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Critical thinking as part of digital skills in EFL education
A qualitative study of how teachers and their students understand the concept of critical thinking.

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Abstract

This study investigates how teachers of English understand critical thinking, and how they act upon their understanding in their teaching. Additionally, this study also investigates how students experience their teachers practice of critical thinking in the EFL classroom. The current curriculum of LK06 is in a gradual change towards the subject renewal LK20, a change that is paralleled by the increasing focus on digital technology in education. In a historical perspective, the need for critical attitudes in school settings has seen a curricular development from the late 80's until today with an increasing focus on technology as an integral part of human life.

To address contemporary challenges and opportunities, the Department of Education and Training has implemented a digitalization plan that lays guiding principles from 2017-2021. Critical thinking is a central term for the new curriculum and for the digitalization plan. A supplementing press release exemplifies the English subject as one of the subjects that should nurture critical thinking skills among students. As of today, teachers must include digital skills in the English subject, a basic skill that incorporates aspects of critical information processing using digital tools. The current thesis is motivated by the multiple mentions of critical thinking as a desired English subject skill in the intersection between technology, language and education.

To investigate the field, we have conducted qualitative research interviews where four different EFL teachers participated. Subsequently, a selection of the teachers' students were interviewed in groups. Our findings indicate that the teachers put a strong emphasis on critical thinking as an integral part of evaluating digital information. Further, the teachers appear to implement critical thinking in their EFL practice in an implicit and context-sensitive manner. Their students mostly experience critical thinking as a term that is incorporated into criteria for written and oral tasks, and as a subject of conversation in relation to evaluating digital information in the EFL classroom. Moreover, our findings indicate that meta-language in policy documents is susceptible to ambiguity. This is highlighted by the inconsistent definitions that arose in parts of the conversational discourse. What seems evident, is that terms such as critical thinking – can take on multiple meanings and necessitate contextual factors to attain a common definition from practitioners in the field. This last point is not investigated exhaustively, thus providing future researchers with an intriguing perspective.

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List of Abbreviations

EFL – English foreign language

ICT – Information and communication technologies

UDIR – In English: The Norwegian Directorate for Education and Training

NSD – In English: Norwegian Center for Research Data

NESH – In English: National Committee for Ethical Considerations in Research for Social Science and Humanities

M87 – Mønsterplan 87, national curriculum implemented in 1987

L97 – Læreplanverket, national curriculum implemented in 1997

LK06 – Kunnskapsløftet, national curriculum implemented in 2006.

LK20 – Fagfornyelsen, national curriculum to be implemented in the fall of 2020

Foreword

We took the initial steps towards this project during our third year of the teacher education program at UiT - The Arctic University of Norway. Over the course of the education program, we have gained experience with ICTs from different settings. Within the 5-year program we had one week that focused on new innovations in web resources and software that presented intriguing possibilities for learning. The course, which was held by senior students, proved to be very helpful. Both in terms of giving us concrete tools for a variety of purposes in the classroom, and as a fresh perspective on the number of alternatives that lie readily available if we explore for ourselves. We discussed the relevance of digital skills in terms of assessing sources, evaluating the role students in elementary and secondary school have online, and the issues related to online safety and privacy. Furthermore, we followed the debates on fake news, cyberbullying, cases of hacking, and the development of artificial intelligence. We decided to narrow our focus to the use of technology, with a special focus on critical thinking. The frontier of the technological industry is changing by the day, and most of us want the latest and greatest of phones, computers, computer software, television applications etc. Although schools are more restrictive when it comes to accepting these tools, students' lives are of much concern to teachers in Norway's socio-cultural teaching paradigm, and the issues related to source evaluation are directly related to competence aims in the English language section of the national curriculum. These thoughts and discussions culminated in critical thinking as the digital skill that could address all the concerns mentioned, a skill that potentially could outlast the changing frontier of technology.

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1 Introduction

This chapter accounts for the background of this study and the motivation behind it, it reviews the literature that forms the theoretical basis for this study and discusses briefly the contribution to the field. Finally, the research questions for this study will be presented, followed by the aim of the study.

1.1 Background

> Digital skills and the use of ICT in education is no longer limited to schools with especially interested teachers, and it is not just about learning technical usage of singular programs. Digitalization and digital competence encompass subjects that are related to humanistic and social science subjects with additions from the science subjects. Critical thinking and technological understanding, basic skills and social interactions are all areas that are related to, affected by and affect digitalization. (Former minister of education and research, Torbjørn Røe Isaksen; (Kunnskapsdepartementet, 2017, p. 4, our translation).[1]

This citation is extracted from the digitalization plan for the primary education in Norway, "Future, renewal and digitalization", which elaborates on the future of digital technology in the time frame 2017-2021 (Kunnskapsdepartementet, 2017). The Norwegian educational system, in likeness with developed countries, has invested heavily in technology, and there are numerous concerns related to this topic. These concerns are justified when cases like the Vigilo-scandal in Bergen unfolded, where the app Vigilo was implemented to make communication between parents and teachers simpler. In a massive security breach, parents with restraining orders gained access to information about their children, and one father living in a different part of Norway received information about his child and the child's mother, who had been living in hiding from him for 10 years (Tjeldflåt & Nave, 2019). This is one example which emphasize the need for competence in the field of educational technology from a top-down perspective. From a bottom-up perspective, the need for critical thinking skills in Norwegian schools is supported by statistics from the Norwegian media authority, which show that 21% of 16-20-year old's are ranked as having a low critical media understanding (Medietilsynet, 2019, p. 69). The *Monitor 2019* report revealed that over 70% of participating

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[1] "Digitale ferdigheter og bruk av IKT i opplæringen er ikke lenger bare for skoler med spesielt interesserte lærere og handler ikke kun om å lære teknisk bruk av enkeltstående programmer. Digitalisering og digital kompetanse omfatter emner som er knyttet til humanistiske og samfunnsvitenskapelige fagområder og som henter elementer fra realfagene. Kritisk tenkning og teknologisk forståelse, grunnleggende ferdigheter og sosialt samspill er alle emner som henger sammen med, påvirkes av og påvirker digitaliseringen."

teachers put "some or strong emphasis" on developing a critical outlook on sources and students' ability to explore online sources for information (Fjørtoft, Thun, & Buvik, 2019, p. 80).

