UTILIZING ARTIFICIAL INTELLIGENCE IN EFL TEACHING – A MATERIAL PACKAGE FOR FINNISH UPPER SECONDARY SCHOOL

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Tiivistelmä – Abstract

Yksi 2020-luvun puhutuimmista ilmiöistä on ollut tekoälyn jatkuva kasvu ja kehitys. Tekoäly on lyönyt itsensä läpi monilla tieteenaloilla ja sitä käytetäänkin paljon esimerkiksi terveydenhuollon ja rahoituksen aloilla. On perusteltua odottaa, että tekoälyn kehitys jatkuu tulevaisuudessa, ja monilla aloilla sen käyttöä lisätään entisestään. On väläytelty jopa ennusteita, joiden mukaan tietyt työtehtävät häviävät ajan myötä kokonaan, sillä tekoäly voi tulevaisuudessa hoitaa ne paljon ihmistä tehokkaammin (Ramsila, 2023). Tekoälyllä on paljon näkyvyyttä mediassa, ja monet tekoälyyn liittyvät kysymykset jakavat voimakkaasti mielipiteitä. Huolta aiheuttaa esimerkiksi se, kuinka pitkälle tekoäly voi kehittyä ja miten tämä tulee vaikuttamaan yhteiskuntaan.

Tekoälyn käyttömahdollisuuksista ja uhkakuvista koulutuksen ja sivistyksen parissa on tehty jonkin verran tutkimusta, mutta dynaamisuutensa vuoksi tiedot vanhenevat ja muuttuvat jatkuvasti. Lisäksi tekoäly on nykyisessä laajuudessaan vielä melko uusi ilmiö, joten sen tutkimiseen tarvitaan aikaa. Lisää tutkimusta tarvittaisiin erityisesti kartoittamaan sitä, miten tekoälyä voidaan käyttää oppimisen ja opetuksen tukena. Koulutuksen ja sivistyksen näkökulmasta keskustelua ovat herättäneet erityisesti chatbotit kuten ChatGPT, joka pystyy reaaliaikaisesti tuottamaan tekstiä ja vastaamaan käyttäjänsä kysymyksiin lähestulkoon aiheesta kuin aiheesta. Yleinen huolenaihe on, että lapset ja nuoret eivät enää opi koulussa tärkeitä opiskeluun liittyviä taitoja, kuten ainekirjoitusta tai itsenäistä ajattelua, koska koulutehtävät voidaan ulkoistaa suoraan tekoälyn hoidettavaksi.

Tämän tutkielman tarkoitus on tarjota faktuaalista tietoa tekoälysovelluksista sekä toimia inspiraation lähteenä tarjoamalla konkreettisia esimerkkejä tekoälyn hyödyntämiseen. Tutkielma käsittelee tekoälyn hyödyntämistä erityisesti lukion A-englannin opettamisessa, ja sen sisältämät tehtävät on suunniteltu LOPSin (2019) moduulien ENA2, ENA3, ENA4, ENA5 ja ENA6 sisältöihin ja tavoitteisiin sopiviksi. Tehtäviä voi kuitenkin soveltaa myös muiden ikäryhmien ja oppiaineiden opetukseen. Materiaalia voivat hyödyntää kaikki tekoälystä kiinnostuneet, jotka kaipaavat ohjeita tai inspiraatiota.

Asiasanat – Keywords
EFL, artificial intelligence, language learning, language teaching, material package, technology literacy

Säilytyspaikka – Depository JYX

Muita tietoja – Additional information

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1 INTRODUCTION

Artificial intelligence is changing the world as we speak. Artificial intelligence, alongside other Information and Communication Technologies (ICTs), has revolutionized working life for both corporations and individuals (Bryson, 2019). Artificial intelligence can be defined in many ways, but it usually refers to a computer program or a machine that can model behavior that would be classified intelligent if it was done by a human (Kaplan, 2016, p. 1). In this thesis, artificial intelligence will be referred to by using the abbreviation AI.

When launched to the public, AI platforms and applications have had and will continue to have the potential to cause a massive outbreak. Because its impact can be very extensive, it is very important to conduct research on what is good to know about AI and its development (Ramsila, 2023). The impact may extend to all areas of our lives and societies.

From a more specific standpoint, there is a clear demand for research that would investigate the usefulness and possible applications of AI in teaching (Rabiu & Nuhu, 2024). This is important because, for example, decisions regarding curricula are often made by school districts or other institutions in addition to individual teachers – therefore it is important to bring the topic of AI to public discussion. This thesis aims at introducing possible ways to use AI in EFL (English as a Foreign Language) teaching, as well as critically examining factors to consider when using AI. There is much speculation and misinformation about AI circling around, and it is only necessary to clarify some of the facts. As with many other matters, people need enough information to be able to make up their own minds about a topic, and that of AI's surely has room for many different opinions.

Incorporating the use of AI in education is one way of teaching a more complex set of skills, *technology literacy*. What is more, a new, more specific concept – AI literacy – has emerged alongside of it. There are other names for the same or similar phenomena, such as digital literacy, or technological literacy (Braundy, 2004; Davies, 2011; Moore, 2011). For clarity, the concept is referred to as *technology literacy* in this thesis and it contains all the aspects of literacy that relate to being able to navigate, interpret, and evaluate one's activity in technological environments.

The Finnish National Core Curriculum (EDUFI, 2020) recognizes the use of technology as an important part of general knowledge and ability as well as eligibility for further studies. There are several remarks in the document that encourage and even require the use of technology in Finnish upper secondary schools. While technology has been used in (language) classrooms for decades (Abunowara, 2016, p. 8), I believe it is important to incorporate new and growing technological tools into teaching. English is one of the lingua francas of the internet, and thus the implementation of technology is particularly relevant in EFL instruction. From the viewpoint of education, specifically EFL, I see great potential in AI. By this thesis I aim at shedding light into an opportunity to use AI as a resource in EFL teaching.

This thesis begins with its theoretical framework. Chapter 2 provides a brief introduction to the evolution of technology, starting from the 1980s. The focus is on inventions that have significance to education. After that, I will discuss the use of technology in EFL teaching on the present day, and explain what benefits there are to using technology in EFL instruction. Chapter 3 discusses technology literacy, The Finnish National Core Curriculum, and the advantages and disadvantages of utilizing AI in EFL teaching. In Chapter 4, I explain the framework and contents of the material package. In chapter 5, I will discuss the process of designing the material package and conclude the thesis. The material package can be found as Appendix 1.

2 THE USE OF TECHNOLOGY IN EFL TEACHING

Before getting into the topic of AI in teaching, it is worthwhile to review some important milestones in the history of technology. Since the late 1990s, researchers have been interested in seeing if technology could revolutionize teaching (Firmin & Genesi, 2013, p. 1603). Technological advancement has been rapid over the past century, and it has immensely changed the way people perceive the world. It could be argued that technology is in an important role in many societies nowadays (e.g. Volti & Croissant, 2024), and its impacts extend to many areas of our lives, including working life, education, and leisure time.

Many of us who are affiliated with the school world have witnessed how technology is used diversely throughout the school day, even with young children. In the context of language learning and teaching, technology has even been argued to be in an essential role (Abunowara, 2016). In this chapter, the focus is specifically on ICT (information and communication technologies), which can be defined in many ways – one suitable definition from Sarkar (2012, p. 31) suggests the following:

> "Information and Communication Technologies (ICTs) are referred to as the varied collection of technological gear and resources which are made use of to communicate. They are also made use of to generate, distribute, collect and administer information."

2.1 The evolution of technology

Technology has drastically evolved over the last century, and it keeps growing. This subchapter focuses on the evolution of technology over the last five decades. The inventions are mentioned generally, but the focus is on listing and discussing inventions that have revolutionized – or have the potential to revolutionize – education in some way.

2.1.1 Late 20th Century

As Betrus and Molenda (2002) describe it, the 1980s and 1990s saw a shift from an industrial age to an information age. In the year 1980, technological advancement was already in good speed since there were reportedly already a million computers worldwide (Corbin Ball & Co., n.d.). The growth was rapid in the 1980s, because by 1989 there were already 100 million computers worldwide (Corbin Ball & Co., n.d.). The first laptop computer was sold to the public in 1981 (Hemmendinger et al., 2024), and during the 1980s, laptop computers gained popularity mainly amongst organizations and businesses (Computer Hope, 2023). In a similar vein, PowerPoint was released in 1987 and first gained popularity among businesses (Britannica, 2024). Although these inventions did not become household items until years after they were released, from today's educational perspective they can be viewed as groundbreaking. It could be speculated that these inventions revolutionized individualistic technology use; for instance, laptops are the most popular computers on the market today (Hemmendinger et al., 2024). All in all, computers have become widely used in institutions and thus been considered as ordinary tools for teaching and learning by teachers and students (Betrus & Molenda, 2002).

The year 1990 saw the invention of hypertext, which would later evolve into the World Wide Web. In 1993, the large-scale adaptation of internet email as a global standard began, which would later eventually revolutionize digital communication. Wi-Fi became available publicly in 1996-1997, and Google was invented in 1998 (Corbin Ball & Co., n.d.). These inventions have undeniably become very important in approximately 30 years and many of us could not even imagine living without these things nowadays: not only are they prevalent in institutions, but on our personal lives, too. Today we are accustomed to using Google or other search engines, because it is by far the most convenient way to find the information we need. Starting as early as the 1990s, societies have begun demanding schools and teachers to incorporate computer skills – including the use of the internet – in education (Betrus & Molenda, 2002).

2.1.2 21st Century

In 2001, the first cell phones could access the internet. The 2000s also saw the birth of many social media platforms, such as Facebook, YouTube, and Twitter (now X). The first iPhone was released in 2007, and the same year Google Docs and Google Street view were invented. From the 2000s onwards people have had more and more opportunities to communicate with each other anywhere and anytime. With the rise of social media and the internet, people have also gotten into chatting with complete strangers. From the perspective of foreign language learning (specifically EFL learning), this was a significant turning point. Online games, chatrooms and forums have

become increasingly popular since the 2000s, and many school kids spend time amidst them on a regular basis. With English being one of the most used languages on the internet, even non-native speakers of English encounter content in English and many interact with it too. This has had a significant impact on EFL learning – for instance, Jabbari and Eslami (2019) found that certain types of online games offer players many opportunities for L2 acquisition and learning.

During the 2000s, computers with internet connection became a usual sight in many schools. Schools may have had libraries equipped with several computers, and many classrooms even had computers that students could use with the teacher's permission. In 2004, The Finnish National Core Curriculum for basic education included a section dedicated to technology education with its learning objectives being e.g. using technology in daily life, understanding responsible technology use, and discussing technology both in the present and the future (EDUFI, 2004, pp. 42-43). Additionally, the word 'technology' is featured in the 2004 Core Curriculum in many other sections where the subjects and contents are explained.

In 2010, the iPad was launched. This meant that young kids were even more involved with technology from a young age and by this point kids became "digital natives" (Prensky, 2006, cited in Judson, 2010, p. 271) at last; though some older generations may be seen as digital natives, too. By the end of 2010s, computers and cell phones with access to internet had found their way to people's lives, and many people had become everyday consumers of ICT technologies both at home and in school or work. In the 2010s, artificial intelligence also improved significantly. One of the most well-known examples to the average consumer was Apple's intelligent personal assistant Siri, which was featured first on iPhone 4s (McDonough, 2024). Similarly, Amazon's Alexa debuted in 2014 (Volle, 2024). Through inventions like this, average consumers were getting introduced to AI creations and began to grasp what AI is and what kinds of things it can be harnessed for.

