titled “Other, what”. The reason this list appears on the survey four times is that I wanted to discover whether the same games and applications were used regardless of the situation, or if it depended on it. Lastly in question 29, the respondents were asked, based on their practical experiences, to give their opinion about the use of digital learning games in education.

78 percent of the respondents (N=74) had used (digital) learning games during their pedagogical studies and/or when they were English substitutes at schools. This was one of the most important questions in the survey since it examined the practical, real-life use of digital learning games. The positive outcome of this question (and its follow up questions) strongly correlated with the survey’s other data. To me these questions indicated that digital learning games interest future language teachers and will probably be used in the future by them. The 58 respondents who answered 1) Yes to this question were then asked five specifying questions about the used games and applications, and the experiences they had. Figure 4 below illustrates the distribution of answers in question 17.

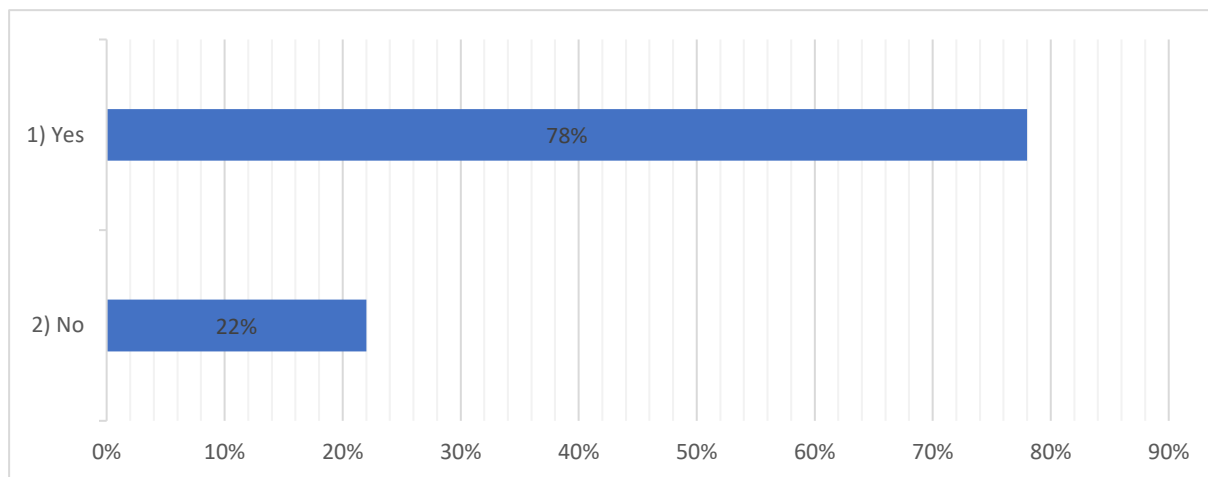


Figure 4. Question 17: I have used digital learning games in English lessons either during the pedagogical studies or when working as a substitute teacher (N=74).

Most popular learning games among the 58 respondents who had already used them during the pedagogical studies, or when substituting were Kahoot (97 percent of respondents had used it) and Quizlet (83 percent had used it) that combine both CALL and MALL technologies. Both games are usually started from the teacher's computer (excluding the regular practice mode in Quizlet that can be played independently) whereas the pupils play it with their mobile phones or tablets. Both games have the possibility of competition where pupils can either play individually or in teams against each other. Due to their worldwide

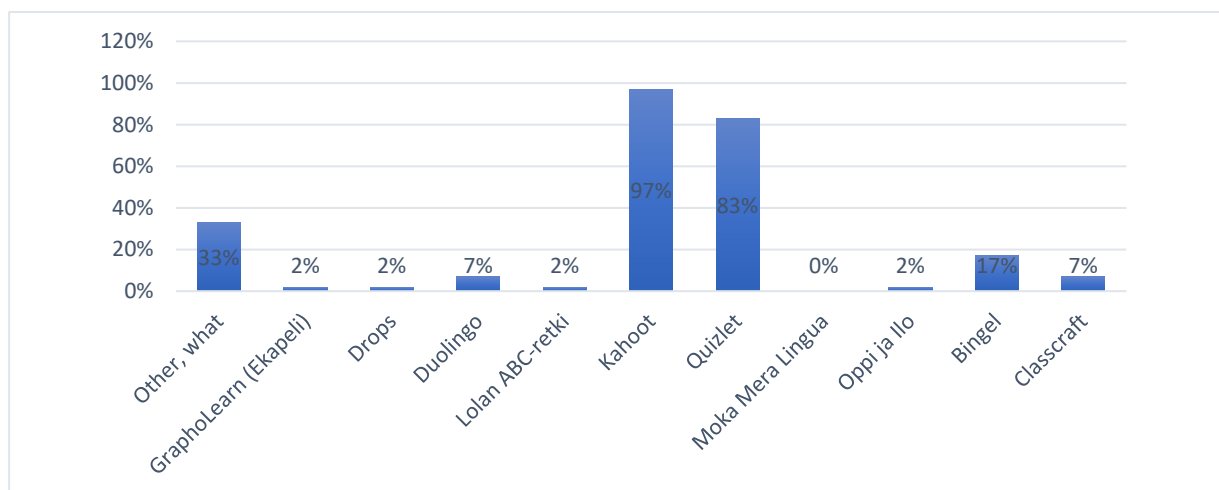


Figure 5. Question 18: If you answered 1) Yes, select the games/applications you have used and respond to the following statements (N=58).

popularity, Kahoot and Quizlet contain thousands ready-made games and exercises that the teachers can use, or they can easily make their own materials as well. Among the Finnish learning games and applications (Bingel, Oppi ja Ilo, Lola's ABC Party, GraphoLearn [Ekapeli]), the most used was SanomaPro's Bingel, the first Finnish digital learning

environment (SanomaPro 2020b). Since Bingel is not only limited in digital language learning, but it has also probably been used in other subjects as well. 33 percent of the 58 respondents had also used other digital learning games and applications besides the given ten. The most mentioned games in this open-ended option were Bamboozle and Quizizz that share features such as gamification, competitions, and a vast amount of quizzes with Kahoot and Quizlet. Figure 5 below illustrates the popularity of chosen digital learning games among the 58 respondents. Digital learning games are discussed more in depth in chapter two.

In the last question of this section (29), respondents were asked, based on their practical experiences, to give their opinion about the use of digital learning games in education. This open-ended question was obligatory to all respondents. Only 8 (out of 74) respondents had no practical experience of the use of digital learning games. Among the 66 respondents who had already used digital learning games in education, the most common experiences were that the games 1) are usually liked among pupils, 2) offer variation inside lessons and breaks from traditional studying, and 3) might also become numbing if played too much. These answers are coherent with the overall data collected from the survey and give a more in-depth view about the respondents' opinions.

The most common theme among the 66 answers to this question was that the use of digital learning games in English lessons is highly favored by pupils. The respondents' answers highlighted that based on their own experiences, digital learning games are considered mostly popular both among pupils and teachers (see example 7). The use of games was described to motivate, excite, and interest pupils and they were said to be easily acquired by children. Similar thoughts were also described in question 39, which will be analyzed in subsection 4.5.

7) *(Digital learning games) are particularly useful and animate lessons, they are fun both for the teacher and pupils.* (19) (Parentheses added by me).

The preservice English teachers also appreciated the variation that the use of digital learning games brought into the lessons. Since most of the lessons might still consist of using "traditional" learning materials such as text and exercise books (both printed and digital), digital learning games could offer a break from them while still focusing on the current theme of the lesson (see example 8). Some games (f.e. *Quizlet*) also contain different modes where the pupil can choose from more than one option to play. Therefore, gaming itself can also contain variation and multiple options for practicing.

- 8) *In my opinion, learning games are a great tool for teaching English! The games often encourage pupils and offer variation to so-called traditional methods and contents.* (11)

Even though the respondents were not asked to give both positive and negative experiences from the use of digital learning games, they had oftentimes included both aspects in their answers. The most common negative factor that the respondents described was the possible overuse of digital learning games and the pupils' declining motivation that is caused by it. The respondents highlighted that the most common games like *Kahoot* and *Quizlet* can, as a learning tool, eventually become just as numbing as the traditional learning methods (i.e., language books) (see example 9). Digital learning games should therefore have an actual purpose and they should be used diversely in L2 teaching, instead of just using them "for fun". The effect of practice lesson environments (i.e., training schools) on the possible overuse of digital learning games is discussed more in subsection 5.2.

- 9) *(Digital learning games) are motivating, the pupils clearly like them. Although their turnover has to be quite high, for sometimes games like Kahoot no longer interest them (the pupils), but instead feel just as boring as other methods.* (74) (Parentheses added by me).

These similar themes and the respondents' free thoughts about digital learning games were examined also in question 39, which is discussed more in subsection 4.5. The data from both questions (29 and 39) are then furthermore discussed in subsections 5.1. to 5.3..

4.5. Attitudes towards the Use of Digital Learning Games

After focusing on the respondents' practical experiences about digital learning games in section 4, I furthermore needed to examine their overall attitudes concerning these games and their use in L2 teaching. Therefore, in the survey's last section, the respondents were asked to answer nine arguments. The topics of these arguments ranged from the accessibility of digital learning games to their use in the future. Each argument had a Likert scale from 1 (completely disagree) to 4 (completely agree). Lastly, the survey had an open-ended question where the respondents were asked to freely share their thoughts about digital learning games. All the questions in section five were obligatory and needed to be answered.

Questions 30 "*Digital learning games promote the acquisition of English*" and 31 "*Digital learning games motivate pupils to learn languages*" were about the motivational and

facilitating features that digital learning games might have on language learning. Over 95 percent of respondents (N=74) in both questions either somewhat or completely agreed with the argument (see Figure 6 below). Over 90 percent (N=74) also disagreed with the argument “*The use of digital learning games is too time consuming*” (question 35). Even though some digital learning games require more familiarization and time investment than others, most respondents thought that the time used on playing them was in balance with the benefits these games bring in the learning process. Due to the highly positive response in these questions, it was not surprising that all of the respondents were going to use digital learning games in their (future) English lessons (question 34). Over 95 percent of the respondents (N=74) also thought that the overall use of these games during school lessons was going to increase in the future (question 38).

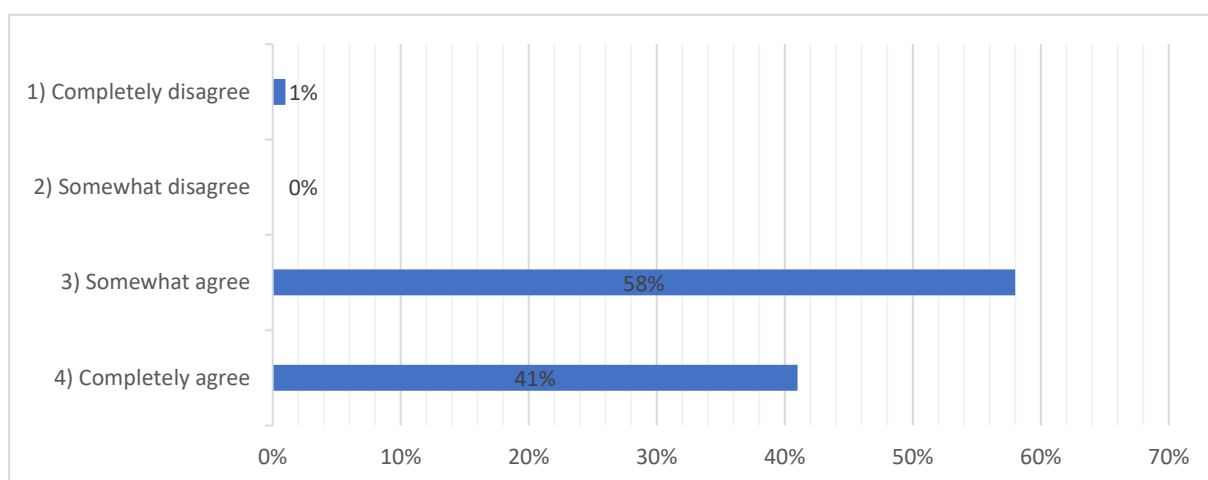


Figure 6. Question 31: Digital learning games promote the acquisition of English (N=74).

Questions 32, 33, 36, and 37 focused more on the requirements that digital learning games demand from teachers and students. Over 95 percent of respondents (N=74) estimated in questions 32 “*Digital learning games are easily acquired (by both teachers and pupils)*” and 33 “*I consider my ICT skills to be sufficient for using digital learning games*” that learning and using digital learning games is easy both for them and their (future) students. Since the respondents considered their ICT skills to be sufficient enough to learn the games, these responses might correlate with the positive responses found in section 2 of the survey (*ICT skills*). Despite the high level that most respondents considered their ICT skills to be, almost 90 percent of them were ready to learn about the use of digital learning games during their free time (see Figure 8 below).

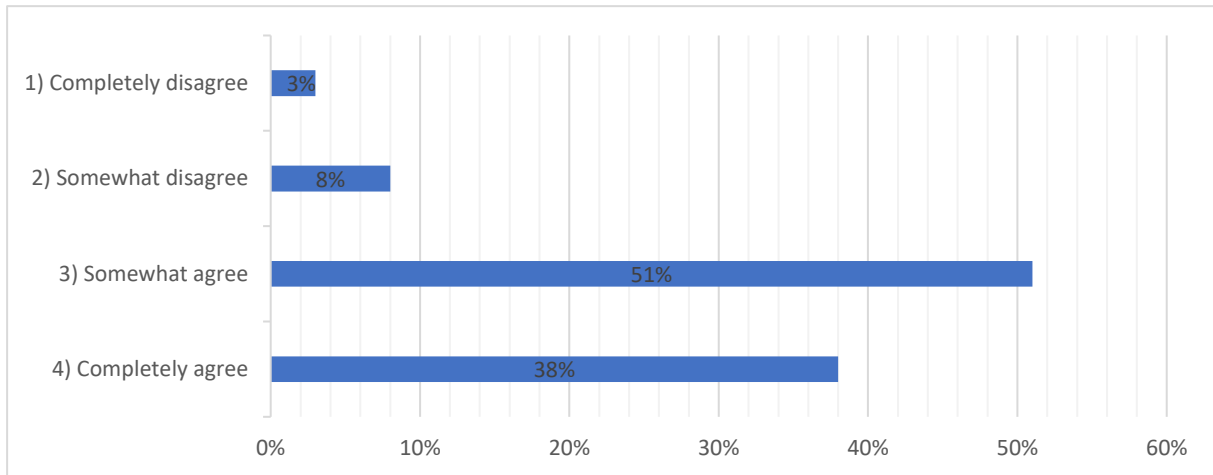


Figure 8. Question 37: I am willing to familiarize myself with the use of digital learning games during my free time, if necessary (N=74).

The only argument in this section that caused more division between the respondents was whether or not they were willing to pay for the use of digital learning games (question 36). Less than 20 percent (N=74) agreed to pay for their use (although the precise amount of money was not specified) whereas the rest answered only to use free games (see Figure 7 below). Many learning games (e.g., Kahoot, Classcraft, and Quizlet) offer both free versions with limited features and more vast editions with a monthly or single payment (e.g., Kahoot 2022). Some respondents specified, however, in question 39 (opinions) that they would be willing to use even the games' paid premium memberships if the school financed them. Some game platforms offer licenses that cover the whole school and are therefore available for every teacher and subject (ibid.).

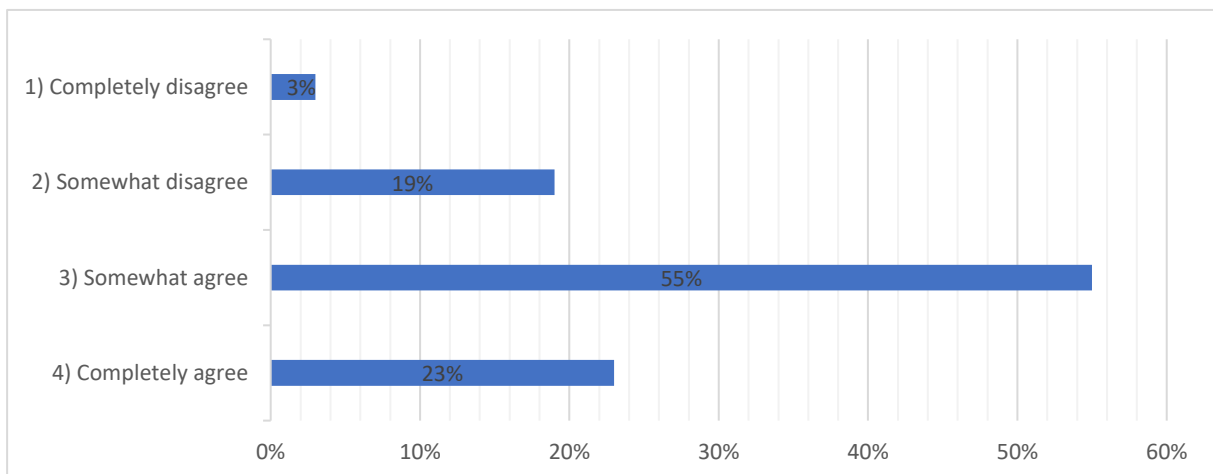


Figure 7. Question 36: I am only willing to use free digital learning games (N=74).

In the last question of the survey, every respondent was asked to freely describe their thoughts about digital learning games, their use, and what pros and cons they might have. Already in question 29, the respondents were asked, based on practical experience, their opinions about the use of digital learning games in education. In question 39, however, the respondents were not given any restrictions (such as follow-up questions or answer options) or a specific topic than in question 29. Therefore, each answer (N=74) was unique and focused on the points the respondents considered to be most important to themselves. The answers focused widely on various aspects of digital learning games in L2 teaching and learning. Several main themes, however, were still discovered in these 74 individual answers. Shortly, these six themes are motivation, variation, evaluation, taught information, time management, and game development. I will briefly explain each theme in this subsection and then furthermore discuss them in chapter 5.

The most common answer in question 39 (15 responses) was that digital learning games are an effective way to motivate pupils and increase their overall motivation to learn languages (see example 10). The respondents thought that digital learning games might function as a tool to also motivate the weaker pupils who might not be interested in learning otherwise. The game-like features and environments that many digital learning games have, might function as a motivator for students who are familiar with gaming and/or do not enjoy traditional teaching methods. Motivation is also one of the most examined aspects of game-based learning (e.g., Martinez-Garza et al. 2018, 55-56; Orr & McGuinness 2018, 623-24) and therefore it was not surprising that it was highlighted in the respondents' answers.

- 10) (Digital learning games) *are motivating for pupils who are not otherwise interested in language learning. (They) are an easy and fun way to make children learn unnoticed.*
 (10) (Parentheses added by me).

According to the respondents, digital learning games are also a useful tool for creating variation in classes. 13 respondents wrote that digital learning games can be used f.e. as a prize for demanding work, a way to challenge learners in a different way, or for revision of old topics (see example 11). The diversity in lesson structures is closely related to motivation that is also mentioned in the respondents' comments. When the topics of the lesson are presented diversely, various kinds of learners have the possibility to learn better. The transformation of lesson structures is discussed more in section 2.3.2.

11) (Digital learning games) *offer some variation in teaching, and nowadays games are extremely popular so it is great that they can be included in teaching.* (22)

(Parentheses added by me).

6 respondents also highlighted that digital learning games work as tools for direct evaluation (see example 12 below). Some games have different profiles for teachers and pupils (f.e. *Quizlet*, and *Kahoot*), and the teacher profiles have the possibility to create spaces for each class/subject and this way monitor the pupils' work and progress. Games like *Bamboozle* and *Kahoot* that are based on competition between pupils, on the other hand, give the teacher direct information about the competence and knowledge of each contestant. Those digital learning games that have the possibility to record speech (f.e. *Duolingo*) can also be used to monitor the pupil's speaking skills besides writing, listening, and reading. In conclusion, digital learning games offer several ways for evaluation and can therefore be used to trace the pupil's progress in all aspects of L2 learning.

12) *I believe that the use of digital learning games will increase in the future. They can be used to monitor pupils' work and their language learning process.* (1)

Among the answers in question 39, the most common negative aspect considering digital learning games was the lack or inadequate amount of teaching offered in universities (see example 13). 7 respondents answered that, the number of technology-related courses was insufficient. The lack of sufficient ICT skills significantly complicates the use and familiarization of digital learning games (and any other learning technologies as well) and lowers the possibility to adapt them into teaching. This discontent towards the lack of ICT training in English teacher education is also discussed in subsection 4.2. that focuses on the respondents' overall ICT skills.

13) *The use of digital learning games could have been discussed more during teacher training.* (8)

6 respondents wrote that the use of digital learning games requires at least some preparations made in advance for it is challenging to use them without prior knowledge. In studies about digital learning games, the biggest issue about their use is that they are sometimes considered time-consuming by teachers (Vu & Fye 2020, 280-281). Since game-based learning is not obligatory in Finnish comprehension schools or general upper secondary schools (although highly encouraged in the newest National Core Curriculum), teachers usually have to make

the preparations in their unpaid free time. The use of digital learning games therefore also depends on the teacher's motivation and willingness to use the game.

14) *In order to keep gaming a tool that is purposeful and encourages learning, the use of digital learning games requires thorough familiarization from the teacher. (66)*

Lastly, 6 respondents described the tedious qualities that the games might sometimes have (see example 15). This feature has also been mentioned by Reinhardt (2019, 10) when describing the uninteresting educational core that may sometimes lay under the exciting game-like features. Game-based learning is a vastly growing and popular area of education technologies (Reinders 2012, 1-2), and new games are constantly appearing on the market. In order to be successful and adopted by teachers and furthermore pupils, the games need to be both entertaining and educating, i.e., not to only focus on one of these qualities.

15) *Whether or not digital learning games motivate pupils depends a lot on the quality of the game. Many of the games that I have seen have been of inadequate quality or discussed topics that are not interesting or relevant to pupils. Gamification itself is not enough. (63)*

The answers gathered from the survey's two most important open-ended questions, 39 and 29, are furthermore discussed and analyzed in the next chapter. More examples from the respondents' answers in these questions are found in subsections 5.1. to 5.3. The material collected from the survey and presented in this analysis are used to form answers to the two research questions described in chapter 1. Next, in chapter 5, I will examine the possible answers to these questions.

5 Discussion

In this section, I will further examine and discuss the findings of my study. In section 1, I presented two research questions that were:

- 1) What are EFL teacher trainees' attitudes and experiences considering the use of digital learning games in English lessons? Are they positive/negative? What could be the reason(s) for them?
- 2) Is the amount of ICT training in teacher training programs sufficient?

These questions helped me form the survey used in this thesis and were the foundation on which I started to examine its answers. The analysis of the 74 survey answers, discussed in section 4, gave insight on the more in-depth examination conducted in this section. Therefore, based on my aforementioned research questions and the conducted survey analysis, three main points for further discussion were discovered:

- 1) Future English teachers have positive attitudes towards the use of digital learning games.
- 2) The teacher trainees have some experiences from the use of digital learning games, and these experiences are mostly positive.
- 3) They consider their ICT skills already sufficient enough to use learning technologies in teaching.

Each point has its own subsection (5.1. Attitudes, 5.2. Experiences, 5.3. ICT Skills) where it is examined and discussed more closely. The aim for this section is to deepen the analysis conducted from the survey, and to search answers for the aforementioned research questions. Based on the upcoming discoveries in this section, the overall thoughts from the survey, and topics for future research are then presented in the last section.

5.1. Attitudes

The first point that I am going to examine more deeply is the highly positive attitudes that English teacher trainees had towards the use of digital learning games. In section 5 (*Attitudes towards the Use of Digital Learning Games*) of the survey, the respondents were asked about the attitudes that they had towards the use of digital learning games. The survey answers not only highlighted the positive attitudes of the teacher trainees but also revealed that they

considered the use of digital learning games to be popular among pupils as well. These positive attitudes can be seen f.e. in questions 30 “*Digital learning games promote the acquisition of English*”, 31 “*Digital learning games motivate pupils to learn languages*” (and a similar question 22) and 32 “*Digital learning games are easily acquired (by both teachers and pupils)*” of the survey (N=74). The answer distribution of these questions are described more in-depth in the previous chapter.