As we near the mid-2020s, we have already seen many steps forward in technological advancement in this decade. The 2020s have been heavily influenced by the COVID-19 pandemic, which surely imprinted itself in the way people utilize technology. AI has advanced substantially, and it has been used e.g. in reporting and analyzing data. People have also taken on the use of remote meeting tools such as Zoom or Teams, and even young kids became experienced users of these tools during the pandemic. As Tulevaisuusvaliokunta (2020, p. 35) predicted, in some workplaces, the staff still uses remote meeting tools and implements other skills they were forced to learn during the pandemic, even though they could continue working the same way they did before the pandemic. One of the biggest launches of the decade so far has been that of ChatGPT in 2022, which has become a household name. To many people, ChatGPT is one of the most well-known AI platforms of the 2020s. This could be a

result of many factors – ChatGPT is quick, free and relatively simple to use. ChatGPT has also been scrutinized a lot in the media (e.g. Paukku, 2024; Isomäki & Kujansuu, 2023; Tobin, 2024), making it somewhat well-known.

2.2 The advantages of using technology in EFL teaching

The beginning of the 21st century marks the period when ICTs became widely accepted as ordinary elements of education, at least in many parts of the Western world. However, as discussed above, technological advancement has been rapid and the last 20 years have seen a major change in the use of ICT in education. Nowadays it is not uncommon for a classroom to be equipped with a smart board, laptops, and tablets. Many teachers have access to a plethora of online teaching materials and use them on a regular basis. Many textbooks, workbooks and teacher's materials are available both online and in paper copies, and teachers can choose either or both. Students are very accustomed to using digital tools, too – many teachers have established routines where students get to play on their tablets as a reward or for other reasons. Some schools have even decided to give up paper notebooks and have their students complete all their coursework digitally (Ocean Sole, 2022).

Intrinsically, technology brings mostly the same pros and cons to EFL as it does to any other school subject. However, there are some unique characteristics about foreign language instruction that make it ideal for a technology friendly instruction, such as the abundance of authentic materials (Abunowara, 2016) and utilizing the internet and games (Hasram et al., 2020). The introduction of ICTs has revolutionized language teaching in many ways and presented opportunities to modify and enrich the language learning process. Generally, Clyde and Delohery (2005, p. xii) encourage us to use technology for things we are already doing, to carry out the tasks "better and more easily". As numerous studies have shown, utilizing technology in EFL teaching offers many possibilities and advantages (Clyde & Delohery, 2005; Troudi et al., 2014), which will be discussed next.

Technology can be used to ease communication. Through technology, teachers and students have a means to reach each other outside of class quickly and easily. This may come in handy if a teacher needs to make changes to the schedule or cancel classes, or if the students have an urgent question or concern they need to address before the next class (Clyde & Delohery, 2005). Some students may find online messaging more comfortable than face-to-face communication (Pierce, 2009, p. 1370) and thus have a lower threshold in contacting the teacher. Furthermore, communication between guardians and teachers has become faster and easier (Firmin & Genesi, 2013, p. 1605).

Digital learning environments are apt at organizing and distributing course materials. Teachers can send an unlimited number of readings or other materials to students without having to print them all – thus saving time and resources (Pagano, 2021, p. 16). Digital platforms also lower the threshold of adding additional materials for students who may be interested in further studying the topic (Clyde & Delohery, 2005). Using digital platforms to submit coursework also means the students have their assignments organized in a folder and know where to find them should they need them later (Clyde & Delohery, 2005; Pagano, 2021, p. 16).

Technology may help in facilitating student collaboration (Clyde & Delohery, 2005; Nyyssölä, 2022, p. 5). Using technology, students may work on group projects – or their own individual work – remotely and at a time that suits them best (Nyyssölä, 2022). Digital platforms may also be helpful if the teacher decides to assign students to give peer feedback (Clyde & Delohery, 2005; Nyyssölä, 2022); in this case, students only submit their work on the platform once and the teacher and other students will be able to access it. Teachers may also utilize discussion forums or the like to promote fruitful discussions (Clyde & Delohery, 2005; Kelly, 2021).

Technology can also help bring experiences to the classroom. With today's technology, one can look up practically any place in the world within seconds and access street views, pictures, videos and so on. From a language teacher's point of view this means endless opportunities, such as showing different accents, vocabulary, or cultural content from around the world. The teacher may also arrange a visitor speaker to meet the class via computer. Moreover, if the teacher needs to cancel the class for any reason and there is no time to reschedule, the teacher may post e.g. a slideshow or a learning video on the digital learning platform and ask the students to go through the materials on their own (Clyde & Delohery, 2005).

Technology may be helpful in normal day-to-day work, such as collecting assignments and returning them after grading. Tools such as Turnitin also help detect plagiarism (Clyde & Delohery, 2005). Some digital learning platforms also have a tool where the teacher can monitor how well students performed on their tests and therefore technology can provide useful data of the group performance (Murphy, 2019, p. 5; Nyyssölä, 2022, p. 5). It may make it easier for the teacher to identify where students may be confused and publish clarifications on the course platform that reach every student at the same time.

Technology can also be used in teaching students research skills. The internet has an unlimited number of sources at anyone's disposal and makes it possible to research virtually any topic within seconds. In today's day and age, students must be taught source criticism (Ramsila, 2023) and using technology is a perfect way to demonstrate that (Clyde & Delohery, 2005). Overall, the use of technology in foreign

language teaching can help facilitate student-centered learning (Troudi et al., 2014, p. 2; Nyyssölä, 2022, p. 26; DenBeste, 2003, p. 493).

However, Clyde & Delohery, (2005) also point out that we often focus on technology rather than the teaching objectives, and not the other way around. It can get overwhelming if one feels they need to use an unreasonable amount of time and effort to keep up with the latest technology only for the sake of using technology. That is, of course, not the goal at all. As Clyde & Delohery (2005, xiv) point out, technology can be very beneficial when taken over little by little. Like in many other scenarios, students' feedback – both implicit and explicit – is important when implementing technology in one's teaching.

3 THE USE OF AI IN (EFL) TEACHING

As we have explored how technology has been utilized in (EFL) teaching, we may now get into to the thematic around AI and its applications in teaching. AI in education has not yet received much attention in comparison to other fields, such as healthcare, or financial markets. However, it has been speculated that AI could revolutionize teaching, too, particularly in terms of classroom instruction, and how students learn (Murphy, 2019, p. 1) – new technologies, including AI, have great potential in improving education (Rabiu & Nuhu, 2024, p. 2; Tuomi, 2018, p. 5). It has been proposed that AI could advance e.g. educational processes, and personalized learning (Rabiu & Nuhu, 2024). In today's world, AI education can and should begin in basic education (Steinbauer et al., 2021, cited in Ng et al., 2021, p. 2).

This chapter begins with a discussion on technology literacy, which is a key concept in justifying the use of technologies, including AI, in today's education. The discussion is followed by an introduction of the Finnish National Core Curriculum for General Upper Secondary Education. This is done to give context to what EFL teaching – or any teaching for that matter – is like in Finland, where it is mandatory for all schools to follow the National Core Curriculum to ensure they provide quality education for learners that meet the exact same standards. While the Core Curriculum must be followed, its guidelines are rather vague and thus give teachers freedom in designing and teaching their lessons. The introduction aims at providing a comprehensive outlook on the Curriculum; however, the focus is specifically on how the use of technology is represented and encouraged in it.

3.1 Technology literacy

Literacy is commonly associated with reading and writing (Moore, 2011, p. 185), but it can also refer to knowledge or skills regarding a subject (Cambridge Academic

Content Dictionary, n.d.). Literacy provides a basis for many, more specific 21st century literacies that can be classified under the umbrella term *technology literacy*. For instance, *digital literacy* refers to skills and abilities to navigate in complex digital environments (Eshet, 2004, cited in Tinmaz et al., 2022, p. 2), and *AI literacy* can be defined as competences one needs to operate in AI-driven technologies (Steinbauer et al., 2021, cited in Ng et al., 2021, p. 2). There are many possible definitions for these terms, as there are for the term *technology literacy*. Each definition seems to have a different emphasis, as is the case with these two definitions to technology literacy:

> "An individual's abilities to adopt, adapt, invent, and evaluate technology to positively affect his or her life, community, and environment". (Hansen, 2003, p. 117, cited in Davies, 2011, p. 47)

> [A technologically literate person is able to] "use technology as a tool for organization, communication, research, and problem solving". (Eisenberg & Johnson, 2002, p. 1, cited in Davies, 2011, p. 47)

Both definitions suggest that communicating with others through technology as well as bettering one's life in some way are fundamental to technology literacy. In addition to these definitions, I would like to emphasize the importance of *keeping up with the times*; we have built a world where many things work through technology, and thus we need to be technologically literate to navigate in society. Technology literacy is part of 21st century skills, which are an important part of education (Geisinger, 2016). In other words, technology literacy has become a civic skill – and in the future will almost certainly remain as one. Our education system must provide adequate technology education for students to thrive in the future (Firmin & Genesi, 2013, p. 1604).

Even though technology literacy is now more important than ever, it is not exactly a new idea as it was first written about in the early 20th century (Braundy, 2004). In 1915, John Dewey discussed his views on how people should strive to share information with others and understand the materials and appliances they use (Braundy, 2004). In 1997, Paul Gilster coined the term *digital literacy* that combined many literacies, such as technological, computer, and information literacies (AdvanceHE, n.d.). In the Finnish context, technology literacy has been featured in research only since the 1990s (Vario, 2014, p. 20). Nowadays it has been registered in the Finnish National Core Curriculum, and thus Finnish schools are obligated to educate children on the subject. The National Core Curriculum is discussed in more detail in subchapter 3.2.

Today's youth are generally very skilled in using technology, since many of them have grown up using many digital devices. However, just because our youth is skilled in using technology, it does not mean they are automatically *technologically literate* (Judson, 2010, pp. 271-272). The young are generally efficient in carrying out tasks that interest them, but that does not necessarily correlate with a profound understanding of technological literacy (Judson, 2010 pp. 271-272). Schools (together with guardians)

are responsible for teaching the youth technology skills on a deeper, more critical level beyond the casual use of digital devices. Interestingly, Judson (2010) has suggested that in language arts, technology literacy and academic performance may have a connection: mastering technology literacy can lead to an increased self-confidence, and act as a mediator of new learning.

As established, technology is very much ubiquitous and thus, it could be argued that technology literacy skills are crucial in nearly everything we do. Consequently, technology literacy should be viewed as a part of practically any learning process instead of a completely separate competence (Moore, 2011, p. 185). There are three steps to being technologically literate (Moore, 2011, pp. 189-190):

Table 1. Steps of technology literacy (adapted from Moore, 2011, pp. 189-190)

Step	Example
Being able to identify technologies that are relevant to the task at hand	Choosing a text editor when the task requires a typed text
Understanding how to use the technology and being able to navigate in it	Knowing that email services have separate folders for e.g. incoming, sent, and deleted emails
Understanding how the technology works	Knowing that applications such as TikTok and YouTube analyze the content the user interacts with and suggest similar content for them to watch in the future

As illustrated in Table 1, the first step towards being technologically literate is identifying technologies that are suitable for the task one wishes to carry out. Depending on the task, this may involve the selection of one or more technologies. Once the first step is mastered, the second step is to obtain skills and knowledge to operate the technology. While it is important to understand the functions of the technology relevant to the task at hand, it may not always be necessary to understand every function of the technology to be able to use it successfully (Moore, 2011, pp. 189-190). The third step is understanding the technology beyond using it for a task – on a concrete level, this could mean understanding the mechanics and structure of the technology. A comprehensive understanding of how the technology works increases the user's chances of solving any potential issues that may arise when using the technology. Even though this sequence is apt for demonstrating how skills and competences accumulate in technology literacy, it is important to note that these steps can sometimes overlap or even be redundant to some technologies (Moore, 2011, pp. 189-190).

3.2 The Finnish National Core Curriculum

The Finnish National Core Curriculum (EDUFI, 2020) is a document that provides general guidelines, principles and objectives for education in schools across the country. Early childhood education, basic education, and upper secondary education each have their own curricula. The latter is the one I refer to in this thesis, since the material package is designed for upper secondary school. The most recent edition of the National Core Curriculum came into effect in 2021. There are six main chapters[1] in the document.

The first chapter is called *Preparation and contents of the curriculum*. In addition to the National Core Curriculum, there are also local curricula. While the local curriculum is based on the national one, it considers the special features of the area where the school district is located: environmental and cultural makeup, the languages spoken in the area, and the history of the area, to name a few. It also considers any other institutions in the area that the school may collaborate with. While the National Core Curriculum provides general guidelines and a framework for education, the local curriculum is more specific and explains how the education will be carried out. Writing a local curriculum usually involves municipality authorities, teachers, students, and their guardians. The school's mission statement, learning environments and methods, and main features of the school culture are included in the local curriculum.

The second chapter is called *Mission and underlying values of general upper secondary education*. As explained in the chapter, the mission of upper secondary education is to increase general knowledge and abilities. Students will acquire skills that help them in critical and independent thinking, self-development, and acting responsibly and compassionately. Upper secondary education helps students in building their own identities and worldviews as well as finding one's own place in the world. Another important aspect mentioned in the chapter is orienting towards the future. One of the cornerstones of upper secondary education is to prepare students for working life and the future in general, which can be seen to link closely to technology skills demonstrated in this thesis. Furthermore, the chapter discusses transversal competences which are deemed important as they comprise of so many aspects of life.

The third chapter, *Implementation of education*, describes the vital learning process in upper secondary education: interpreting, analyzing, and evaluating information. This chapter has many points of contact with this thesis. For example, the learning objectives include analyzing and combining information in new ways, as well as broadening the study environment outside of the institution using ICT technologies.

[1] There are seven main chapters in the original document, six in the English translation that was used as a source in this thesis

It is clear that the attitudes towards using digital tools for teaching and learning are not only friendly, but also encouraging. Students are encouraged to use digital tools, for example for producing and sharing information. Individuality is seen as an important aspect of learning, and it is apparent that ICT technologies play a role in that.

The fourth chapter is called *Guidance and support for students*. According to the objectives of transversal competences, the main takeaways from general upper secondary education ought to be "lifelong employability skills and a more comprehensive societal competence". This chapter explains how students' rights and well-being are taken care of in upper secondary education. The fifth chapter, *Assessment of students' learning and competence*, discusses grading and feedback. These topics are discussed in the Core Curriculum from the viewpoints of e.g. supporting learning, giving timely feedback, and performance. In relation to the use of AI and other technologies in education, these themes are also discussed in this thesis (subchapters 2.2 and 3.3).

The sixth chapter is called *Learning objectives and core contents of education*. This chapter explains the objectives of instruction, such as promoting continuous learning and learning-to-learn skills. The following subchapters in the document explain all the subjects taught in upper secondary education as well as their learning objectives.

3.2.1 English as a subject in the Core Curriculum

This subchapter explains what the Core Curriculum (EDUFI, 2020) says about English as a subject; more specifically, the A syllabus of English (also known as A-level English). The majority of students in Finnish upper secondary schools study the A-level English language, usually meaning they have been studying it the longest and/ or feel the most competent in it as opposed to other foreign languages. There are six compulsory modules and two optional modules in the A syllabus of English, which will be introduced next. This is done to give context to what kinds of themes and objectives these modules entail.

Study skills and building linguistic identity (ENA1) is the first module of A syllabus English, and it is designed to be completed in the early stages of upper secondary education. At the very core of this module is familiarizing oneself with different text types and genres. It is encouraged that students explore new language learning strategies, which may undoubtedly involve the use of technological tools. The second module, *English as a global language (ENA2)*, also strongly connects to technology use. As mentioned above, English is one of the lingua francas of the internet and technology. The focus of this module is on interaction, communication and communication in the media. The third module, *English language and culture as instruments for creative expression (ENA3)*, has a more creative and individual approach to learning English. One of the aims of this module is to feed students' creativity.

The fourth module, *English as an instrument for exerting influence (ENA4)*, again, avails the role of lingua franca of the internet that English has. In today's day and age, there are many kinds of influencing that take place online. Media, sources, source criticism, and argumentation are all key contents of this module. Students are taught to utilize different sources of information and ways of producing text as well as broadening their learning environments. The same is true for the fifth module, *Sustainable future and science (ENA5)*. Many scientific sources and other publications are available in English, and it could be argued that one needs technology (sometimes even AI) skills to not only search and filter for these, but also to produce their own. This module focuses on fields that interest the students, different visions for the future, innovations for sustainable future, as well as English as the language of science, source criticism, and the characteristics of scientific texts. The final module, *English in further studies and the world of work (ENA6)*, is particularly relevant from technology's point of view and AI will almost certainly be involved in both further studies and the world of work.

There are also two optional modules, *The environment and a sustainable way of living (ENA7)* and *Speak and influence (ENA8)*. The focus on these modules is to deepen one's understanding and skills regarding critical thinking, source criticism, and a dialogical approach. In these modules, students will practice expressing themselves and enhance skills they have learned during previous modules or elsewhere.

3.2.2 Technology in the Core Curriculum

The Core Curriculum (EDUFI, 2020) lists multiple reasons why technology is important and relevant to education. Firstly, it is mentioned that with the help of ICT, the study environment is expanded to the world outside of the institution (p. 19). The same goes for internationalization, including projects and visits, which can also be implemented in the curriculum using ICT (p. 26). Through their upper secondary school studies, the students will gain experience of studying, collaboration and ethical operation while acquiring skills related to internationality and technology (p. 65).

Responsible use of technology shall be implemented as a part of one's lifestyle alongside of culture and ethical considerations (p. 62). At the very core of technology use in this document is to gain information about technology and learn how to use ICT responsibly and safely. This includes working both individually and collaboratively (p. 58). Upper secondary studies are a suitable time for students to discuss how technology and digitalization support the advancement of individuals and communities (p. 63).

It is mentioned in the Curriculum that ICT can be utilized to provide more opportunities for education and communication, such as sign language instruction (p. 44). This principle may be applied to other educational content as well, since instruction can be coordinated as distance learning, and/ or collaboration with other

institutions. Since some modules may not be available in the area where the student is located, it is sometimes possible for the school to arrange modules in collaboration with other institutions to offer students a better selection of modules to choose from. In fact, Lukiolaki (2018/714 § 13) mandates that some of the instruction must be done in collaboration with at least one institution of higher education.

As established in Chapter 3, technology is part of the 21st century skills that must be taught in schools. According to the Core Curriculum, technology skills may be taught as a part of various subjects, and therefore technology is also mentioned in the curricula of several subjects. In ethics, there is an optional module that focuses on technological revolution, the advancement of technology, artificial intelligence, and robotics, and their effects on society (p. 327). The point is to learn to evaluate the effects on the world and different worldviews, including one's own. In social philosophy, one of the main points is also the effects technology and artificial intelligence have on society (p. 271). While the use of technology is encouraged throughout the curriculum, it is wise to provide students with tools to make up their own minds and view technological advancements – as well as any changes in the world – in a critical way and to weigh out its pros and cons.

Technology is mentioned briefly in the physics curriculum, where it is deemed important to science, inventions and society. Technology is given importance from the viewpoint of the environment, and it is recognized how technology is linked to important decisions regarding our future. In the visual arts curriculum, technology is also mentioned in terms of individual and collaborative work. Technology also brings out more possibilities for approaching and expressing art. In addition to these, technology is mentioned in at least the curricula of music, health education, chemistry, and history. To sum up, technology education crosses different curricula and extends to virtually all general upper secondary education. The Curriculum highlights that general upper secondary education encourages students to consider sustainability from the viewpoints of the environment, economy, technology and politics. From this perspective, it is well justified to incorporate the use of AI and other technologies in EFL teaching.

3.3 The advantages and disadvantages of utilizing AI in teaching

As discussed in Chapter 2, there are many advantages to using technology in teaching. Many of the points made also apply to the use of AI in teaching, but in order to avoid repetition, this chapter focuses only on introducing new angles.

The implementation of AI has potential to benefit teachers in several ways (Baidoo-Anu & Owusu Ansah, 2023). Firstly, AI can assist in giving feedback. In fact,

Nyyssölä (2022, p. 15) speculates that in the future, giving feedback will be completely outsourced to AI. As things currently stand, many teachers have dozens of essays, tests, and other assignments on hold. To read, correct, and comment on all of them takes up a significant amount of time (McMurtrie, 2018). However, if an AI application is utilized in coming up with suggestions of how to help students forward, it can be more cost-effective for the institution (Popenici & Kerr, 2017). AI can also facilitate providing feedback sooner than a human teacher would be able to (Popenici & Kerr, 2017). As discussed above, many teachers have a lot of work to do with grading and giving feedback. Even if the teacher is able to give feedback without the help of AI, it may take a while. When AI is involved, the student may receive their feedback sooner (McMurtrie, 2018). Secondly, AI can help identify patterns in students' academic success and alert the teacher when a student is at risk of failing or not graduating (Murphy, 2019, p. 8). Artificial intelligence is efficient in managing large amounts of data as well as identifying patterns that indicate a potential cause of concern. This kind of AI software could be particularly useful in institutions that have large numbers of students. Finally, AI could also try to solve, or at least assist in, those situations where a school must run short-staffed, either due to budget cuts or other reasons.

There are also disadvantages to using AI in teaching. As of right now, AI cannot comprehensively teach certain types of subjects, such as languages. AI can be utilized to assist in certain aspects of language instruction, but there is still a demand for a human teacher to supervise and model the process. Consequently, the first example of AI's limitations is the lack of human interaction. As McMurtrie (2018) puts it, "thoughtful interaction – – is hard to outsource to AI". Even though technology can imitate human behavior, the imitation lacks human conscience and thus may not completely replace human interaction (Freiberger et al., 2024). Similarly, Nyyssölä (2022, p. 126) notes that technology does not replace meeting face to face. Moreover, AI is still developing, and it makes mistakes. It is important for the teacher to be critical of the responses AI gives and fact-check them before teaching students (Rinne, 2023, p. 13). In a similar vein, Popenici and Kerr (2017) point out that humans should be the ones responsible for identifying any potential problems and risks.

3.3.1 Ethical considerations of utilizing AI in EFL teaching

The implementation of AI also raises questions and ethical considerations that need to be addressed. To develop AI software, data must be gathered. Many AI platforms, such as ChatGPT, gather data from the internet (Ramsila, 2023). Consequently, the data collection of AI platforms has caused some concern (Lund & Wang, 2023). The data must be gathered in an ethical way, and it must not contain biases that would create inequality between e.g. races, genders, or ethnic backgrounds – otherwise the output may contain biases or otherwise inaccurate and harmful results (Lund & Wang,

2023, p. 28). When using AI programs, teachers must be aware of how and where the data is collected from to avoid promoting any discriminatory content in their lessons. Furthermore, teachers need to read the privacy policies of the applications beforehand to learn if students' data will be collected by the application before assigning any AI related tasks to students (Lund & Wang, 2023).

Another cause for concern is academic dishonesty, such as plagiarism. What if students hand in essays that are completely written by AI? How can teachers make sure their students learn how to write essays and not generate them using AI? I think this could be a serious issue in the future and it needs to be talked about with students (Niinimäki, 2023). In a similar vein, some would argue that AI programs increase people's passivity (Niinimäki, 2023). If you do not *have to* produce text yourself anymore, why bother?

Another aspect to consider when using AI is the environmental aspect. While AI can be a valuable tool for forecasting and reporting the formation of carbon footprints for corporations and individuals, it may also add to the problem. Programming a new language model takes resources (Zhou et al., 2021, cited in Lund & Wang, 2023, p. 27; Kangas, 2024), and the bigger the language model is, the greater the emissions are (Tepponen, 2023). Therefore, it is important to develop models that are appropriate sizes for the tasks they are intended to (Tepponen, 2023).