Dörnyei and Ushioda (2021, 163-164) write that while motivated teachers do not always create motivated pupils, it is highly unlikely that unmotivated teachers create motivated pupils. Therefore, in order to motivate the children in using digital learning games, the teacher needs to be invested and interested in using it as part of L2 teaching himself. According to the answers in question 37 “*I am willing to familiarize myself with the use of digital learning games during my free time, if necessary*” of the survey, most EFL teacher trainees were willing to familiarize themselves with the games in their free time. This indicates that, to the survey respondents, digital learning games are considered a significant and interesting part of foreign language teaching and learning, and that the future English teachers are motivated to use the games. Motivation to use technology and game-based learning is discussed more in the theory chapter (2) of the thesis.

Research has revealed that both students and teachers agree that students are more engaged in learning activities in their class and would achieve higher academic performances when using games (Vu & Fye 2020, 283-284). When asked about their attitudes about the use of digital learning games, students have considered the games to be motivating and entertaining, and its use has been thought to increase learning (Vu & Fye 2020, 284). In studies comparing the results between a control group and test group, however, the study periods can sometimes be short, and its effects might not be very long-lasting. The students in test groups might also purposefully focus on their scores and study results in order to look better in the research. Therefore, the results of these comparative studies do not always give accurate results on the effects and attitudes that digital learning games might cause to learning.

The only question in subsection 5.5. that provoked negative answers among the respondents was question 36 “*I am only willing to use free digital learning games*” (see Figure 8 in page 29). In this question, almost 90 percent of the respondents (N=74) somewhat or completely agreed with the argument, meaning that they would not use games that required fees or premium memberships (usually with monthly or annual payments) in order to play them.

Since the use of digital learning games in education is not as stabilized as f.e. the use of digital learning materials, schools do not necessarily have the budget for game subscriptions. This usually means that each teacher needs to independently choose the proper digital learning games that are best suited for his purposes, and then decide whether or not to pay for the extra qualities (such as more players in a single game, no ads, more game options) in them. Since this current practice (at least in Finland) is unequal because of the different income levels among teachers, it is understandable that current students of English language (although being teachers in the future) are not eager to pay these additional fees. Due to the ever-growing field of digital learning games, however, the most popular games that require additional fees (f.e. *Kahoot*) get similar competitors (f.e. *Quizizz*) with subscription plans that are either cheaper or completely free of charge (Kahoot 2022; Quizizz 2022).

5.2. Experiences

Secondly, I will discuss the amount and quality of the practical experiences the respondents had had with digital learning games. In section 4 of the survey (*Practical Experience*), the respondents were asked about their experiences from using digital learning games. Since the survey only studied the answers of English teacher students instead of already graduated teachers, the amount of practical experience among the respondents might be less than among “real” teachers. Based on the survey's answers, however, it was discovered that most respondents (78 percent, N=74) had already used digital learning games either on their pedagogical studies' practice lessons and/or when they had been substituting an English teacher.

The survey answers reveal that digital learning games are currently being used already during teacher training and practice lessons. The eager use of them this early on in the teachers' career paths could indicate that digital learning games are considered an important and popular part of education nowadays. Since both future teachers, and pupils are nowadays fluent users of the Internet, multimodal technologies, and online-games, it is natural and effortless to include technology as part of education as well. The high-volume use of digital learning games, however, is still a new phenomenon and the following years will show if their status as a learning tool becomes established.

The most significant negative factor in using digital learning games was, according to the respondents' experiences, their overuse in education. As discussed already in subsection 4.4. and the analysis of question 29, some respondents reported that the extensive use of digital

learning games might lead to the pupils' declining motivation. Due to their ubiquitous and easy-to-adjust nature, the most popular learning games (for example *Kahoot*) could be used in several subjects and lessons throughout the school day. This can lead to the overuse of these games and the loss of excitement, entertainment, and high motivation that are often described as the positive features of digital learning games (Dörnyei & Ushioda 2021, 132). Another explanation for the described decline of motivation could be the environments where the survey's respondents had used the games. Practice lessons mostly happen in training schools that are maintained by universities rather than municipalities (i.e., the usual organizers of education in Finland) (Ministry of Education and Culture 2022). In the future, it could be interesting to study training school pupils' and "regular" school children's attitudes towards the use of digital learning games and compare these attitudes with each other. Can significant differences be distinguished between the two groups, and if so, which group has a more positive approach to the use of digital learning games in L2 education?

5.3. ICT Skills

The last subsection of my discussion focuses on the level of competence the EFL teacher trainees considered their ICT skills to be at. The discussion in this subsection is based on the findings of section 2 (ICT Skills) of the survey. Before the survey, this feature was the most controversial to me and I had prejudices based on my own experiences as a university student majoring in English. As mentioned in the beginning of section 5, however, the survey results revealed that the overall image that the 74 English teacher trainees had of their ICT skills was highly positive. More than 95 percent of the respondents considered their ICT skills to already be sufficient enough for using (at least some) digital learning games in English lessons (questions 5 and 33, see Figure 9 below).

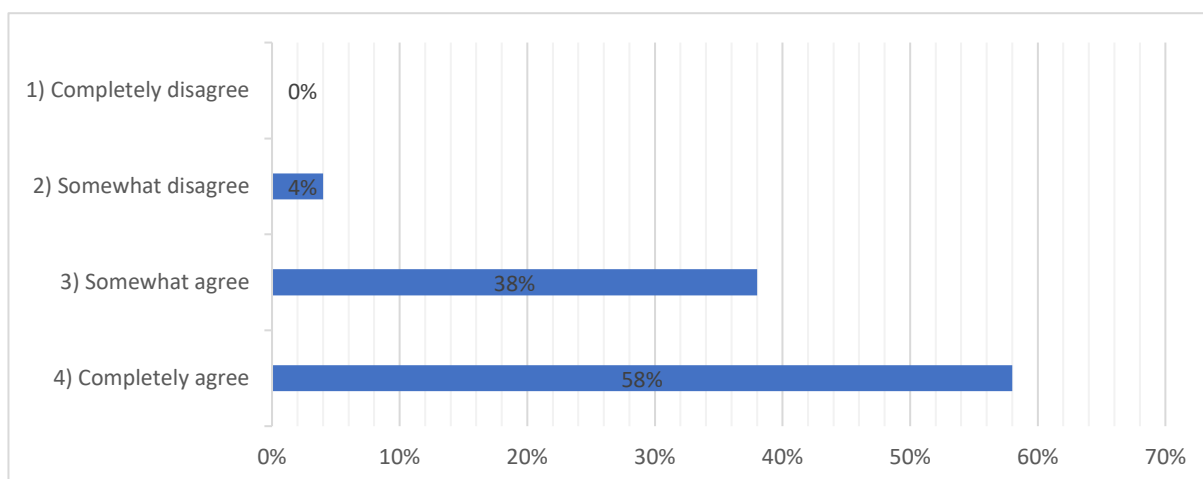


Figure 9. Question 33: I consider my ICT skills to be sufficient for using digital learning games (N=74).

Previous studies that have examined teachers' and teacher students' ICT skills have found divergent results (Katajamäki 2018, Ch. 5.3.3; Viitanen 2014, Ch. 5.7. and 5.8.; Digiajan peruskoulu 2020, Ch. 5). According to Katajamäki (2018, Ch. 5.3.3., and 6), Finnish teacher trainees had more reserved and narrowed attitudes about the use of ICT in education compared to the attitudes of teachers who were already graduated and working at schools. Most teachers and teacher students in his research, however, felt that they should improve the level of their ICT skills. These findings correlate with the answers gathered in the thesis' survey as well: although more than 95 percent (N=74) of the respondents considered their ICT skills to be already sufficient enough to use digital learning games, 93 percent (N=74) still felt that could furthermore develop their knowledge. Teacher students in Viitanen's thesis, on the other hand, were confident on the level of their ICT skill (2014, Ch. 5.7.). The level of ICT training received in university, however, was considered to be insufficient (Viitanen 2014, Ch. 5.8.). The respondents in Viitanen's study highlighted the need for both technical and pedagogical training during their university studies (2014, Ch. 5.8.1. and 5.8.2.). The already working teachers examined in *Comprehensive Schools in the Digital Age* (Kaarakainen et al. 2020, Ch. 5) also mostly considered their ICT skills to be either basic or advanced.

Studies have found that the increase in ICT skills and knowledge, significantly changes (preservice) teachers' attitudes towards game-based learning (GBL) (e.g, Sardone 2020, 244-248). When offering teacher students or working teachers the possibility to better understand the use of ICT in educational contexts, their attitudes about its use has become significantly more positive (Sardone 2020, 249). These findings indicate that a sufficient amount of information about the use of (digital) games in teaching and learning should already be given, just like the teaching of ICT skills, during the future teachers' university studies.

Another notable viewpoint when discussing the ways to acquire knowledge and skills about ICT is learning by doing, i.e., the practical experiences (Reinhardt 2019, 2-3). According to Reinhardt, educators and researchers engage in praxis, an approach that integrates theory with research and teaching practices (ibid.). This was also discussed in Katajamäki's thesis (2018, Ch.6), where it was that teachers had more diverse and profound answers about the use of ICT in education than the teacher students. This might be due to the practical experience (1 to 5 years) from both teaching and the use of ICT that the teachers had already acquired when interviewed. While I have highlighted the need for better ICT-focused education in

universities, it is indisputable that practical experiences are a significant if not the most significant way to increase one's knowledge about the use of ICT, and digital learning games as well.

6 Conclusion

The aim of this thesis was to study future English teachers' attitudes and experiences regarding digital learning games. As can be seen from the previous chapter, both of my research questions had positive outcomes. When examining the respondents' attitudes, it was discovered that the 74 English teacher trainees from six Finnish universities had highly positive attitudes towards the use of digital learning games in EFL teaching and learning. Digital learning games were considered as a tool that motivates pupils, better monitors and evaluates their learning, and offers variation in lessons. According to the respondents, the selection of games, however, had to be done carefully and their use in education needed to be reasonable i.e., they should not be overused. The selection process also requires independent familiarization from teachers that can sometimes be time-consuming.

When researching the practical experiences that the EFL teacher trainees had, the results showed that the majority of them also had some experience from the use of digital learning games. Even though the respondents were all preservice teachers, over 75 percent of them had already either tested and played digital learning games independently and/or used them in their English practice lessons or as a substitute teacher. This can be seen as an indicator that digitalization and gamification are nowadays significant and popular elements in Finnish education.

Based on my individual experiences as a preservice English teacher and the results from studies related to the topic (e.g., Kaarakainen et al. 2020, 62-72; Katajamäki 2018, 59-60), I also decided to examine the respondents' ICT skills in the actual survey and the last subsection of chapter 5. Even though almost 95 percent (N=74) of the respondents felt that they could furthermore develop their ICT skills, most of them (85 percent) considered the current level of their skills to be good or very good. However, 40 percent (N=74) of the respondents considered the amount of ICT-related teaching to have been insufficient during their university studies. This indicates that while it is possible to acquire knowledge about ICT from elsewhere, especially the teacher training programs in Finnish universities should standardize and increase the number of courses about technology in education in the future years and curricula (for more information about the incoherence of teacher studies, see Jyrhämä 2021, Ch. 3.3). This high level of ICT skills is directly linked to the positive outcomes of the other two factors (attitudes and experiences) examined in this thesis. After analyzing and furthermore discussing the survey results in chapters 4 and 5, the overall

conclusion discovered from the survey data is that English teacher trainees in Finland have both positive attitudes and experiences about digital learning games, and their ICT skills are also sufficient enough to use digital learning games effortlessly and independently in education.