It is also mentioned in ChatGPT's Terms of use that the responses ChatGPT gives may not always be true and users themselves should evaluate whether the text should be trusted. This is problematic, even if it is unintended, in this era of fake news and misinformation. Ultimately, users of AI need to be aware of any potential issues regarding copyrights (Lund & Wang, 2023). Platforms such as ChatGPT use text mass that is gathered from the internet (Ramsila, 2023), and therefore some of it may be subject to copyrights or other laws and regulations (Lund & Wang, 2023).

4 FRAMEWORK OF THE MATERIAL PACKAGE

As established above, the theoretical framework of this thesis is built on studies that have investigated the use of technology in (EFL) education (e.g. Abunowara, 2016), the potential that AI has in education (e.g. Baidoo-Anu & Owusu Ansah, 2023), and the importance of technology literacy (e.g. Davies, 2011). To maintain the focus on these aspects, this thesis does not represent any specific pedagogical approach. In this chapter I will discuss the aim, target group and structure of the material package as well as introduce the platforms that are used in the material. This is done to give full context to the material package.

4.1 The aim of the material package

Many students have access to AI, which has caused some public discussion (e.g. Niinimäki, 2023; Isomäki & Kujansuu, 2023). While it is necessary to establish rules of what artificial intelligence can and cannot be asked to do in the school world, it can be used as a resource instead of completely forbidding its use – instead of trying to keep students from using it, educators have the opportunity to view it critically and use it to enhance learning. Via my thesis, I want to offer possible ways for teachers to use AI to their advantage. As explained in Chapter 3, many teachers are very overworked in their jobs and schools' resources are low. Therefore, my goal is to make at least one thing easier for teachers by creating a material package that is free to use.

The purpose of this material package is to give practical tools to language teachers who want to use AI, but do not know where to begin. This material package introduces the basic functions of AI as well as gives basic information about the most common and accessible AI platforms. It is also apt for giving ideas on how AI could be used to one's advantage in teaching. There are two objectives I aim to accomplish with this material package:

1. To provide factual information about some of the AI platforms
2. To inspire and encourage teachers to implement AI in their teaching by providing hands-on exercises.

4.2 Target group

The target group for my material package are EFL teachers; more specifically, teachers who need more support in implementing AI into their teaching, and therefore the target audience is upper secondary school EFL teachers in Finland. However, alongside providing information to teachers and inspiring them, the purpose of this material package is for students to learn about the use in AI, and therefore upper secondary students can be seen as another target group for this material package. Furthermore, this material package may be used by anyone who is interested in using AI to teach (or learn) English. The reader is advised to view the material in a critical fashion, keeping in mind that this is only a limited overview of the world of AI. The activities featured in the material package can and must be adjusted according to the skill level and characteristics of the group.

There are a few reasons to justify the choice of the target group. Compared to younger students, upper secondary students are typically more advanced users of technology and can understand complex instructions better. Had the material been designed for younger students, the tasks would have been much simpler and more repetitive. Furthermore, many AI platforms have age limits that exclude younger students automatically.

4.3 Introduction of AI platforms

In the next subchapters, I will introduce the platforms featured in the material package. The four platforms were chosen because they are apt for demonstrating AI use in EFL education. I wanted to include more than one platform to increase versatility in the material. All of these AI platforms are free to use in the contexts introduced in the material. The chatbots ChatGPT and Gemini have been featured in several academic journals, some of which have been cited in this chapter, but I was unable to find any publications about Notebook LM and Kling AI. Consequently, the introductions of Notebook LM and Kling AI are shorter than those of ChatGPT and Gemini.

4.3.1 ChatGPT

ChatGPT is an online platform for text and content creation that uses AI to chat with its user. Once the user provides the chatbot with a prompt, it will generate a response within seconds. It mimics human-like conversation and generates text according to the user's wishes. ChatGPT is an example of an application that can be very useful for teachers and students (Rabiu & Nuhu, 2024; Baidoo-Anu & Owusu Ansah, 2023). Even though ChatGPT's answers may not always be accurate or reliable, and it cannot replace certain skills that students need to learn (e.g. writing an essay), it should still be viewed as an additional resource to teaching and learning rather than a hindrance (Rabiu & Nuhu, 2024).

ChatGPT is privately owned by a company called OpenAI. Users must sign up to use the service, and like many other websites, ChatGPT collects data from its users. Users must be at least 13 years old, and users under the age of 18 must have their parent or legal guardian's permission to use the website. ChatGPT can be used to generate many kinds of text: essays, instructions, jokes, or summaries, to name a few. It can be used for many purposes, too: depending on the genre the user is looking for, it can be used for pastime, to carry out a task (such as coding), or as a source of inspiration for any task. As evident in Lund and Wang's article (2023), ChatGPT can also be used in academic contexts, for e.g. literature review assistance, data analysis, language translation, automated summarization, and question answering. Using ChatGPT for these purposes can save researchers' time and effort and give them the opportunity to focus more time on other aspects of their work. ChatGPT collects data from its users for training purposes but does not sell it to third parties without consent (Chudleigh, 2024). It is also possible to opt out from giving your data by changing your account settings. The tasks in this material package are designed for ChatGPT 4o mini.

4.3.2 Gemini

Gemini is a chatbot similar to ChatGPT. It is owned by Google, and it was launched in 2023 (Imran & Almusharraf, 2024, p. 2). Similarly to ChatGPT, Gemini responds to prompts from its user and creates text based on the prompt. In addition to text, Gemini is able to work with different data types, such as images, audio, or even videos. Gemini can be used for many purposes, such as solving mathematical equations and code generation (Imran & Almusharraf, 2024, p. 3). It also has many uses from the viewpoint of education, because it can be used for e.g. information search and translation. The age limit to use Gemini is 13 with a personal Google account and 18 with a school account (Google Help, n.d.). Gemini is trained to filter out a number of prompts it will not respond to, such as hate speech or security issues (Imran & Almusharraf, 2024, p.

3). Gemini does not collect user's data for training purposes without permission. The version featured in this material package is Gemini 1.5 Flash.

4.3.3 Notebook LM

Notebook LM is a Google-owned service designed for research and note taking. Unlike ChatGPT and Gemini, Notebook is not a chatbot but rather a tool for organizing documents and other sources; it works as a "virtual research and writing assistant" of sort. Once its user uploads texts or other materials on the service, it can be used to convert the information into a more manageable, summarized form. (Notebook LM, n.d.). Notebook LM collects data from its user for training purposes. The age limit for Notebook LM is 18. Notebook LM was launched in 2023 (Li, 2023).

4.3.4 Kling AI

Kling AI is a video generator service. It is owned by a Chinese company the Kuaishou AI Team and was launched to the public in 2024 (Kuaishou Technology, 2024). It can create videos and images based on the user's text prompts. These can prompts include verbal commands as well as more technical prompts, such as mode, length, and aspect ratio. The age limit for using Kling AI is 13 (Kling AI, n.d.). Kling AI collects data from its users for training purposes. By registering on the service, users get 66 free credits that can be used towards video and image generation.

4.4 The structure and content of the material package

This material package includes five lessons, 75 minutes each. The lengths of the lessons may be different in some Finnish upper secondary schools, but I chose this length because shorter lessons would have not had enough time for the activities. The materials were designed to comply with the standards of the Finnish National Core Curriculum (EDUFI, 2020). Following this material package will help incorporate the use of AI into five of the compulsory modules of A-level English. There are six compulsory modules in total, but one of them is left out – this particular module is only one credit while the rest are two credits, so for clarity I chose the modules worth the same number of credits. The material package contains one lesson for each of the following modules:

1. English as a global language (ENA2)
2. English language and culture as instruments for creative expression (ENA3)
3. English as an instrument for exerting influence (ENA4)

4. Sustainable future and science (ENA5)
5. English in further studies and the world of work (ENA6).

Each lesson plan contains one or two main assignments with step-by-step instructions. Every lesson involves using AI in some form, for example in word processing, image and video generation, and information search. Topics featured in the material include variations of English, future predictions, fake news, and writing a resume. These topics are picked to suit the themes and objectives of the modules, but they are merely suggestions and can be changed or modified to suit the user's needs.

5 DISCUSSION AND CONCLUSION

This chapter explains the process of planning the material package, including the stages of planning and designing the material as well as reflection of the process. It is crucial to evaluate both the process and the outcome, including identifying the strengths and weaknesses of the material. In addition to the writing process, the last subchapter concludes the thesis and its topic as a whole.

5.1 The process of designing the material package

In the earliest stages of planning my thesis, I had only vague ideas for the topic. I had ambitions to choose a topic that would have social impact and that would fill a clear research gap. After some self-brainstorming, I found meaningfulness in the topic of AI in education. Right there and then I decided to take on a challenge – AI was not a topic I knew much about beforehand, but I knew I was about to. After deciding on the topic, I started drafting some ideas and slowly began the writing process.

Based on my supervisor's feedback and suggestions regarding the early drafts, I chose the material package as the format of my thesis. This turned out to be an excellent decision, because for me designing the material itself was certainly the best part of the whole process. I felt a great sense of gratitude and accomplishment when I got to develop my ideas into something tangible and see them come to life.

During the writing process I took a deep dive into the world of AI. I searched for the newest publications relating to the use of AI in education in order to gain an understanding of what it is currently used for, and how it could be used in the future. Although I believe I managed to gather a solid background for this thesis, writing the literature review was not easy. While there are tons of publications about AI, most of them are from very specific viewpoints that are irrelevant to my field of study. It is also important to note that AI is still a relatively new phenomenon, and thus it takes

time for research to catch up. Therefore, it is very difficult to reach an understanding of AI, let alone write a theoretical background that would be anywhere near exhaustive. What is more, information and data become outdated fast due to the speed AI is growing and developing.

The process had other challenges, too. Another challenge had to do with the age restrictions and data privacy issues regarding the use of AI; most AI platforms collect data from their users, which needs to be taken into consideration. When teaching students under the age of 18, teachers need guardian's approval before assigning anything AI-related to students. Most AI platforms also have age restrictions of their own, meaning that students under the age of 18 are only allowed to use the platform under supervision. In some cases, the easiest way to go about this would be for the teacher to be the agent in using the platform while students only observe; however, this would have a significant impact on the agency and involvement of the student.

All in all, designing the material was a meaningful, educational process. I am now a confident user of AI, meaning I can use it as a resource both in my work and in my free time. The sources I read and the theoretical background I wrote for this thesis have given me a good understanding of the research that has been conducted on the topic thus far. I am eager to see how AI keeps on developing in the future and what kinds of possibilities it will offer us in the future.

5.2 The usability of the material

Perhaps the most considerable strength that this material package has is its topicality. The material responds to a clear research gap, and I believe many teachers and educators will benefit from this type of material. I have included several AI platforms in the tasks, which adds to the versatility of the material. Additionally, the tasks are designed to correspond to the National Core Curriculum and thus can be considered relevant to A-level English. On the other hand, there are also shortcomings to this material package. Unfortunately, I did not have the resources to test the materials in practice. Therefore, it is hard to say how well the tasks would work in a real classroom setting. The material could have also been more extensive, and on its own it is only a scratch of the surface when considering how vast AI is.

5.3 Ethical considerations

As mentioned above, the use of AI in education is not always simple. Teachers have the responsibility to do their research before asking students to use any AI platform,

whether it is in the classroom, or in their free time. Students need to be aware of what data is being collected from them and how. Naturally, students under the age of 18 need guardian's approval to use platforms that are age restricted. It is also the teacher's responsibility to inform the guardians appropriately about the platforms, so that the guardians have the grounds to decide whether they want their child to partake in activities that require them to e.g. sign up on an AI website or otherwise disclose any information about themselves. While some students in Finnish upper secondary schools may already be 18 or older and therefore can decide for themselves, it is still important to provide the students with adequate information and give them the opportunity to choose an alternative way to complete the task, if they so wish.

The world of AI is still a somewhat grey area, because it is hard to find comprehensive guidelines regarding its use in schools. Luckily, many institutions and parties have outlined their regulations to guide teachers and other educators regarding AI. It is reasonable to assume that more educational institutions speak out on the subject and make it easier for teachers – and students – to know what kind of AI use is encouraged, allowed, or prohibited in schools.

5.4 Conclusion

The use of AI in education is a current, constantly evolving theme. It is reasonable to expect that the topic will be studied further in the near future, as AI platforms and applications keep developing and institutions come up with official regulations regarding the use of AI in schools. This thesis sought to understand new ways of implementing the use of AI in EFL teaching and succeeded in it. English is commonly seen as one of the lingua francas of the internet, and thus it is often justifiable to incorporate AI and other digital tools into EFL instruction.

Had there been more time and resources, this material package could have been tested in practice with students. Unfortunately, that was not possible at this time and thus, the usability of the materials remains on a theoretical level. On the other hand, the goals of this material package included providing teachers with information about AI as well as inspiring and encouraging them to use it in teaching. I believe these goals were reached even though the materials have not been used in classrooms prior to publishing this thesis.

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APPENDICES

APPENDIX 1: MATERIAL PACKAGE

"Education is the passport to future, for tomorrow belongs to those who prepare for it today." – Malcolm X

A MATERIAL PACKAGE FOR UTILIZING ARTIFICIAL INTELLIGENCE IN EFL TEACHING

Dear Teacher,

Welcome to the world of Artificial Intelligence!

This material package is an approachable guide to AI in EFL teaching. Whether you are only beginning to explore the opportunities of AI or are already an experienced user, there is a good chance you might learn something new and interesting from this material package.

This material package consists of five lessons, each of which contains an assignment or a project that utilizes AI. These materials have been designed specifically for EFL education, following the guidelines of the Finnish National Core Curriculum for General Upper Secondary Education (EDUFI, 2020). In this material package, you will find one lesson of approximately 75 minutes for each of the mandatory two credit modules of A-level English:

- ✓ English as a global language (ENA2)
- ✓ English language and culture as instruments for creative expression (ENA3)
- ✓ English as an instrument for exerting influence (ENA4)
- ✓ Sustainable future and science (ENA5)
- ✓ English in further studies and the world of work (ENA6).

That being said, the materials are customizable to suit your students' needs – this material package can also be used as a template for incorporating the use of AI to the instruction of a different subject or age group. The main purpose of this material package is to show how AI can be used as a resource and a source of inspiration; regardless of the subject and age group you teach, AI can help you design fun and interesting activities in literally seconds.

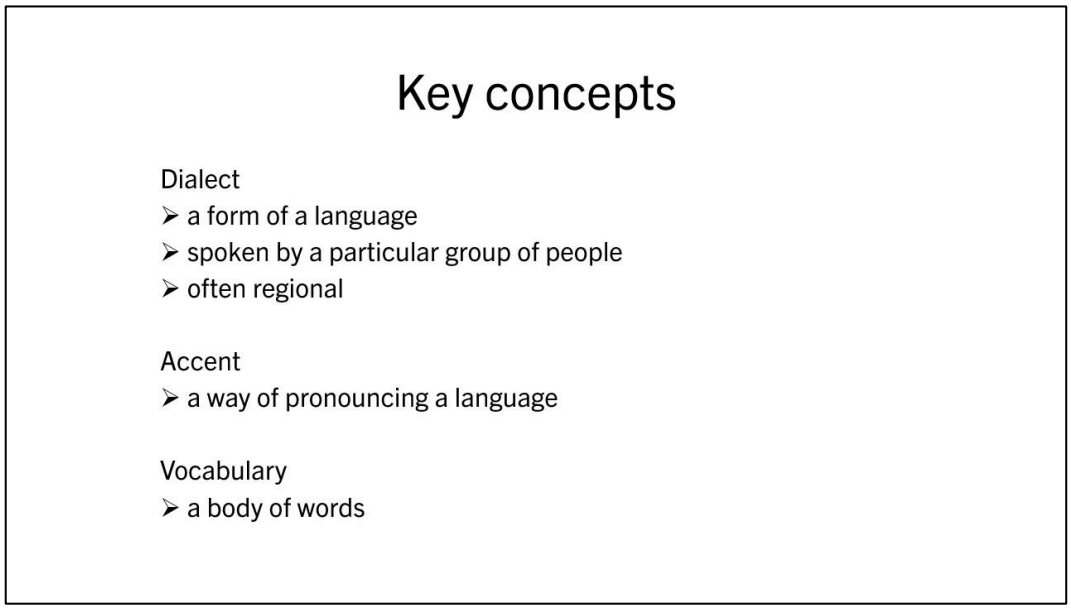
One of the best gifts you can give your students is to prepare them for the future. Now is an excellent opportunity to invest your time in something that will revolutionize teaching and learning for good. I wish you happy and insightful moments with this material!

Yours sincerely,
Siiri Nieminen

Lesson 1: World Englishes Presentations

Module: English as a global language (ENA2)

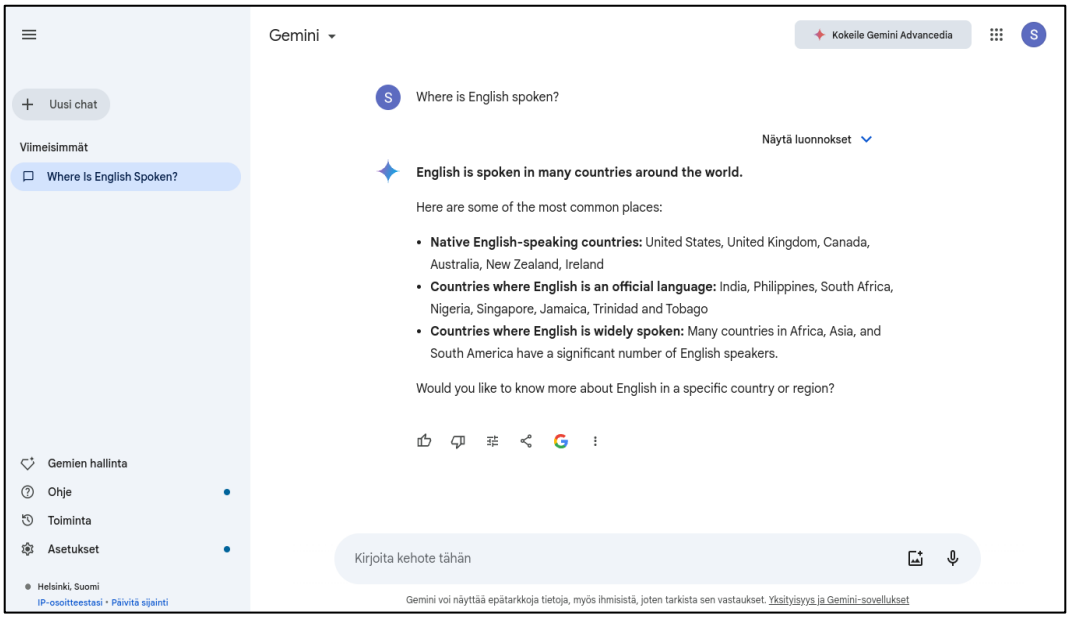
In this lesson, students will practice information search using AI as a resource. The goals of this lesson are to research World Englishes and to give short presentations on one's findings. This task welcomes collaborative learning: students are encouraged to work in groups and share their findings with others. This lesson is a great opportunity for students to practice group work, communication, presentation skills as well as active listening. Some key concepts of this lesson include *dialect*, *accent*, and *vocabulary*.



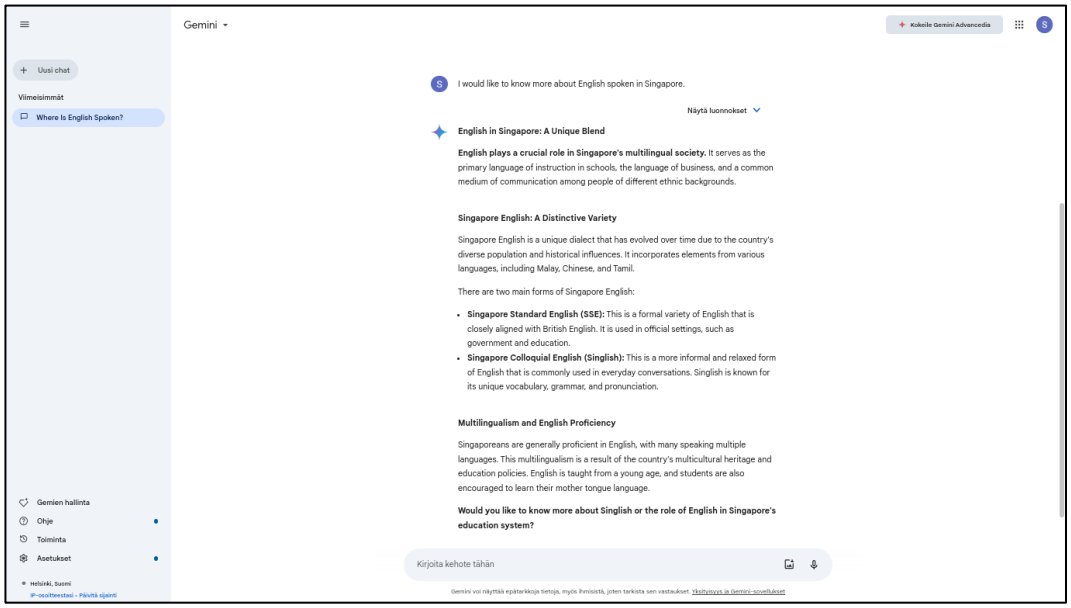
Instructions for the teacher:

1. Give students a brief demonstration of Gemini. This can be done by first showing the website and explaining how to log in – the easiest way to do so is by using an already existing Google account. *10 minutes*
2. Next, explain what students will be using Gemini for; the aim is to make small projects about English speaking countries in pairs or small groups. *5 minutes*

3. Give examples of the prompts one might give Gemini. For example: “Where is English spoken?” When prompted, Gemini will come up with a list of countries where English is widely spoken. *5 minutes*



4. Ask groups to pick a country to do research on. Encourage students to pick a country they are not the most familiar with. For a more comprehensive learning experience, make sure each group picks a different country. *5 minutes*



5. Give students time to explore their topic and prepare their presentations. *30 minutes*

6. Once the groups have finished their projects, it is time for each group to present their findings. Remind students to listen actively, ask questions, and give feedback. To ensure each group gets peer feedback, name each group another group whose feedback they are in charge of. *20 minutes*

Good feedback will cover at least the content, organization, and delivery of the presentation:

Content
- ✓ Was the information relevant to the topic?
- ✓ Was there enough information?

Organization
- ✓ Did the presentation have a clear beginning and end?
- ✓ Was the information presented in a logical order?

Delivery
- ✓ Did the presenters use an appropriate volume and speed when talking?
- ✓ Was the language appropriate?

Instructions for the students:

1. With the help of Gemini, research the variant of English (e.g. Philippine English, Nigerian English) you chose together with your group. Some questions to consider:
   - What is the vocabulary like in the country? Are there any words that are unique to that specific variant of English?
   - How many people speak English in that country?
   - Why is English widely spoken in that country?
   - Can you find video or audio examples of the dialect?
2. Compose a short presentation (approx. 2-5 minutes) of your findings. You may decide the format of your presentation (e.g. PowerPoint, Prezi), but preferably include at least some form of audio or video. The projects will be presented to the rest of the group.

Lesson 2: My Future – A Creative Project

Module: English language and culture as instruments for creative expression (ENA3)

The ENA3 module includes a project of creative expression. This individual project gives the students an opportunity to let their imagination guide their writing and manifest things they would like to have in their future. This assignment consists of two parts. In the first part, students write a composition about their future (60 minutes). In the second part, students get to bring their story to life using an AI tool that converts text into video (15 minutes). The instructions for the second part are adapted from Riutta's (2024) tutorial on how to use Kling AI.