Two acknowledgements and limitations considering the survey should be taken into consideration. First, The survey's test group was chosen both out of curiosity and particularity: as an English major specializing in SLA and teaching, I was curious to examine whether other students of this major had the same ideas and experiences as I had about digital learning games. Since university students are (practically always) adults and often used to answer surveys about diverse topics, the data collection process was also somewhat effortless. Had the study group been minors, the data collection would have required more preparations and permissions. Even though a decent number of responses was gathered from the data collection, I, however, acknowledge that the number of respondents (74) in the survey is still too limited for making large-scale generalizations about the major and minor students of English in Finnish universities. Another limitation that should be taken into consideration is the length and details of the survey. My survey also consisted of 39 questions, some of which were obligatory to all, that were divided in five themes. The amount of (obligatory) questions was therefore limited for 1) it had to be fitted for the requirements of this thesis (not too long), and 2) because the main goal of the process was to collect as many answers as possible. In order to gather more qualitative data about the topic, voluntary respondents could have also been interviewed after the survey. The idea of additional interviews were however discarded due to the research schedule and the societal restrictions caused by COVID-19 that were valid at the time. However, a similar, more in-depth study about the use of technology in education among Finnish university students was published in 2017 and is to be completed in the future (Lintunen et al. 2017, 61). In the last paragraphs of this thesis, I will, based on the findings of this research, suggest topics for future studies.

In my previous seminar work (Rantanen 2019, 9-10), I interviewed fifth grade elementary school children about their thoughts on using *Classcraft*, a fantasy-themed digital-learning game, in the beginning of their English lessons. Based on the survey and interviews conducted to the pupils (and the group's English teacher), the use of *Classcraft* was considered highly positive and motivating among the children (ibid). By interviewing the most significant target group of digital learning games (comprehensive school children) I had the possibility to examine the actual users and use environments of the games. However,

having a study group consisting of underaged participants is more complicated compared to adults due to the required parental permissions and more strict data protection practices. Therefore, the majority of studies (and the study used in this thesis as well) about the use and effects of digital learning games are conducted with the experiences of high school or university students that are over 18 years old (Morgana & Pavesi 2021, 62). In my mind, however, younger children are more motivated and eager to use learning games in their studies. In the future, it would thus be justified to gather more data from Finnish comprehensive school pupils and focus studies on this particular learner group instead of older learners. A comparative analysis on the use of a chosen digital learning game in different school subjects (f.e. English, Math, Biology, History) could also be an interesting research topic and provide schools useful information on the suitability of digital learning games in the overall school environment instead of their use in just single subjects.

As of spring 2022 ICT and game-based learning continue to be universally used in education and also remain popular research topics. While it is indisputable that technology has become a significant and stable part of everyday school life during the 21st century, the trends in how it is used in education may still change from time to time. Even though the use of digital learning games has been proven to have several positive effects in previous research (f.e., Manzano-Leon et al. 2021, 9-11; Hitosugi et al. 2014, 33-34) and in this thesis, whether they will also stabilize their status as part of education tools or be more of a passing trend is still unclear. Therefore, the question is what digital learning games must provide today and into the future for it to be valued by second language teachers and learners.

References

- Adela Gánem-Gutiérrez, Gabriela, Haiyang Ai & Xiaofei Lu, & Enricco Grazzi. 2018. "Part VI: Sociocultural Theory and Technology." In *The Routledge Handbook of Sociocultural Theory and Second Language Development*, edited by Matthew E. Poehner, Merrill Swain, & James P. Lantolf, 389-441. Boca Raton: Routledge.
- Beauchamp, Gary. 2017. *Computing and ICT in the Primary School*. London and New York: Routledge.
- Beiz Oy. 2022. "Lola's Learning Pack PRO - Lola's Best Premium Applications". Accessed 21.3.2022. <https://lolapanda.com/learning-pack-pro/>.
- Butler-Pascoe, Mary-Ellen. 2011. "The History of CALL: The Intertwining Paths of Technology and Second/Foreign Language Teaching". *International Journal of Computer-Assisted Language Learning and Teaching* 1, no 1: 16-32. DOI: 10.4018/ijcallt.2011010102.
- Celik, Ufuk, Eyüp Akçetin, & Mehmet Asmali. 2016. "Game Based Learning by Using Student Response Systems". *Sixth International Conference on "Innovations in Learning for the Future"*. Accessed 25.4.2022. https://www.researchgate.net/publication/311024227_Game_Based_Learning_by_Using_Student_Response_Systems.
- Cucinotta D, Vanelli M. 2020. "WHO Declares COVID-19 a Pandemic." *Acta Bio-medica: Atenei Parmensis* 9, no. 1:157-160. DOI: 10.23750/abm.v9i1i1.9397.
- Deris, Farhana Diana, & Nor Seha A Shukor. 2019. "Vocabulary Learning Through Mobile Apps: A Phenomenological Inquiry of Student Acceptance and Desired Apps Features." *iJIM* 13, no. 7: 129-140. DOI: 10.3991/ijim.v13i07.10845.
- Dörnyei, Zoltán, & Ema Ushioda. 2021. *Teaching and Researching Motivation*. 3rd ed. New York: Routledge
- Ellis, Rod. 2015. *Understanding Second Language Acquisition*. 2nd ed. United Kingdom: Oxford University Press.
- Finnish National Agency for Education. 2022. *National Core Curriculum for Basic Education*. Accessed 9.3.2022. <https://www.oph.fi/en/education-and-qualifications/national-core-curriculum-basic-education>.
- Finnish National Agency for Education. 2014. *National Core Curriculum for Basic Education*. Helsinki: Finnish National Agency for Education.
- Francke, Laura, Heikkilä Petri, Lahtinen Matti, Tyrkkö Teemu, & Ulla Vanttaja. 2017. "Tietokoneen, kännykän ja muiden mobiililaitteiden käyttöön liittyvistä oikeuksista ja velvollisuuksista koulussa" [The Rights and Responsibilities concerning the Use of Computers, Mobile Phones, and Other Mobile Devices in Schools]. Finnish National Agency for Education. Accessed 21.2.2022. https://www.oph.fi/sites/default/files/documents/183993_tietokoneen_kannykan_ja_muiden_mobiililaitteiden_kayttoon_liittyvista_oikeuk.pdf.
- Göksün, Derya Orhan, & Gülden Gürsoy. 2019. "Comparing Success and Engagement in Gamified Learning Experiences via Kahoot and Quizziz". *Computers & Education*: 135: 15-29. DOI: 10.1016/j.compedu.2019.02.015.
- Hirschel, Rob, & Erik Fritz. 2013. "Learning Vocabulary: CALL Program Versus Vocabulary Notebook." *System* 41, no. 3: 639-653. DOI: 10.1016/j.system.2013.07.016.
- Hitosugi, Claire Ikumi, Matthew Schmidt, & Kentaro Hayashi. 2014. "Digital Game-based Learning (DGBL) in the L2 Classroom: The Impact of the UN's Off-the-Shelf

- Videogame, Food Force, on Learner Affect and Vocabulary Retention”. *CALICO Journal* 31, no. 1: 19-39. DOI: 10.11139/cj.31.1.19-39.
- Jokinen, Matilda. 2020. ”Oppilaiden oikeus digilaitteisiin ja vuorovaikutukseen korostuu etäopinnoissa” [The Students’ Right to Digital Devices and Interaction is Highlighted during Remote Studies]. *Kuntalehti* [The Municipality Journal]. Accessed 2.4.2022. <https://kuntalehti.fi/uutiset/opetus-ja-kulttuuri/oppilaiden-oikeus-digilaitteisiin-ja-vuorovaikutukseen-korostuu-etaopinnoissa/>.
- Judson, Eugene, & Daiyo Sawada. 2002. “Learning from Past and Present: Electronic Response Systems in College Lecture Halls.” *Journal of Computers in Mathematics and Science Teaching* 2, no. 21: 167–181.
- Jyrhämä, Riitta. 2021. ”Opettajan pedagogiset opinnot 60 op Laaja-alainen opettajakelpoisuus – tilannekuvaus 2021” [The Pedagogical Studies 60-Credit Transversal Teacher Competence – Overview 2021]. Ministry of Education and Culture. Accessed 29.3.2022. https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/163554/OKM_2021_41.pdf?sequence=1&isAllowed=y.
- Kaarakainen, Meri-Tuulia, Suvi-Sadetta Kaarakainen, Antero Kivinen, Antti Syvänen, Erika Tanhua-Piiroinen, & Jarmo Viteli. 2019. “Digiajan peruskoulu” [Comprehensive Schools in the Digital Age]. Prime Minister’s Office.
- Kaarakainen, Meri-Tuulia, Suvi-Sadetta Kaarakainen, Erika Tanhua-Piiroinen, & Jarmo Viteli. 2020. “Digiajan peruskoulu II” [Comprehensive Schools in the Digital Age II]. Ministry of Education and Culture.
- Kahoot! 2022. ”Choose the Right Kahoot! 360 Plan for You”. Accessed 28.3.2022. <https://kahoot.com/business/pricing/>.
- Katajamäki, Ilari. 2018. ”OPETTAJAOPISKELIJOIDEN JA TYÖELÄMÄSSÄ OLEVIEN OPETTAJIEN ASEENTEET TIETO- JA VIESTINTÄTEKNOLOGIAN KÄYTTÖÖN OPETUKSESSA” [Teacher Students’ and Working Teachers’ Attitudes towards Using Information and Communications Technology in Teaching] MA Thesis, University of Eastern Finland.
- Kinnunen, Jani, Frans Mäyrä, & Kirsi Taskinen. 2020. “Pelaajabarometri 2020 - pelaamista koronan aikaan” [Finnish Player Barometer 2020 - Gaming during the Covid-19 Era]. University of Tampere.
- Kukulka-Hulme, Agnes. 2021. “Conclusions : A Lifelong Perspective on Mobile Language Learning”. In *Mobile Assisted Language Learning Across Educational Contexts*, edited by Valentina Morgana & Agnes Kukulka-Hulme, 61-80. New York: Routledge.
- Levy, Michael. 1997. *Computer-Assisted Language Learning: Context and Conceptualization*. United Kingdom: Oxford University Press.
- Lintunen, Pekka, Maarit Mutta, & Sanna Pelttari. 2017. ”Profiling Language Learners in Hybrid Learning Contexts: Learner’s Perceptions”. *The Eurocall Review* 25, no 1: 61-75. DOI: 10.4995/eurocall.2017.7145.
- Luoto, Lauri, & Matti Lappalainen. 2006. “Opetussuunnitelmaprosessit yliopistoissa” [The Curriculum Processes in Universities]. Finnish Education Evaluation Centre: Tampere.
- Marek, Michael W., & Wen-Chi Vivian Wu. 2019. “Creating a Technology-Rich English Language Learning Environment.” In *Second Handbook of English Language Teaching*, edited by X. A. Gao, 757-777. New York: Springer.
- Martinez-Garza, Mario, Douglas Clark, Stephen Killingsworth, & Deanne Adams. 2018. “Beyond Fun: Pintrich, Motivation to Learn, and Games for Learning”. In