When planning the lesson, it is important to note that the generation of the video may take a while. However, leaving the site will not disrupt the generation, and therefore students may log out and check the final product later. In that case you may want to conclude the project during the next lesson by giving them time to watch their videos, and perhaps asking if anyone wishes to share their product with others. Have your students hand in their compositions and videos once they are finished. What is more, encourage your students to also save the final products for themselves!

Instructions for the students (the first part):

Write a composition of 700-800 characters (excluding spaces) using the title 'My Future'. The aim of this task is to write about things you could see yourself doing in the future, and what kinds of things you did to get to that point in life. The composition can be about any time in your future life. Alternatively, you can come up with a character whose story you tell. You can choose the narrative through which the story is told (e.g. a first-person narrative, or a third-person narrative).

Begin your story by setting the scene. What year is it? How old are you? Then write about different aspects of your life:

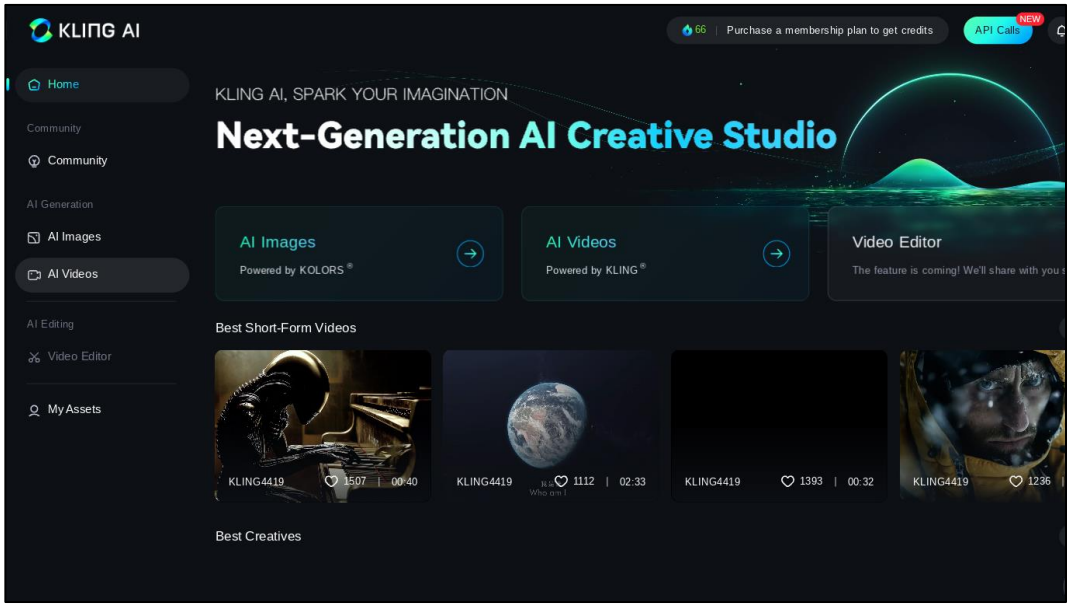
- What is your typical day like?
- What do you do for a living? Why did you choose that line of work? What are your career goals?
- How do you spend your free time? What hobbies do you have?
- Where do you live? Who do you live with?

- What has been your biggest accomplishment?

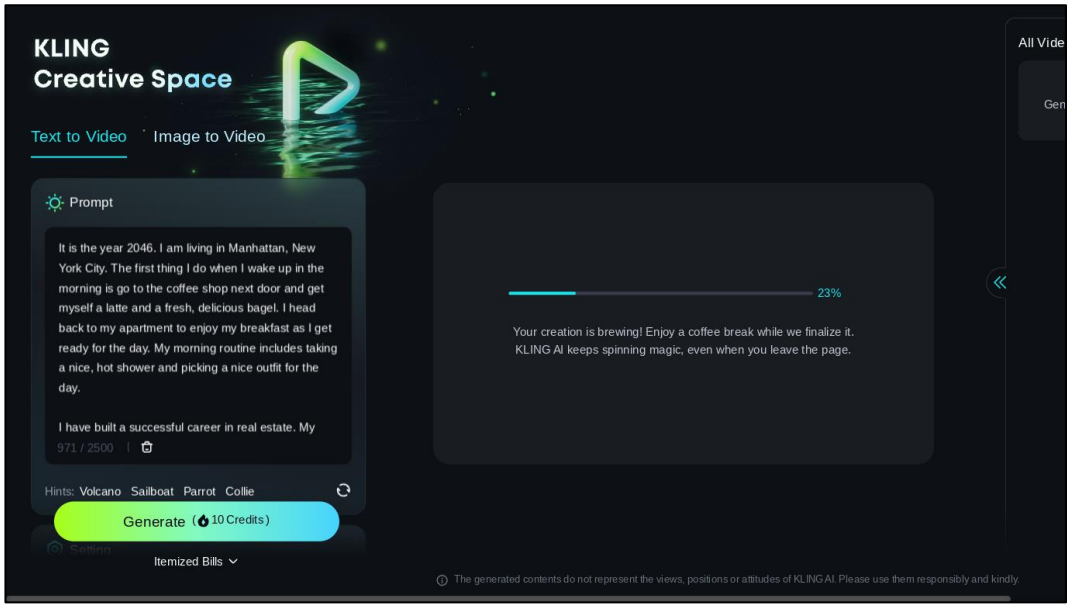
Instructions for the students (the second part):

1. Go to klingai.com and sign up.

2. Once you are signed in, click AI Videos.



3. Click Text to Video.
4. Paste your composition into the field. You may adjust the settings, e.g. length, mode, and the number of generations. Once you are happy with your prompt and settings, click Generate.



5. Once Kling AI is done processing your prompt, the video will pop up.
6. Submit your composition and video to your teacher. Most importantly, save your final products for the future!

Lesson 3: The Role of AI in Fake News

Module: English as an instrument for exerting influence (ENA4)

In this day and age, AI is ubiquitous, and it can be used for many functions. While it is often used for fun, useful and well-intentioned purposes, this isn't always the case. Unfortunately, AI is also used to generate and spread propaganda, misinformation, and other malicious purposes. It is extremely important to educate students on these topics, because many AI generated pieces of media are very convincing and thus succeed in their purpose, which is to deceive the audience and serve the (sometimes hidden) agenda of the creator.

The aim of this lesson is to draw attention to and define some important concepts of today's media, such as *fake news*, *deepfake* and *propaganda*. This lesson consists of two parts. In the first part, the topic of fake news is discussed with class; this includes defining the key concepts and giving some background knowledge about why fake news even exist. In the second part, students themselves also get to try picture manipulation using AI. The purpose of this is to show how easy it is to create material with no truth behind it – this will hopefully be an eye-opener to students and encourage them to be alert when consuming (social) media content.

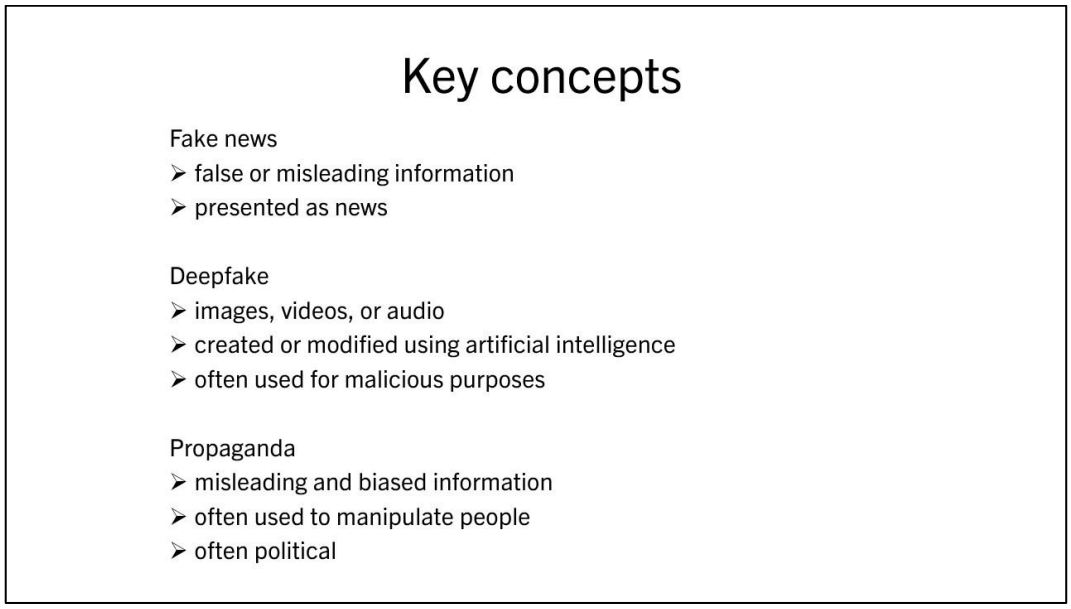
It is important to remind the students to complete the task in good taste. Even though AI is constantly being used unethically, it is by no means acceptable nor encouraged. The point of this task is simply to demonstrate how easy it is to manipulate pictures and videos using AI, and this goal can be achieved with pictures that are virtually harmless.

Instructions for the teacher (the first part):

1. Start the lesson with a discussion by showing the students a fake picture or video (*5 minutes*). You may use AI to generate an image or a video of the topic or theme you have chosen for the lesson – many AI platforms, such as Kling AI, offer tools for image and video generation (check Lesson 2 for instructions). Alternatively, you can search for pictures and videos online. For the sake of copyrights, the example used in this material is a royalty-free image from Pixabay (Richter, n.d.).

2. From the picture/ video, lead the conversation to the topic of the lesson. Ask the students the following questions (*5-10 minutes*):
    - What thoughts do you have about this picture/ video?
    - Is this picture/ video real? How can one tell?
    - Who might have created this picture/ video?
    - Why was this picture/ video created? What is the purpose of picture/ video?

3. Conclude that oftentimes there are no clear answers to these questions – and that is why this is an important topic to discuss. Proceed to define key concepts, such as 'fake news', 'deep fake' and 'propaganda'. Include examples of current topics, such as elections, international conflicts, or other events that are widely discussed in the media. You may use PowerPoint or other presentation tool for support – this may help visual learners. *15 minutes*



4. The students' turn: explain to your students that they will be generating images using AI (instructions below). Give students time to create their images. *30 minutes*

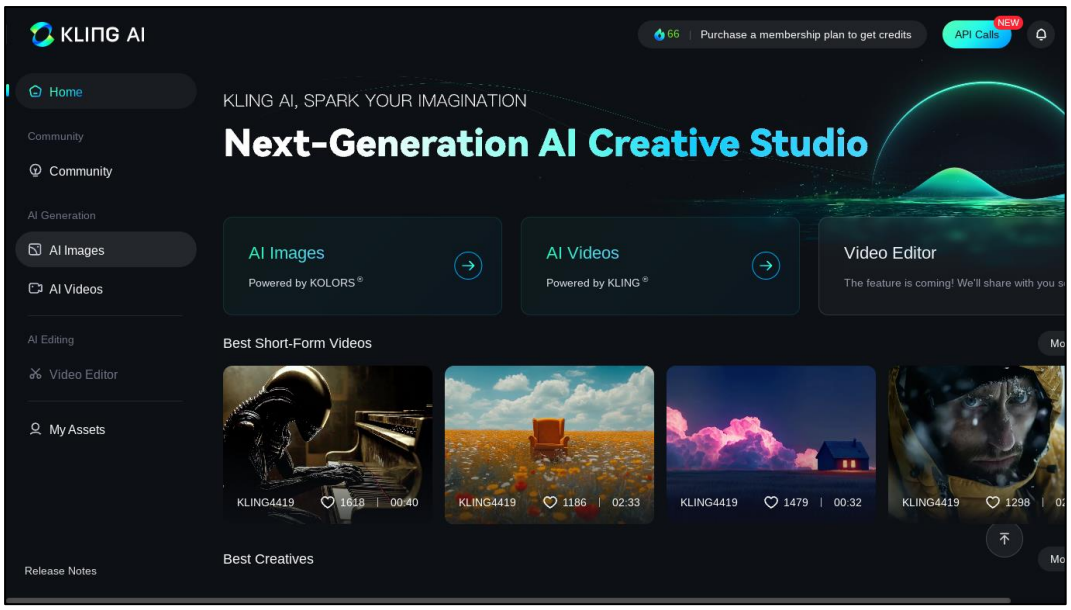
5. Once the students have successfully generated their images, ask them about their experiences *(5-10 minutes)*:
   - Was it easy/ difficult to generate the images?
   - Would you believe the images were real if you hadn't created them yourself? Why/ why not?
   - Do you think someone else would believe the images were real? Why/ why not?

6. Conclude the lesson by giving the students food for thought. In this task, the images were created using a tool that, in theory, anyone could access. It takes critical thinking skills to differentiate between real and fake, and even if the students themselves did not find the images convincing, someone else could have. The tool used in this task is only one of many and there are other tools out there that are much more sophisticated and advanced – imagine what those tools are capable of. *10 minutes*

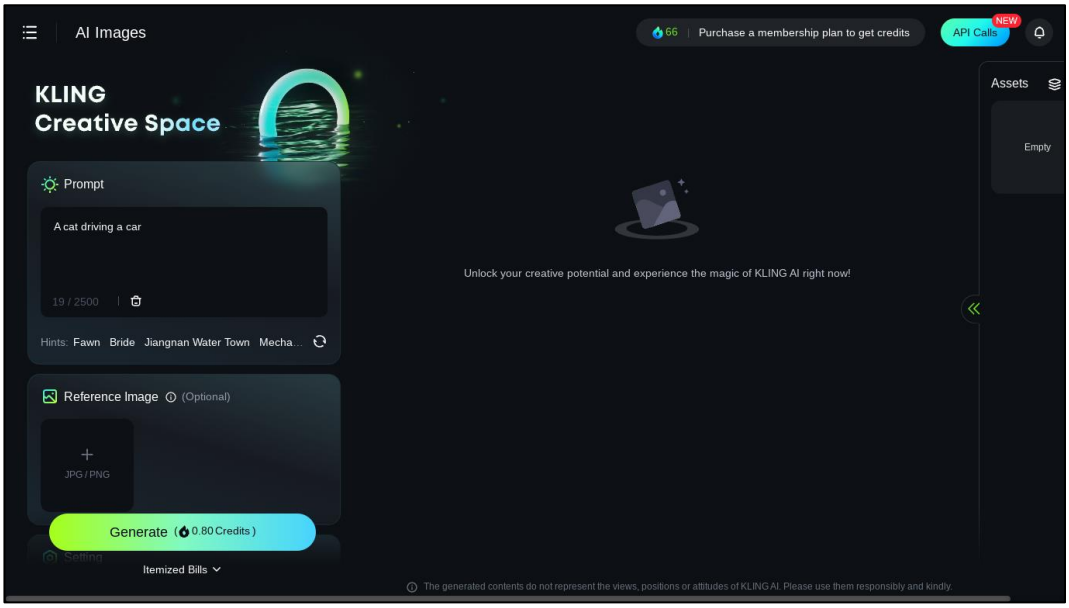
Instructions for the students (the second part):
Can you imagine a cat with ten legs? How about a baby driving a car? A dinosaur eating ice cream in Times Square? If you can imagine it, you can generate an image of it. In this task, you get to use your imagination and create an image using artificial intelligence.

1. Think of a prompt for your picture. What is something that does not exist in real life, but would be interesting to see? Remember to write the prompt in good taste.

2. Sign in to Kling AI and click AI Images.



3. Type your prompt into the field. You may add a reference image if you so wish. If you want to generate multiple pictures using the same prompt, you may also change the number of generations. When your prompt is ready, click Generate.



4. Once Kling AI is done processing your prompt, the picture will pop up. You may download the picture(s) if you so wish.
5. How was your image generation process? Discuss with others.

Lesson 4: Future Predictions

Module: Sustainable future and science (ENA5)

The aim of this lesson is to explore future predictions from different perspectives. Students get to practice information search and classify information they find from different sources. Students will be given useful tools for handling larger amounts of information at the same time, and for summarizing articles they might find.

This task consists of two parts. The first part includes searching for information and the second part is for gathering the sources into one, manageable file.

Instructions for the teacher (the first part):

1. Start the lesson with a prompt such as: What are scientific texts? What characteristics do scientific texts have? Where can you find scientific texts? Ask the students to discuss in pairs or small groups for approximately 2-3 minutes. This gives you useful data on how much your students already know about the topic. *2-3 minutes*
2. After the time is up, ask if any pairs or groups would like to share their thoughts on the topic. *5 minutes*
3. Elaborate on what was said, explain at least the terms scientific texts, peer review, and source criticism. You may use PowerPoint or other presentation tools for visuals. *10 minutes*

Key concepts

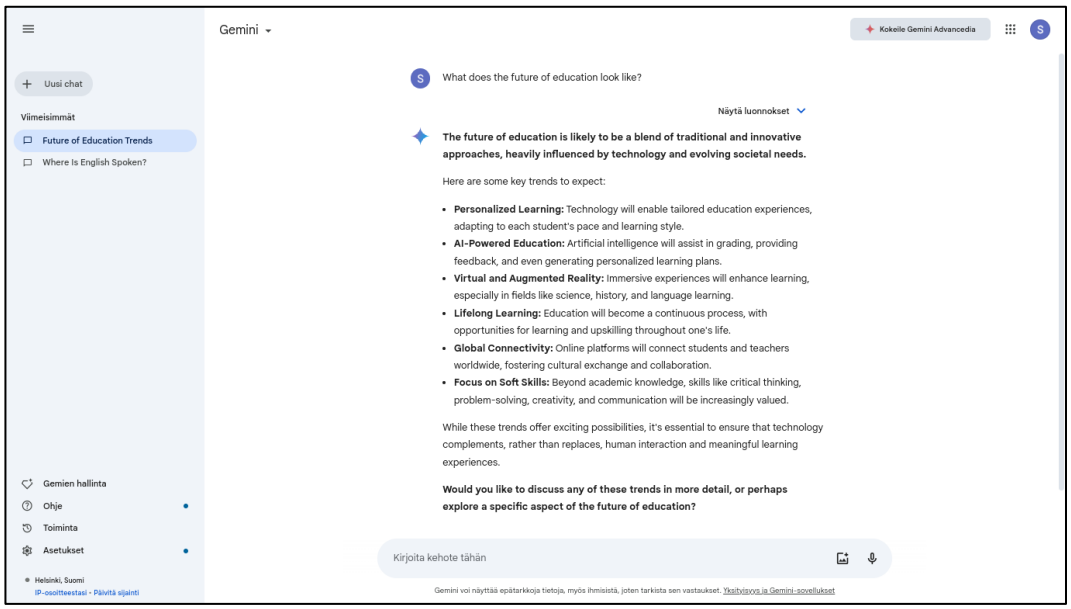
Scientific texts
- describe a study and its results
- are based on facts instead of opinions
- use reliable sources
- are written using formal language

Peer review
- the paper is evaluated by other experts of the subject
- validates the research

Source criticism
- knowing that everything you read is not true
- evaluating if a source can be trusted

4. Explain the agenda for the lesson. At the core of this lesson is to search for reliable information and make summaries and notes of the findings. *2-3 minutes*

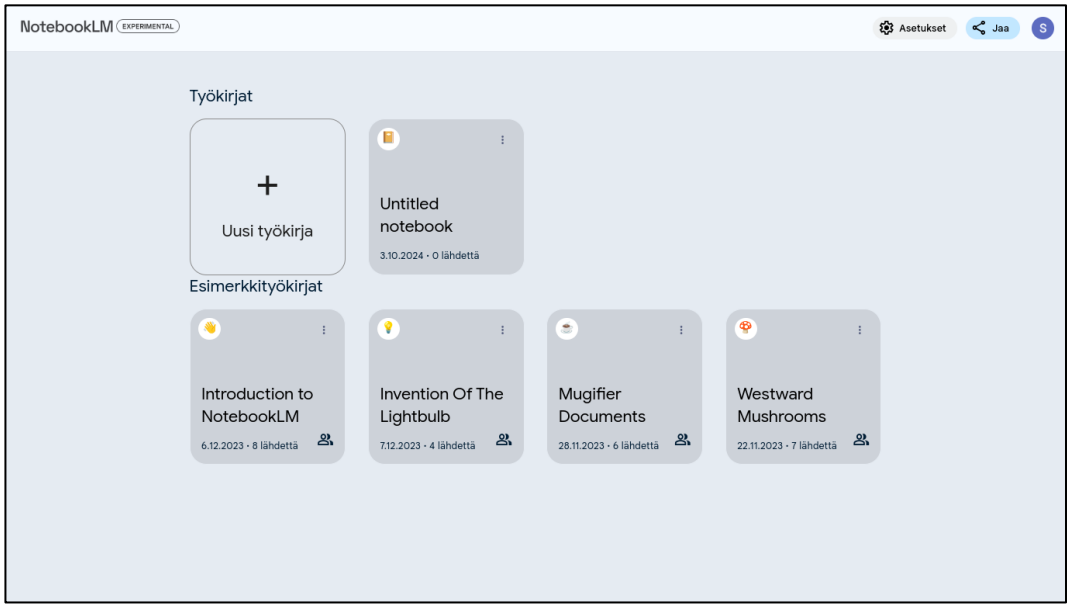
5. Explain what the students will be researching *(5 minutes)*. Suitable topics include e.g. the future of food, the future of technology, and the future of education. Note that these topics are very broad, and therefore students may need help with narrowing down the topic. There are many AI platforms suitable for this task, such as Gemini, ChatGPT, and Copilot.



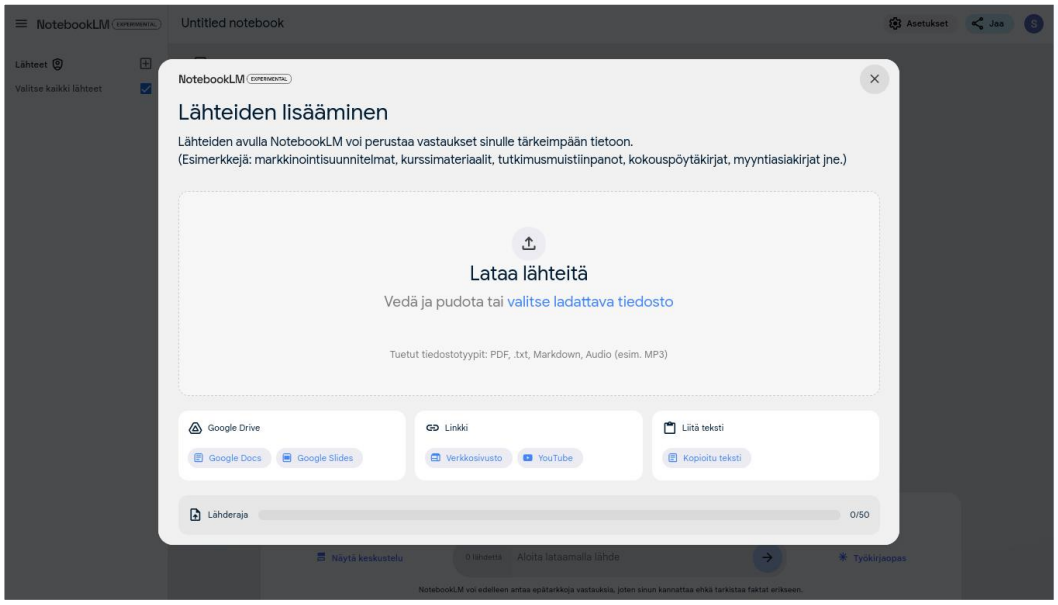
6. Give students time to decide on their topic and to do their information search. Be sure to assist students with any issues they may have when conducting their information search. *30 minutes*

Instructions for the teacher (the second part):

1. Ask your students to log into Notebook LM using their Google account. Click ‘New Notebook’. *5 minutes*



2. With Notebook LM, students can now manage all the information they found during their information search. Sources can be added to Notebook LM by uploading documents, applying direct links to websites, or pasting text directly onto the field. *5 minutes*



3. Once Notebook LM has processed the sources, the student will have a short summary of their sources. *2-3 minutes*
4. To wrap up the lesson, the inquire your students about their findings and experiences of the task (*7-8 minutes*):
    - Was it easy to find reliable sources? Why/ why not?
    - Were the sources in line with each other?
    - How did you determine which sources to read?
    - Did you find the tools (e.g. Gemini, Notebook LM) useful for information search? Why/ why not?