- Gamification in Education: Breakthroughs in Research and Practice*, edited by Information Resources Management Association, 32-65. Pennsylvania: Hershey.
- Ministry of Education and Culture. "Financing and Administration of General Education" 2022. Accessed 24.3.2022. <https://okm.fi/en/administration-and-finance-general-education>.
- Morgana, Valentina & Caterina Pavesi. 2021. "Effects of an Extensive e-Book Reading Programme on Middle School EFL Students". In *Mobile Assisted Language Learning Across Educational Contexts*, edited by Valentina Morgana & Agnes Kukulska-Hulme, 61-80. New York: Routledge.
- Munro, Robert. 2000. "Exploring and Explaining the Past: ICT and History". *Educational Media International* 37, no 4: 251-256. DOI: 10.1080/09523980050210448.
- Niilo Mäki Instituutti. 2022. "What is GraphoLearn?". Accessed 21.3.2022. <http://www.lukimat.fi/lukeminen/materiaalit/ekapeli/ekapeli-in-english-1/graphogame>.
- Nurmukhamedov, Ulugbek, & Randall Sadler. 2020. *New Ways in Teaching with Games*. TESOL Press: Chicago.
- Orr, Karen & Carol McGuinness. 2018. "What is the "Learning" in Games-Based Learning?". In *Gamification in Education: Breakthroughs in Research and Practice*, edited by Information Resources Management Association, 611-634. Pennsylvania: Hershey.
- Ortega, Lourdes. 2009. *Understanding Second Language Acquisition*. Routledge: New York.
- Pietiläinen, Virpi. 2020. "Korona-aika on haastanut kouluja ja oppilaitoksia kehittämään uusia hyviä käytänteitä" [The Corona Pandemic has Challenged Schools and Educational Institutions to Develop New Good Practices]. Finnish Education Evaluation Centre. Accessed 1.4.2022. <https://karvi.fi/2020/11/17/korona-aika-on-haastanut-kouluja-ja-oppilaitoksia-kehittamaan-uusia-hyvia-kaytanteita/>.
- Quizizz Inc. 2022. "Choose Your Plan: How Will You Keep Everyone Engaged?". Accessed 28.3.2022. <https://quizizz.com/forwork/plans>.
- Rantanen, Aliisa. 2019. "Classcraft-pelin vaikutus viidennen luokan oppilaiden motivaatioon opiskella englannin kieltä" [The Effect of Classcraft on Fifth Grade Pupils' Motivation to Study English]. Seminar Work, University of Turku.
- Ratheeswari, K. 2018. "Information Communication Technology in Education". *Journal of Applied and Advanced Research* 3: S45-S47. DOI: [10.21839/jaar.2018.v3iS1.169](https://doi.org/10.21839/jaar.2018.v3iS1.169).
- Reinders, Hayo, ed. 2012. *Digital Games in Language Learning and Teaching*. Hampshire: Palgrave Macmillan.
- Reinhardt, Jonathon. 2019. *Gameful Second and Foreign Language Teaching and Learning Theory, Research, and Practice*. Switzerland: Palgrave MacMillan.
- Ronimus, Miia. 2012. *Digitaalisen oppimispelin motivoivuus: Havaintoja Ekapeliä pelanneista lapsista* [The Motivational Appeal of a Digital Learning Game. Observations of Children Using Graphogame]. Jyväskylä: University of Jyväskylä.
- Sanchez, Eric, Shawn Young, & Caroline Jouneau-Sion. 2017. "Classcraft: from gamification to ludicization of classroom management". *Education and Information Technologies* 22, no. 2: 497-513. DOI: 10.1007/s10639-016-9489-6.
- SanomaPro. 2022. "Oppi & Ilo in English" [Learning & Joy in English]. Accessed 3.4.2022. <https://www.oppijailo.fi/in-english/>.
- SanomaPro. 2020a. "Bingel – Pelillisyyden tuo vaihtelua harjoitteluun koulussa ja kotona" [Bingel – Gamification Brings Variation to Practising in School and at Home]. Accessed 25.10.2020. <https://www.sanomapro.fi/bingel/>.

- .2020b. ”Näin Bingel tukee opetustasi – Suomen ensimmäinen OPSin mukainen pelimaailma”[The Ways that Bingel Supports Your Teaching – Finland’s First Game World that is Made according to the National Core Curriculum]. Accessed 25.10.2020. <https://www.sanomapro.fi/nain-bingel-tukee-opetustasi/>.
- Sardone, Nancy B. “Preservice Teachers Consider Game-Based Teaching and Learning”. In *Global Perspectives on Gameful and Playful Teaching and Learning*, edited by Matthew Farber, 240-255. Pennsylvania: Hershey.
- Statista. 2021. Coronavirus: Impact on the Gaming Industry Worldwide. Statista Inc. New York. Accessed 16.2.2022. <https://www-statista-com.ezproxy.utu.fi/study/72150/coronavirus-impact-on-the-video-game-industry-worldwide/>
- Turun kaupungin sivistystoimiala [The Education and Culture Department of Turku]. 2019. “Tieto- ja viestintäteknologian opetuskäytön suunnitelma 2019–2022” [The Manual for Using ICT in Education]. Sivistystoimiala [The Education and Culture Department]. Turku. Accessed 22.2.2022. <https://edu.turku.fi/wp-content/uploads/2019/10/tvt-suunnitelma-2019-2022.pdf>.
- University of Helsinki. 2022. “The Effect of Coronavirus on Your Studies – Q&A”. Accessed 2.5.2022. <https://studies.helsinki.fi/instructions/article/effect-coronavirus-your-studies-qa>.
- University of Turku. 2022. “Privacy Notice”. Accessed 20.3.2022. <https://www.utu.fi/en/privacy/notice>.
- University of Turku. 2020.” Degree Programme in Language Learning and Teaching, 2020-2022”. Accessed 23.2.2022. <https://opas.peppi.utu.fi/en/programme/14861?period=2020-2022>.
- Viitanen, Sami. 2014. “ICT IN EDUCATION: EFL teacher trainees’ views of the affordances of ICT use in education and the need for ICT training in teacher education programmes in Finnish universities.” MA Thesis, University of Jyväskylä.
- Vu, Phu & Marissa A Fye. 2020. “Achievement Unlocked ? Understanding Perceptions, Challenges, and Implications of GBL in Classroom”. In *Global perspectives on gameful and playful teaching and learning*, edited by Matthew Farber, 276-286. Pennsylvania: Hershey.
- Vygotsky, L. S., Michael Cole, Vera John-Steiner, Sylvia Scribner, & Ellen Soubberman. 1978. *Mind in Society: Development of Higher Psychological Processes*. Cumberland: Harvard University Press.
- Wang, Alf Inge, & Rabail Tahir. 2020. “The Effect of Using Kahoot! for Learning - A Literature Review.” *Computers and Education* 149, no. 5: Article no. 103818. DOI: 10.1016/j.compedu.2020.103818.
- World Health Organization. 2022. “Coronavirus Disease (COVID-19)”. Accessed 21.3.2022. https://www.who.int/health-topics/coronavirus#tab=tab_1.

Appendices

Appendices 1 and 2 contain the original survey that was sent to English major or minor students in six Finnish universities during the fall of 2020, and its English translation.

Appendix 3 contains the Finnish summary of the thesis.

Appendix 1 Survey

Kysely digitaalisten oppimispelien käytöstä ja asenteista

Tässä kyselyssä kartoitetaan opettajan pedagogiset opinnot suorittaneiden englannin pää- ja sivuaineopiskelijoiden kokemuksia ja asenteita digitaalisten oppimispelien käytöstä. Kyselyyn voivat vastata myös parhaillaan opettajan pedagogisia opintoja suorittavat opiskelijat. Kysely sisältää 5 osiota, ja vastaaminen vie aikaa noin 10 minuuttia. Kysely on anonyymi, eikä opiskelijoiden henkilöllisyyttä tai kotiyliopistoa tuoda ilmi missään vaiheessa tutkimusta. Vastaamalla kyselyyn annat suostumuksen sille, että vastauksia käytetään anonyymisti tutkimuksessani.

Voit lukea tietosuojailmoituksen oheisesta linkistä: https://docs.google.com/document/d/1jgk_yGQIHEObp84vEAnlxPNTy0Rk3jjwm8WIOS6nEAw/edit?usp=sharing

Osio 1/5: Perustiedot

1. Ikä *

2. Lukuvuosi, jolloin pedagogiset opinnot on suoritettu (esim. 2019–20) *

3. Oletko englannin pää- vai sivuaineopiskelija *

- Pääaineopiskelija
- Sivuaineopiskelija

4. Muut opetettavat aineet (esim. toinen kieli, luokanopettaja) *

Osio 2/5: Tvt-taidot

Vastaa seuraaviin väitteisiin mielipidettäsi parhaiten kuvaavalla arvolla.

5. Koen tällä hetkellä omat tvt-taitoni *

- 1) Heikoiksi
- 2) Kohtalaisiksi
- 3) Hyviksi
- 4) Erittäin hyviksi

6. Jos vastasit 1) tai 2), listaa 2–3 keinoa, miten tvt-taitojesi tasoa voisi lisätä/parantaa

7. Olen opiskeluaikani saanut riittävästi opetusta ja tietoa liittyen tvt-taitoihin *

- 1) Täysin eri mieltä
- 2) Melko eri mieltä
- 3) Melko samaa mieltä
- 4) Täysin samaa mieltä

8. Jos vastasit 1) tai 2), listaa 2–3 keinoa, miten tvt-taitojen opetusta voisi lisätä/parantaa yliopisto-opinnoissa

9. Olen oppinut tvt-taitoja muualta kuin yliopistosta (esim. aiempi koulutus, kurssit) *

- 1) Täysin eri mieltä
- 2) Melko eri mieltä
- 3) Melko samaa mieltä
- 4) Täysin samaa mieltä

10. Olen opetellut tvt-taitoja itsenäisesti vapaa-ajallani *

- 1) Täysin eri mieltä
- 2) Melko eri mieltä
- 3) Melko samaa mieltä
- 4) Täysin samaa mieltä

11. Koen, että voisin edelleen kehittää tv-taitojani *

- 1) Kyllä
- 2) Ei

12. Jos vastasit 1) Kyllä, listaa 2–3 keinoa, millä tavoin voisit kehittää tv-taitojasi

Osio 3/5: Digitaaliset oppimispelit kielten opetuksessa

Vastaa seuraaviin väitteisiin mielipidettäsi parhaiten kuvaavalla arvolla.

13. Rastita, mitkä seuraavista termeistä ovat tuttuja sinulle *

- Digitaalinen oppimispeli
- CALL
- MALL
- Pelillistäminen (engl. *gamification*)
- Ei yksikään edellä mainituista

14. Jos vähintään yksi edellisen kysymyksen termeistä on sinulle tuttu, kerro lyhyesti, missä tilanteessa/tilanteissa termejä on käsitelty (yliopistossa, kursseilla, vapaa-ajalla, artikkeleissa jne.)

15. Olen yliopistossa osallistunut jollekin kielten opettamisen oppimisteknologioita käsittelevälle kurssille *

- 1) Kyllä
- 2) Ei

16. Olen yliopistossa osallistunut jollekin muulle oppimisteknologioita käsittelevälle kurssille *

- 1) Kyllä
- 2) Ei

Osio 4/5: Käytännön kokemus

Vastaa seuraaviin väitteisiin mielipidettäsi parhaiten kuvaavalla arvolla.

17. Olen käyttänyt oppimispelejä englannin oppiaineessa toimiessani opetusharjoittelussa tai sijaisena *

- 1) Kyllä
- 2) Ei

18. Jos vastasit 1) Kyllä, rastita käyttämiesi sovellusten nimet ja vastaa seuraaviin väitteisiin

- Classcraft
 - Bingel
 - Oppi ja Ilo
 - Moka Mera Lingua
 - Quizlet
 - Kahoot
 - Lolan ABC-retki
 - Duolingo
 - Drops
 - GraphoLearn (Ekapeli)
 - Joku muu, mikä
-

19. Koin englannin oppiaineessa käyttämäni oppimispelit helppokäyttöisiksi

- 1) Täysin eri mieltä
- 2) Melko eri mieltä
- 3) Melko samaa mieltä
- 4) Täysin samaa mieltä

20. Pelin käyttö vei liikaa tunnin resursseja

- 1) Täysin eri mieltä
- 2) Melko eri mieltä
- 3) Melko samaa mieltä
- 4) Täysin samaa mieltä

21. Pelin käytölle oli oppitunnilla selvä tarkoitus

- 1) Täysin eri mieltä
- 2) Melko eri mieltä
- 3) Melko samaa mieltä
- 4) Täysin samaa mieltä

22. Pelin käyttö motivoi oppilaita

- 1) Täysin eri mieltä
- 2) Melko eri mieltä
- 3) Melko samaa mieltä
- 4) Täysin samaa mieltä

23. Olen käyttänyt oppimispeljä muussa oppiaineessa kuin englannissa toimiessani opetusharjoittelussa tai sijaisena *

- 1) Kyllä
- 2) Ei

24. Jos vastasit 1) Kyllä, rastita käyttämiesi sovellusten nimet

- Classcraft
- Bingel
- Oppi ja Ilo

- Moka Mera Lingua
 - Quizlet
 - Kahoot
 - Lolan ABC-retki
 - Duolingo
 - Drops
 - GraphoLearn (Ekapeli)
 - Joku muu, mikä
-

25. Olen kokeillut oppimispelejä itsenäisesti *

- 1) Kyllä
- 2) Ei

26. Jos vastasit 1) Kyllä, rastita käyttämiesi sovellusten nimet

- Classcraft
 - Bingel
 - Oppi ja Ilo
 - Moka Mera Lingua
 - Quizlet
 - Kahoot
 - Lolan ABC-retki
 - Duolingo
 - Drops
 - GraphoLearn (Ekapeli)
 - Joku muu, mikä
-

27. Olen kokeillut oppimispelejä opiskeluaikoinani muualla kuin harjoitustunneilla (esim. teknologiaan keskittyneellä kurssilla, demotunneilla) *

- 1) Kyllä
- 2) Ei

28. Jos vastasit 1) Kyllä, rastita käyttämiesi sovellusten nimet

- Classcraft
 - Bingel
 - Oppi ja Ilo
 - Moka Mera Lingua
 - Quizlet
 - Kahoot
 - Lolan ABC-retki
 - Duolingo
 - Drops
 - GraphoLearn (Ekapeli)
 - Joku muu, mikä
-

29. Kokemustesi pohjalta, kerro lyhyesti mielipiteesi oppimispelien käytöstä englannin opetuksen välineenä (jos sinulla ei ole sovellusten käytöstä minkäänlaista kokemusta, kirjoita tekstikenttään ”ei kokemusta”) *

Osio 5/5: Asenteet digitaalisten oppimispelien käyttöä kohtaan

Vastaa seuraaviin väitteisiin mielipidettäsi parhaiten kuvaavalla arvolla.

30. Digitaaliset oppimispelit edistävät englannin oppimista. *

- 1) Täysin eri mieltä
- 2) Melko eri mieltä
- 3) Melko samaa mieltä
- 4) Täysin samaa mieltä

31. Digitaaliset oppimispelit motivoivat oppilaita kielen opiskeluun. *

- 1) Täysin eri mieltä
- 2) Melko eri mieltä

- 3) Melko samaa mieltä
- 4) Täysin samaa mieltä

32. Digitaalisten oppimispelien käyttö on helposti opittavissa (sekä opettajan että oppilaan osalta). *

- 1) Täysin eri mieltä
- 2) Melko eri mieltä
- 3) Melko samaa mieltä
- 4) Täysin samaa mieltä

33. Tvt-taitoni ovat riittävät digitaalisten oppimispelien käyttöön. *

- 1) Täysin eri mieltä
- 2) Melko eri mieltä
- 3) Melko samaa mieltä
- 4) Täysin samaa mieltä

34. Aion käyttää digitaalisia oppimispeljä (tulevaisuudessa) omilla englannin tunneillani. *

- 1) Täysin eri mieltä
- 2) Melko eri mieltä
- 3) Melko samaa mieltä
- 4) Täysin samaa mieltä

35. Digitaalisten oppimispelien käyttö oppitunneilla on liian aikaa vievää. *

- 1) Täysin eri mieltä
- 2) Melko eri mieltä
- 3) Melko samaa mieltä
- 4) Täysin samaa mieltä

36. Suostun käyttämään vain ilmaisia digitaalisia oppimispeljä. *

- 1) Täysin eri mieltä
- 2) Melko eri mieltä
- 3) Melko samaa mieltä
- 4) Täysin samaa mieltä

37. Jaksan tarvittaessa perehtyä digitaalisten oppimispelien käyttöön myös vapaa-ajalla. *

- 1) Täysin eri mieltä
- 2) Melko eri mieltä
- 3) Melko samaa mieltä
- 4) Täysin samaa mieltä

38. Uskon, että digitaalisten oppimispelien käyttö oppitunneilla kasvaa tulevaisuudessa. *

- 1) Täysin eri mieltä
- 2) Melko eri mieltä
- 3) Melko samaa mieltä
- 4) Täysin samaa mieltä

39. Lopuksi voit vielä vapaasti kertoa ajatuksiasi liittyen digitaalisiin oppimispelisiin, niiden käyttöön, hyötyihin tms.: *

Appendix 2 Survey, English Translation

A Survey on the Use and Attitudes Towards Digital Learning Games

This survey examines the experiences and attitudes English major and minor students who have taken pedagogical studies have on digital learning games. Students who are currently taking pedagogical studies can also respond to this survey. The survey contains 5 sections, and it takes about 10 minutes to complete. The survey is completely anonymous, and the students' identities or home university will not be revealed in any part of the study. By responding to the survey, you agree to the anonymous use of your answers in the study.

The survey's privacy statement is available at: https://docs.google.com/document/d/1jgk_yGQIHEObp84vEAnlxPNTy0Rk3jjwm8WIOS6nEAw/edit?usp=sharing

Section 1/5: Basic Information

1. Age *

2. The semester when pedagogical studies were taken (e.g., 2019-20) *

3. Are you a major or minor student of English? *

- Major student
- Minor student

4. Other taught subjects (e.g., another language, primary school teacher) *

Section 2/5: ICT Skills

Respond to the following statements with an option that best describes your opinion.

5. At the moment, I consider my ICT skills to be *

- 1) Weak
- 2) Decent

- 3) Good
- 4) Very Good

6. If you answered 1) or 2), list 2-3 ways that could increase/improve the level of your ICT skills

7. During my university studies, I have received a sufficient amount of teaching and information regarding ICT skills *

- 1) Completely disagree
- 2) Somewhat disagree
- 3) Somewhat agree
- 4) Completely agree

8. If you answered 1) or 2), list 2-3 ways how teaching about ICT skills could be increased/improved in university studies

9. I have acquired ICT skills from somewhere else than the university (e.g., previous education, courses) *

- 1) Completely disagree
- 2) Somewhat disagree
- 3) Somewhat agree
- 4) Completely agree

10. I have learned ICT skills independently on my free time *

- 1) Completely disagree
- 2) Somewhat disagree
- 3) Somewhat agree
- 4) Completely agree

11. I think that I could improve my ICT skills further *

- 1) Yes
- 2) No

12. If you answered 1) Yes, list 2–3 ways how you could improve your ICT skills

Section 3/5: Digital Learning Games in Language Teaching

Respond to the following statements with an option that best describes your opinion.

13. Select the terms that are familiar to you *

- Digital learning game
- CALL
- MALL
- Gamification
- None of the above

14. If at least one of the previous terms is familiar to you, shortly describe where they have been discussed (university, courses, free time, articles, etc.)

15. I have participated in a course about foreign language learning technologies during my university studies *

- 1) Yes
- 2) No

16. I have participated in some other course about learning technologies during my university studies *

- 1) Yes
- 2) No

Section 4/5: Practical Experience

Respond to the following statements with an option that best describes your opinion.

17. I have used learning games in English lessons either during the pedagogical studies or when-working as a substitute teacher *

- 1) Yes
- 2) No

18. If you answered 1) Yes, select the games/applications you have used and respond to the following statements

- Classcraft
 - Bingel
 - Oppi ja Ilo
 - Moka Mera Lingua
 - Quizlet
 - Kahoot
 - Lolan ABC-retki
 - Duolingo
 - Drops
 - GraphoLearn
 - Other, what
-

19. The learning games I used during English lessons were easy to use

- 1) Completely disagree
- 2) Somewhat disagree
- 3) Somewhat agree
- 4) Completely agree

20. Using the game consumed too many resources from the lesson

- 1) Completely disagree
- 2) Somewhat disagree
- 3) Somewhat agree

- 4) Completely agree

21. There was a clear purpose for using the game as a part of the lesson

- 1) Completely disagree
- 2) Somewhat disagree
- 3) Somewhat agree
- 4) Completely agree

22. Using the game motivated pupils

- 1) Completely disagree
- 2) Somewhat disagree
- 3) Somewhat agree
- 4) Completely agree

23. I have used learning games in some other subject's lessons either during the pedagogical studies or when working as a substitute teacher *

- 1) Yes
- 2) No

24. If you answered 1) Yes, select the games/applications you have used

- Classcraft
 - Bingel
 - Oppi ja Ilo
 - Moka Mera Lingua
 - Quizlet
 - Kahoot
 - Lolan ABC-retki
 - Duolingo
 - Drops
 - GraphoLearn (Ekapeli)
 - Other, what
-

25. I have tried learning games independently *

- 1) Yes
- 2) No

26. If you answered 1) Yes, select the games/applications you have used

- Classcraft
 - Bingel
 - Oppi ja Ilo
 - Moka Mera Lingua
 - Quizlet
 - Kahoot
 - Lolan ABC-retki
 - Duolingo
 - Drops
 - GraphoLearn (Ekapeli)
 - Other, what
-

27. I have tried learning games somewhere else other than in pedagogical studies (e.g., courses focusing on technology, demo classes) during my university studies *

- 1) Yes
- 2) No

28. If you answered 1) Yes, select the games/applications you have used

- Classcraft
- Bingel
- Oppi ja Ilo
- Moka Mera Lingua
- Quizlet
- Kahoot
- Lolan ABC-retki
- Duolingo
- Drops
- GraphoLearn (Ekapeli)

- Other, what
-

29. Based on your experiences, briefly give your opinion about the use of learning games as a tool for teaching English (if you have no experience about the use of learning games, write “no experience” in the section above) *

Section 5/5: Attitudes towards the Use of Digital Learning Games

Respond to the following statements with an option that best describes your opinion.

30. Digital learning games promote the acquisition of English. *

- 1) Completely disagree
- 2) Somewhat disagree
- 3) Somewhat agree
- 4) Completely agree

31. Digital learning games motivate pupils to learn languages. *

- 1) Completely disagree
- 2) Somewhat disagree
- 3) Somewhat agree
- 4) Completely agree

32. Digital learning games are easily acquired (by both teachers and pupils) *

- 1) Completely disagree
- 2) Somewhat disagree
- 3) Somewhat agree
- 4) Completely agree

33. I consider my ICT skills to be sufficient for using digital learning games. *

- 1) Completely disagree

- 2) Somewhat disagree
- 3) Somewhat agree
- 4) Completely agree

34. I intend to use digital learning games in my own English lessons in the future. *

- 1) Completely disagree
- 2) Somewhat disagree
- 3) Somewhat agree
- 4) Completely agree

35. The use of digital learning games is too time consuming. *

- 1) Completely disagree
- 2) Somewhat disagree
- 3) Somewhat agree
- 4) Completely agree

36. I am only willing to use free digital learning games. *

- 1) Completely disagree
- 2) Somewhat disagree
- 3) Somewhat agree
- 4) Completely agree

37. I am willing to familiarize myself with the use of digital learning games during my free time, if necessary. *

- 1) Completely disagree
- 2) Somewhat disagree
- 3) Somewhat agree
- 4) Completely agree

38. I believe that the use of digital learning games during lessons will increase in the future. *

- 1) Completely disagree
- 2) Somewhat disagree
- 3) Somewhat agree

- 4) Completely agree

39. Lastly, you may freely describe your thoughts about digital learning games, their use, advantages, etc.: *

Appendix 3 Finnish Summary

Tämän pro gradu-tutkielman aiheena on selvittää englannin kieltä pää- tai sivuaineena opiskelevien aineenopettajaopiskelijoiden asenteita ja kokemuksia digitaalisten oppimispelien käytössä osana vieraan kielen opetusta. Tutkielman kaksi keskeistä tutkimuskysymystä olivat:

- 1) Mitkä ovat englannin kielen opettajaopiskelijoiden asenteet ja kokemukset digitaalisten oppimispelien käytöstä osana vieraan kielen opetusta?
- 2) Onko tieto- ja viestintäteknologiaan keskittyvän yliopisto-opetuksen määrä riittävä?

Tutkimusaiheen ja -kysymysten valintaan ovat vaikuttaneet omat mielenkiinnon kohteeni digitaalisten oppimispelien käyttöä kohtaan, aiheen ajankohtaisuus, sekä koronaviruksen aiheuttamat muutokset teknologian käytössä kouluissa. Tutkimuksessani analysoin 74 englannin kielen opettajaopiskelijan vastauksia teettämäni Webropol-kyselyyn, ja pohdin kyselystä saatujen vastausten ja aiempien tutkimusten sekä teorian pohjalta vastauksia tutkimuskysymyksiin.

Teoria

Tutkielman teoriaosa on jaettu kahteen alalukuun ja niissä käsitellään kolmea tutkimuksen aiheen kannalta keskeistä teemaa. Teemat etenevät ylhäältä alaspäin-menetelmällä, jolloin laajin teemoista käsitellään ensin ja spesifein viimeisenä. Kaksi teoriaosuuden alalukua ovat tieto- ja viestintäteknologia (tvt, engl. ICT) sekä tietokone/mobiiliavusteinen kielenoppiminen (engl. CALL/MALL, kutsutaan tässä tiivistelmässä jatkossa näillä nimillä), joka sisältää myös tutkielman kolmannen keskeisen teeman, digitaaliset oppimispelit.