Lesson 5: AI-assisted CV Workshop

Module: English in further studies and the world of work (ENA6)

The aim of this lesson is to offer a perspective on the topic of utilizing AI in resume building. This connects to a much broader topic, that of utilizing AI in job seeking. As mentioned above, the learning objectives of the ENA6 module include futuristic job hunting and studying skills, and one of the perfect ways to illustrate that is to inspire students to explore the possibilities of AI. This task is adapted from Austin's (2023) tutorial on how to utilize ChatGPT in building one's resume.

Preparations for the teacher: Find or make up 1–3 job advertisements. The advertisements would ideally be for entry-level positions an upper secondary school student could realistically apply for; the focus on the task is to practice job seeking skills rather than to map out dream jobs. Ideally, the job advertisements – and the positions they are

advertising – would be rather simple in order to successfully complete the task. What is more, some students may find it motivating to build a tailored resume they can use in the future. With help from their teacher, students can also look for job advertisements on their own. This method, however, requires more time and assistance if students have not browsed job advertisements prior to the lesson. The advertisement used in the example is an adaptation of this fast-food worker job description template:

In order to complete the task, students must have their own resumes already made. Depending on the schedule, resume building may be incorporated into the previous lesson, or it can be assigned as homework. Collect the resumes from your students prior and after completing the second part of the assignment – this way you get to see how the students' resumes have evolved.

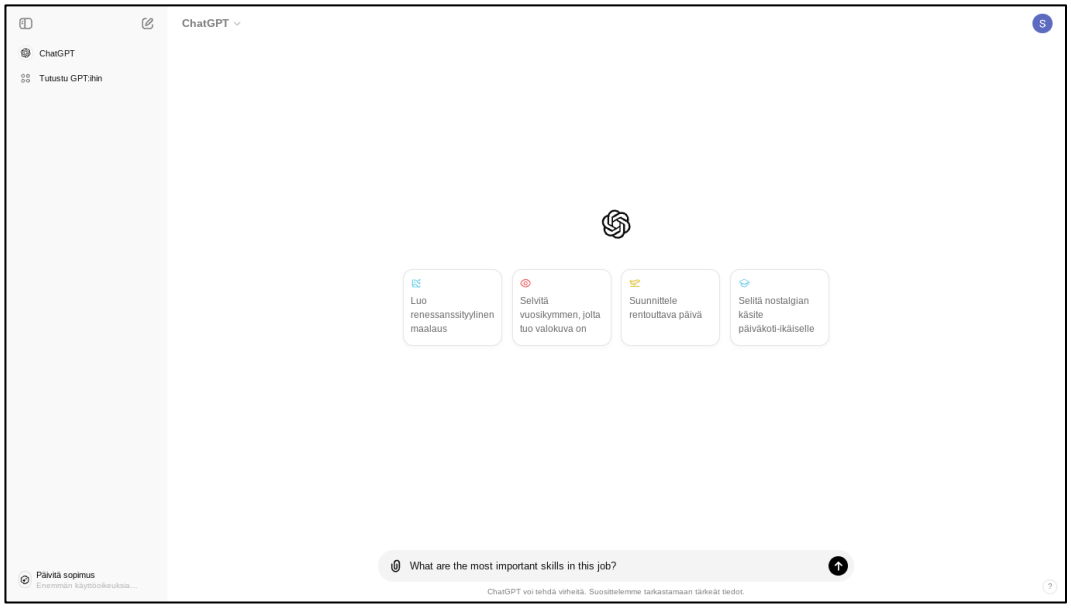
Instructions for the teacher (the first part of the assignment):

1. Have your students write their resumes and save them on their devices. How much support they need with writing resumes depends on their other studies and/or previous work experience – it is a good idea to inquire about this in advance and assign the task of resume writing prior to the lesson.
2. To make the workshop run smoothly, have some job advertisement sites at hand. Alternatively, you may write mock versions of job advertisements for students to choose from.

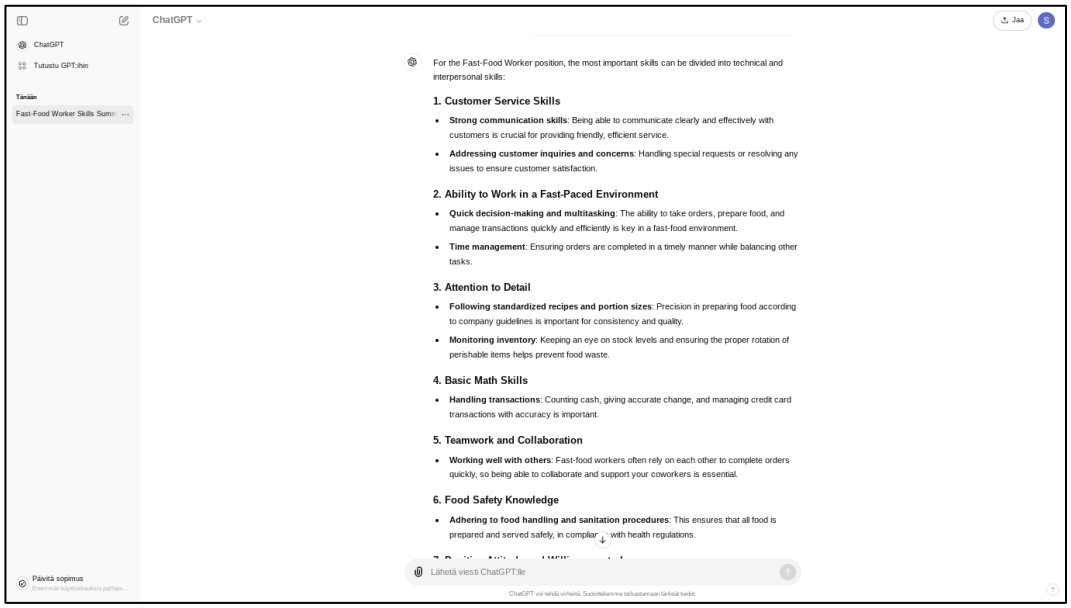
Instructions for the students:

1. Choose a job advertisement for the task and read it. (*10 minutes*)
2. Log into ChatGPT. You can log in using already existing Google, Microsoft, or Apple accounts. Alternatively, you can create a new account. (*5 minutes*)

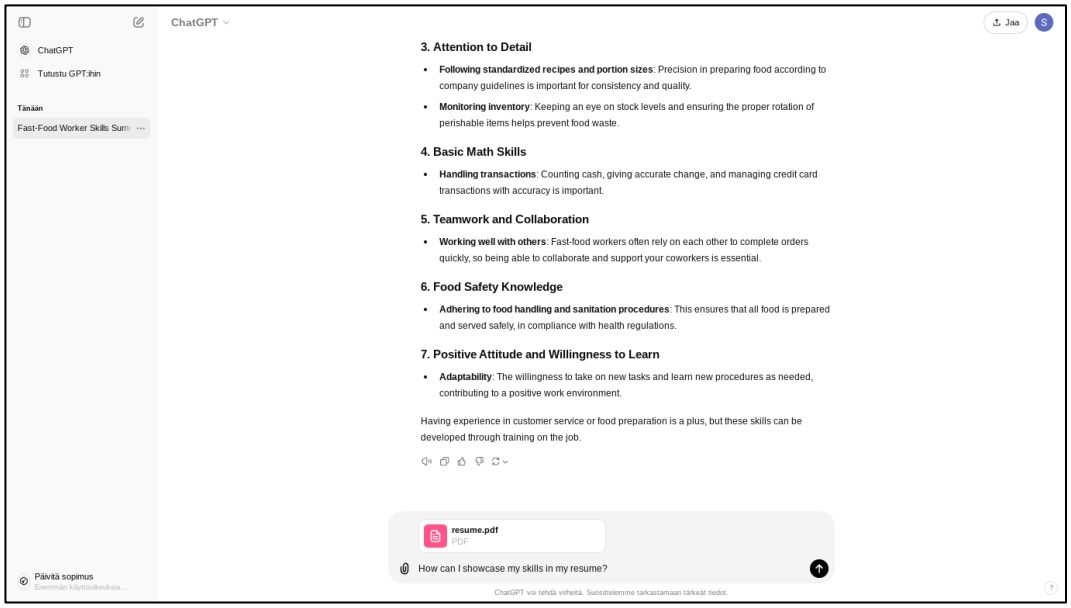
3. Once you are logged in, write a prompt along the lines of “What are the most important skills in this job?” and paste the job advertisement on the same message. Click send. (*5-10 minutes*)



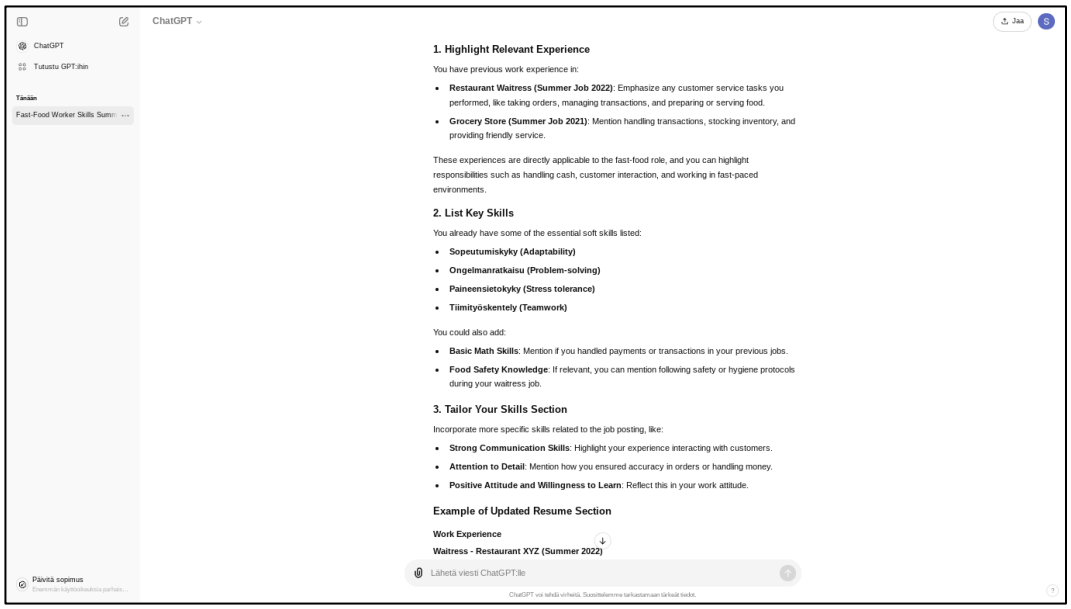
4. You will be provided with a summary of the skills required for the role based on the advertisement.



5. Attach your CV in the message field and type another prompt in the same message, along the lines of “How can I showcase my skills in my resume?” and click send. (*5-10 minutes*)



6. Read the answer ChatGPT came up with. (*5 minutes*)



7. Based on its suggestions, ask a more detailed question. For instance, if ChatGPT suggested you summarize your skills into one sentence, you may ask ChatGPT to do that for you. (*10-15 minutes*)

8. You may now use the suggestions as guidance on how to tailor your resume to a specific position. (*30 minutes*)
9. Once you are finished, submit your revised resume to your teacher. Make sure to include the name of the job advertisement you chose. (*5 minutes*)

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