Ensimmäisessä teoriaosiossa käsitellään tieto- ja viestintäteknologian käyttöä opetuksessa, ja se jakautuu vielä edelleen kolmeen alalukuun. Nämä alaluvut ovat tv-t uudessa perusopetuksen opetussuunnitelmassa (Opetushallitus 2014) tv-t kouluympäristöissä, sekä tv-t opettajankoulutuksessa. Tieto- ja viestintäteknologialla viitataan useimmiten teknologioihin, jotka tarjoavat telekommunikaation avulla pääsyn informaatioon (Ratheeswari 2018, S45). Esimerkiksi puhelimet, tietokoneet, internet, ja langattomat verkkoyhteydet ovat tieto- ja viestintäteknologian välineitä. Tvt'n käyttö kouluissa alkoi 1980-luvulla rajallisin työkaluin, ja yleistyi läpi 1990- ja 2000-lukujen (Munro 2000, 251–53). Nykyisin tv-t on lähes poikkeuksetta osa jokapäiväistä koulumaailmaa.

Opetushallitus julkaisi uusimman perusopetusta koskevan opetussuunnitelman perusteet vuonna 2014 ja sitä täydentävät lisäksi kuntien omat opetussuunnitelmat. Uusin opetussuunnitelma sisältää oppiainekohtaisten sisältöjen lisäksi myös seitsemän monialaista oppimiskokonaisuutta (Opetushallitus 2014, kpl. 3.3.), joista yksi on tieto- ja viestintäteknologinen osaaminen (L5). Tvt-taitojen osaamistavoitteet ovat 1) käyttö- ja toimintaperiaatteiden ymmärtäminen, 2) tvt:n vastuullinen ja turvallinen käyttö, 3) tvt:n käyttö tiedonhallinnassa, sekä 4) käytännön kokemukset tvt:n käytöstä (ibid.).

Tieto- ja viestintäteknologian käyttö konkreettisissa kouluympäristöissä on nykypäivänä hyvin monipuolista ja teknologiaa hyödynnetään opetuksessa päivittäin sekä oppilaan että opettajan osalta (Francke ym. 2017, 5). Tietokoneiden, tablettien ja puhelimien käyttöä koulupäivän aikana säädellään Opetushallituksen julkaisemassa käsikirjassa (2017).

Teknologian käytössä on hyötyjen lisäksi myös otettava huomioon internetin tuomat haitat, ja koulujen tehtävänä on nykyään myös opettaa lapsia toimimaan verkossa oikein ja tunnistamaan sen vaarat (Esim. Opetushallitus 2014, Kpl. 3.3.; Francke ym. 2017, 11–12).

Useat suomalaiset yliopistot tarjoavat opettajaopintoja (Jyrhämä 2021, 72). Opintojen sisällöt vaihtelevat kuitenkin suuresti opiskeltavan alan (esim. luokanopettaja, vieraan kielen aineenopettaja) mukaan (Jyrhämä 2021, 145). Opetus- ja kulttuuriministeriön vertailussa myös aineenopettajien pedagogisissa opinnoissa oli yliopistojen välisiä eroja (Jyrhämä 2021, Kpl. 3.3.1.). Tämä opintojen hajanaisuus vaikuttaa merkittävästi saadun opetuksen laatuun etenkin aineenopettajilla, joiden opettajaopinnot ovat laajuudeltaan vain 60 op. Yhdenkään yliopiston kurssitarjonnasta ei löytynyt erityisesti teknologiaan keskittyvää kurssia, tosin Jyväskylän ja Oulun yliopistot painottavat digitaalisuutta ja verkkopedagogiikkaa (Jyrhämä 2021, 165). Mikäli teknologiaopintojen tarjoaminen on yliopistojen oman harkinnan ja painotuksen varassa, on riskinä se, että tulevaisuuden opettajilla on hyvin erilaiset tvt-aidot ja siten eri lähtökohdat teknologian opetuskäyttöön. Opettajaopintojen yhtenäistäminen palvelisi sisällöllisesti koko opiskelijakuntaa eikä ainoastaan teknologiaan keskittyviä opintokokonaisuuksia (Jyrhämä 2021, 168–70). Opettajaopiskelijoiden tyytymättömyys tvt-taitojen opetukseen yliopistoissa on tullut ilmi myös useammassa suomalaisessa tutkimuksessa (esim. Viitanen 2014, Kpl. 5.7 ja 5.8.; Katajamäki 2018, 39).

Tieto- ja viestintäteknologian käyttö lisääntyi suomalaiskouluissa selvästi koronaviruspandemian aikana (Pietiläinen 2020). Nopealla aikataululla toteutetut koulusulut keväällä 2020 pakottivat viimeisetkin koulut tekemään niin sanotun ”digiloikan” ja lisäämään

teknologian käyttöä osana opetusta. Eri pituisen ajan jatkunut etäopetusperiodi lisäsi kuitenkin koulujen ja kotien tv-t-osaamista huomattavasti (ibid.). Niin koulujen henkilökunta, opettajat kuin oppilaatkin kokivat sekä teknologiataitojensa että sen käytön lisääntyneen. Useat Kansallisen Koulutuksen Arviointikeskuksen (KARVI) kyselyyn vastanneista opettajista ilmoitti lisäävänsä teknologian käyttöä opetuksessa myös etäopetuksen jälkeen (ibid.). Korona-aika näkyi myös vapaa-ajalla lisääntyneenä digitaalisten pelien pelaamisena, erityisesti 10–19-vuotiaiden ikäryhmässä (Kinnunen ym. 2020, Kpl. 3.4.2.).

Toisessa teoriaosiossa keskitytään enemmän kielen oppimisen teknologioihin ja sen keskeisinä teemoina ovat CALL ja MALL, sekä digitaaliset oppimispelit ja niiden hyödyt ja haitat. Termi tietokoneavusteinen kielenoppiminen, CALL, syntyi 1960-luvulla yliopistoissa ympäri maailman (Butler-Pascoe 2011, 17). Älypuhelimien ja tablettien kehityksen myötä CALL-termin rinnalle on tullut myös mobiiliavusteinen kielenoppiminen, MALL, ja 2020-luvulla nämä termit toimivat pitkälti rinnakkain ja limittäin. Nykypäivänä tietokoneet, tabletit ja kännykät ovat arkinen osa myös vieraan kielen opetusta, ja useat suomalaisten kustantamojen kirjasarjat tarjoavat esim. digitaalisia oppimateriaaleja ja oppimisympäristöjä perinteisen painetun materiaalin ohella (esim. Sanomapro 2020a). Tutkimustulokset CALL- ja MALL-teknologioiden käytöstä ovat osoittaneet ne perinteistä painettua materiaalia tehokkaammaksi esimerkiksi vieraan kielen sanastoa opeteltaessa (mm., Göksün & Gürsoy 2019, 27; Hirschel & Fritz 2013, 650).

Digitaalisilla oppimispeleillä viitataan erityisesti sellaisiin peleihin, jotka on suunniteltu opetuskäyttöön ja edistämään oppimista (Reinhardt 2019, 4). Vaikka erilaiset paperiset oppimispelit (ja jotkut digitaalisetkin) ovat olleet osa opetusta jo vuosikymmeniä, on digitaalisten oppimispelien suosio kasvanut erityisesti 2000-luvulla (Reinhardt 2019, 5). Pelillisyyden on nykyään elämän eri osa-alueille levinnyt konsepti, jossa peleistä tuttuja elementtejä (esim. palkinnot, visuaalisuus, tasot) hyödynnetään myös niistä täysin irrallaan olevissa konteksteissa (Reinhardt 2019, 173). Suosituimmat digitaaliset oppimispelit, kuten *Kahoot* ja *Duolingo* ovat pääosin englanninkielisissä maissa kehitettyjä ja toimivat useimmiten englanniksi. Myös Suomessa on kuitenkin kehitetty erilaisia digitaalisia oppimispelejä tai pelimaailmoja, joista osa, esim. SanomaPron *Bingel*, tukee uusimman perusopetuksen opetussuunnitelman sisältöjä (SanomaPro 2020b). Suomeksi saatavia pelejä on helpompi soveltaa kaikenikäisille oppilaille, tosin englanniksi olevat oppimispelit ovat varsin sopivia vieraan kielen opiskeluun.

Tutkimukset digitaalisista oppimispeleistä ovat osoittaneet sekä hyötyjä että haittoja niiden käytöstä osana opetusta. Yksi merkittävimmistä pelien käyttöön liittyvistä hyödyistä on motivaation lisääntyminen (Dörnyei & Ushioda 2021, 132). Pelien uutuudenviehätys, niiden tarjoama vaihtelu opetukseen, ja yhtäläisyydet oppilaiden vapaa-ajalla pelaamien pelien ulkoasuun motivoivat myös niitä oppilaita, jotka eivät muuten olisi niin kiinnostuneita opiskelusta. Useissa vertailututkimuksissa oppimispelejä käyttäneet kontrolliryhmät ovat saavuttaneet parempia oppimistuloksia testiryhmään verrattuna (mm., Wang & Tahir 2020, 2; Hitosugi ym. 2014, 33–34). Dörnyei ja Ushioda (2021, 132) kuitenkin huomauttavat, että digitaalisten oppimispelien tuomat parannukset oppimistuloksiin eivät välttämättä aina kestä kovin kauaa, sillä oppilaiden motivaatio saattaa merkittävästi laskea uutuudenviehätyksen hävittyä. Lisäksi digitaalisten oppimispelien käytössä tulee ottaa huomioon samat internetin käyttöön liittyvät riskit ja vaarat, jotka verkkotyöskentelyssä ovat muutenkin läsnä. Tällaisia ovat esimerkiksi anonyymiteetin tuomat ongelmat, nettikiusaaminen, ja luvattoman materiaalin levittäminen (Francke ym. 2017, 11–12).

Data ja metodit

Tutkimusaineisto kerättiin syksyllä 2020 ja aineistonkeruumenetelmänä oli Webropol-kysely. Kyselylinkki lähetettiin syyskuussa 2020 kuuteen suomenkieliseen yliopistoon, joissa on mahdollisuus suorittaa englannin kielen tutkinto-ohjelma sekä opettajan pedagogiset opinnot. Kyselylinkkiä välitettiin kunkin yliopiston englannin oppiaineen ja/tai ainejärjestön sähköpostilistan kautta. Kyselyyn vastasi määräaikaan mennessä yhteensä 74 henkilöä, ja vastauksia saatiin jokaisesta mukaan valitusta yliopistosta. Kysely oli täysin anonyymi, eikä vastaajien henkilöllisyys tullut ilmi missään vaiheessa vastausprosessia. Kyselyyn vastaamalla jokainen osallistuja antoi luvan tietojensa käsittelyyn tutkimuskäytössä.

Kysely koostui viidestä eri osasta, jotka olivat 1) Taustatiedot, 2) Tvt-taidot, 3) Digitaaliset oppimispelit kielten opetuksessa, 4) Käytännön kokemus, ja 5) Asenteet digitaalisten oppimispelien käyttöä kohtaan. Kysymyksiä oli yhteensä 39, joista enemmistö oli pakollisia. Useimmat kysymyksistä olivat Likert- tai monivalintakysymyksiä, mutta osassa saatettiin esittää myös vastausta täydentäviä avoimia kysymyksiä. Osion 4 ja 5 (kys. 29 ja 39) lopussa vastaajat saivat lisäksi vapaasti kommentoida kokemuksiaan ja asenteitaan digitaalisten oppimispelien käytöstä.

Analyysi

Kyselytulosten analysointi on jaettu viiteen eri alalukuun jokaisen tutkielman osan mukaan. Tutkimustulokset on pyritty avaamaan analyysissa mahdollisimman kattavasti, ja jokaiseen osioon on myös liitetty vähintään yksi kuvaaja liittyen kussakin osassa esitettyihin kysymyksiin.

Kyselyn ja analyysiosuuden ensimmäisessä osassa kerättiin sellaiset vastaajien taustatiedot, jotka koettiin analyysin kannalta mahdollisesti merkittäviksi. Taustatietoina osallistujilta kerättiin ikä, pedagogisten opintojen suoritusvuosi, sivuaineet sekä se, ovatko he englannin pää- vai sivuaineopiskelijoita. Suurin osa vastaajista oli englannin pääaineopiskelijoita (N=65) ja iältään 23–26-vuotiaita. Opettajan pedagogisia opintoja suoritettiin joko parhaillaan (lv. 2020–21), tai ne oli suoritettu viimeisen 5 vuoden aikana. Vastaajien muita opetettavia aineita olivat useimmiten toinen vieras kieli tai luokanopettajaopinnot. 10 vastaajalla ei ollut sivuaineita.

Analyysin toisessa alaluvussa käsiteltiin vastaajien tvt-taitoja koskevia kysymyksiä. Kyselyn toisessa osassa esitettiin 8 tvt-taitoihin ja niiden kehittämiseen liittyvää kysymystä, joista 5 oli pakollisia ja 3 täydentäviä avokysymyksiä. Vastaajat kokivat tvt-taitonsa pääosin hyviksi ja taitoja oli opittu niin itsenäisesti, yliopistokursseilla sekä yliopiston ulkopuolisilta tahoilta. 60 % opiskelijoista koki saaneensa yliopistoaikana tarpeeksi opetusta tieto- ja viestintäteknologiaan liittyen. Opetusta toivottiin kuitenkin lisää erityisesti opettajan pedagogisten opintojen aikana, jolloin opetuksesta olisi saanut hyvin käytännönläheistä. Suurin osa vastaajista koki lisäksi voivansa edelleen kehittää tvt-osaamistaan. Keinoja osaamisen kehittämiseksi olivat mm., itsenäinen opiskelu, kurssien käyminen, ja käytännön kokemus ja kokeilu.

Kolmannessa alaluvussa analysoitiin vastaajien tietämystä liittyen keskeisiin digitaalisia oppimispelejä koskeviin termeihin, ja kartoitettiin olivatko he osallistuneet jollekin kielen oppimisen teknologioita käsittelevälle kurssille. Kysymyksessä 13 yhteensä 67 vastaajaa (N=74) oli kuullut ainakin yhden neljästä mainitusta termistä (CALL, MALL, pelillistäminen, digitaalinen oppimispelejä). Suurin osa vastaajista oli kuullut termeistä jollakin yliopistokurssilla, kuten proseminaarissa, pedagogisten opintojen aikana, tai oppimisteknologioita käsittelevällä kurssilla.

Neljännessä aluvuossa käsiteltiin englannin kielen opettajaopiskelijoiden käytännön kokemuksia oppimispeleiden käytöstä joko englannin tai muiden vieraiden kielten tunneilla. Kyselyn tässä osassa kartoitettiin missä tilanteissa vastaajat olivat jo käyttäneet digitaalisia oppimispelejä, ja mitä pelejä tilanteissa oli hyödynnetty. Vastauksista kävi ilmi, että 2/3 vastaajista (58) oli jo kokeillut digitaalisia oppimispelejä joko toimiessaan englannin tai muun kielen opetusharjoittelussa tai opettajan sijaisena. Osa vastaajista oli myös testannut pelejä itsenäisesti. Pelien käyttö oppitunneilla koettiin motivoivaksi ja käytöllä oli selkeä tarkoitus. Yleisimmin käytetyt oppimispelit (N=58) olivat *Kahoot*, *Quizlet* ja *Duolingo*.

Kyselyn viimeisessä osassa vastaajilta kysyttiin heidän asenteistaan digitaalisten oppimispeleiden käytöstä. Kyseinen osa oli kyselyn laajin (10 kysymystä) ja myös analyysikappaleen pisin alaluku. Kysymyksistä yhdeksän sisälsi väitteitä digitaalisten oppimispeleiden käytöstä osana opetusta, ja viimeisenä, kysymyksessä 39 vastaajat saivat vapaasti kommentoida aihetta. Likert-asteikkoa hyödyntävien kysymysten pohjalta voitiin muodostaa hyvin positiivinen kuva englannin kielen opettajaopiskelijoiden asenteista. Pelit koettiin motivoiviksi, oppimista edistäviksi ja helppokäyttöisiksi, eikä niiden koettu vievän tunneilla liikaa aikaa. Enemmistö koki omat tvt-taitonsa lisäksi jo riittävän hyviksi pelien käyttöön, ja käytön opetteluun oltiin myös valmiita käyttämään vapaa-aikaa. Ainoastaan maksullisten pelien käyttöön suhtauduttiin opiskelijoiden keskuudessa negatiivisemmin, ja suurin osa oli valmis käyttämään ainoastaan pelien ilmaisversioita. Avoimen kysymysten vastauksista nousi esiin kuusi keskeistä teemaa liittyen digitaalisten oppimispeleiden käyttöön vieraan kielen opetuksessa. Teemat olivat motivaatio, variaatio, suora arviointi, opettajaopiskelijoille annettu opetus, ajankäyttö, sekä pelien kehittäminen.

Pohdinta

Tutkielman pohdintaosuus on jaettu kolmeen alaotsikkoon, jotka on muodostettu analyysiosiosta saatujen tietojen sekä tutkielman alussa esitettyjen kahden tutkimuskysymyksen pohjalta. Kyselyanalyysin jälkeen aineistosta nousi esiin kolme keskeistä teemaa:

- 1) Englannin opettajaopiskelijoiden asenteet digitaalisten oppimispeleiden käytöstä osana vieraan kielen opetusta ovat hyvin positiiviset.
- 2) Opettajaopiskelijoilla on jo jonkin verran käytännön kokemusta digitaalisten oppimispeleiden käytöstä opetuksessa. Nämä kokemukset ovat pääosin positiivisia.

- 3) Opettajaopiskelijat kokevat jo nykyiset tv-taitonsa riittäviksi digitaalisten oppimispelien käyttöön osana opetusta.

Jokainen näistä teemoista (asenteet, kokemukset, tv-taidot) käsitellään omassa alaluvussa, jotka sisältävät myös lisäpohdintaa aiheesta.

Pohdintaosion ensimmäisessä alaluvussa käsitellään tarkemmin tutkimuskysymystä ”Mitkä ovat englannin kielen opettajaopiskelijoiden asenteet digitaalisten oppimispelien käytöstä osana vieraan kielen opetusta?” Kyselyn vastauksista selvisi, että enemmistö opettajaopiskelijoista koki digitaaliset oppimispelit hyödyllisenä osana vieraiden kielten opetusta. Vastaajien asenteista kävi ilmi, että selkeää tarkoitusta varten käytettynä digitaalisten oppimispelien koettiin motivoivan ja innostavan oppilaita, ne tarjosivat vaihtelua perinteisille opiskelumenetelmille, ja mahdollistivat oppilaiden reaaliaikaisen osaamisen arvioinnin. Nämä positiiviset piirteet ovat korostuneet myös muissa digitaalisten oppimispelien käyttöä käsittelevissä tutkimuksissa. Joidenkin oppimispelien maksullisuus oli ainoa ominaisuus, joka herätti jokseenkin negatiivisia asenteita vastaajissa, ja enemmistö suostui käyttämään vain ilmaisia pelejä.

Pohdintaosion toisessa alaluvussa käsitellään tarkemmin kyselyn vastaajien käytännön kokemuksia ja kysymystä ”Mitkä ovat englannin kielen opettajaopiskelijoiden kokemukset digitaalisten oppimispelien käytöstä osana vieraan kielen opetusta?” Vaikka vastaajat olivat kaikki vielä yliopisto-opiskelijoita oli heistä selvä enemmistö jo käyttänyt digitaalisia oppimispelejä joko harjoitustunneilla tai sijaisopettajana toimiessa, ja koki pelin käytön hyödylliseksi. Tästä voidaan tulkita, että digitaaliset oppimispelit ovat tällä hetkellä koulumaailmassa eräänlainen ”trendi”, joka kiinnostaa etenkin nuorempia opettajasukupolvia. Osa vastaajista oli kokenut pelejä käytettävän liikaa, ja liiallisen käytön koettiin myös vähentävän pelien innostavuutta ja puuduttavan oppilaita. Ilmiö saattaa kuitenkin selittyä myös sillä, että suurin osa suomalaisten yliopistojen harjoitustunneista pidetään yliopistojen alaisissa normaalikouluissa, joissa uusien oppimistyylien käyttö on mahdollisesti ylikorostunutta ”tavalliseen” kouluun verrattuna.

Pohdintaosin viimeisessä alaluvussa käsitellään tarkemmin tutkimuskysymystä ”Onko tieto- ja viestintäteknologiaan keskittyvän yliopisto-opetuksen määrä riittävä?”, sekä siihen linkittyvää kyselyaineistoa liittyen englannin kielen opettajaopiskelijoiden tv-taitoihin. Vaikka 95 % vastaajista koki voivansa vielä kehittää tv-osaamistaan, koki heistä lähes yhtä

iso määrä tämänhetkiset tv-taitonsa hyväksi tai erittäin hyväksi. Lähes kaikki vastaajat kokivat lisäksi olevansa kyvykkäitä käyttämään digitaalisia oppimispeljä osana vieraan kielen opetusta. Aiemmat tutkimukset aiheesta ovat osoittaneet kuitenkin, että jo työelämässä olevilla opettajilla on yleensä opiskelijoita varmempi käsitys omista tv-taidoistaan, ja he kokevat taitonsa opiskelijoita useammin hyväksi (Katajamäki 2018, L. 5.3.3. ja 6). Vaikuttaakin siltä, että käytännön kokemuksella on merkittävä rooli tv-osaamisen kehittämisessä, ja kokeilemalla ja opettelemalla itse on mahdollista kehittää näitä taitoja tehokkaasti.

Yhteenveto

Tutkielman tulosten ja aiempien samasta aiheesta saatujen tutkimustulosten perusteella voidaan tiivistetysti todeta, että englannin kielen opettajaopiskelijoiden asenteet ja kokemukset digitaalisten oppimispelien käytöstä osana vieraan kielen opetusta ovat hyvin positiivisia. Lisäksi opiskelijat kokivat jo tämänhetkiset tv-taitonsa riittäviksi digitaalisten oppimispelien käyttöön opetuksessa, vaikka enemmistö kokikin voivansa edelleen myös kehittää tv-taitojaan.

Tutkielman otoskoko (N=74) ja kysymysten lukumäärä (39) oli verrattain pieni, joten ne eivät vielä anna laajaa ja kokonaisvaltaista kuvaa englannin kielen opettajaopiskelijoiden, tai ylipäänsä kieltenopiskelijoiden asenteista, kokemuksista ja tv-osaamisesta. Jotta tutkimusaiheesta olisi saanut laajemmin kvalitatiivista dataa, olisi kyselyn ohella voitu suorittaa vapaaehtoisten vastaajien haastatteluja aiheeseen liittyen. Haastattelun tekemisestä kuitenkin luovuttiin aikataulullisista syistä ja koronaviruksen aiheuttamista rajoituksista johtuen.

Tässä tutkielmassa käytetyn kyselytutkimuksen ja aiemman digitaalisten oppimispelien käytöstä englannin oppiaineessa tekemäni kysely- ja haastattelututkimuksen (Rantanen 2019) pohjalta syntyi myös ideoita tulevaisuuden tutkimukselle. Merkittävä osa digitaalisten oppimispelien käytöstä osana opetusta keskittyy tällä hetkellä täysi-ikäisiin opiskelijoihin alaikäisten peruskoululaisten sijaan (Morgana & Pavesi 2021, 62). Oppimispelien ulkoasu ja käyttöliittymä vastaa kuitenkin usein parhaiten juuri peruskouluikäisten pelimieltymyksiä, joten olisi tärkeää keskittää tulevaa tutkimusta enemmän kouluikäisiin oppijoihin. Lisäksi laajemmat, usean oppiaineen ja eri-ikäisten koululaisten tutkimukset digitaalisten oppimispelien käytöstä antaisivat koulujen rehtoreille ja opettajille tärkeää tietoa pelien

toimivuudesta koko koulussa vain yksittäisten oppiaineiden sijaan. Tulevaisuus kuitenkin näyttää jäävätkö digitaaliset oppimispelit pysyvästi osaksi koulumaailmaa, ja tehdäänkö niiden parissa jatkossa yhtä paljon tutkimusta kuin tähän asti.