Digitalization, ICT, digital skills, digital competence, critical thinking and technological understanding are terms that are highly frequent in the academic discourse in contemporary society. The partly overlapping constructs explain the relationship that has developed between schools and its position to technology. Children interact with digital technology from an early age, and their interactions lead them to sources of information and impressions that otherwise can influence their forming as individuals. This is why the excerpt from the opening statement of the digitalization plan claim that we need to recognize that digital skills is not exclusive to schools with a special interest in ICTs. Furthermore, using technology is much more than "…technical usage of singular programs". Elaborating on this understanding, "…critical thinking and technological understanding, basic skills and social interactions" are intertwined with digitalization. The government document also makes a reference to the pending national curriculum of 2020; "In the subject renewal, understanding and the ability to reflect and think critically are also important aspects of the subject-specific competence." (2017, p. 17, our translation). Critical thinking is a new area of focus with its defined curricular position, and it is tied to subject-specific competence and digital skills. How is critical thinking understood as a subject-specific competence for the English subject, and what does it mean for the digital skills of the English subject curriculum?

To answer this question, this thesis will investigate critical thinking and digital skills as societal constructs in the educational sector. This includes looking into what the terms mean independently, and how they are combined in the context of EFL education. A curriculum revision in 2013 saw competence aims in the English subject curriculum edited to fully reflect the competencies of digital skills (Munden, 2014, p. 48). Among other learning outcomes, digital skills in the English subject include that students must have a "critical and independent attitude" to the use of digital sources (UDIR, 2013). Critical thinking is not a new term, as it is imposed upon all institutions of education and training in Norway by the Education Act (The Education Act, 1998) §1-1: "The pupils and apprentices must learn to think critically and act ethically and with environmental awareness. They must have joint responsibility and the right to participate.". The revision of the English subject curriculum of 2013 and the coming curriculum of 2020 have a more explicit mention of critical thinking as a part of competence

aims and as a subject-specific competence. We believe the new focus on critical thinking can be seen as a response to the challenging nature of the modern-day information society. Students start interacting with digital media from an early age, and statistics show that 99% of 13-17 year-olds partake on at least one social media platform (Medietilsynet, 2020, p. 13). These platforms contain a variety of unfiltered news articles, entertainment content, advertisements and the possibility to communicate with the large number of. Such impressions may have unfortunate consequences if students lack the ability to think critically about the information they encounter.

Understanding the language on these platforms is a prerequisite to question the reliability of the information. English is the preferred language of communication in a large majority of these platforms (Brox & Pötzsch, 2019, p. 73). One can say that the English language has manifested its position as a digital *lingua franca.* It is expressed through writing, oral production and live video-casts. When these interactions take place outside the school, they can be said to occur in the "digital wild" (Sundqvist, 2019, p. 88). The supervision of these online ventures is becoming increasingly difficult to maintain as phones and tablets enable more agency and privacy to children while they use them. Students may learn sophisticated conventions for communication that could influence their proficiency positively. However, we recognize that they may develop digital habits from these platforms which does not necessarily stimulate critical thinking skills. To address these challenges, this paper will try to establish how critical thinking is conceived of in the digital frame of EFL education.

The background for this paper is thus grounded in the objectives stated in the digitalization plan in conjunction with the current and coming national curriculum of Norway. Paired with the scholarly attention to critical thinking as a part of digital literacy, this practice provides an interesting field of attention that may uncover answers and topics for future discussion and research.

1.2 Literature Review

The current study examines the field of critical thinking in the EFL classroom, where the term critical thinking is explored mainly through scholars such as Dewey (1910), McPeck (2016) and Moore (2013).

In order to place critical thinking in the context of the Norwegian EFL classroom, previous, current and future curricula are used to explore the development of critical thinking and technology. The curricula used are M87, L97, LK06 and LK20, spanning the years from the late 80s and introduction of digital technology and critical attitudes, to the coming curriculum with a defined place for critical thinking. To elaborate on the governmental perspective, the Digitalization Plan for 2017-2021, the Educational Act, a governmental press release for LK20 and comments from scholars published in educational journals are included.

LK06 saw the inclusion of digital skills as one of the five basic skills, and a revision in 2013 created a connection between digital skills and the competence aims in the English subject. To further understand digital skills and how critical thinking is connected to this area of competencies, digital literacy and information literacy are included. Gilster (1997) and Buckingham (2006) are used to outline digital literacy, where the former scholar solidified the term in academia. Buckingham informed Gilster's perspective and included the notion of critical media understanding. Lastly, information literacy is included to describe the more concrete skills of processing information in the contemporary information society, as Lokse, Lag, Solberg, Andreassen & Stenersen (2017) places critical thinking at the core of information literacy.

To locate and apply literature we have predominantly used Oria, a literature portal and library service used by most Norwegian universities. Through Oria we have made searches and accessed books, journals and articles. The National Library of Norway was used to access expired curricula, while the website of The Norwegian Directorate for Education and Training (UDIR) was used to access the current curriculum of LK06 and the coming curriculum of LK20. In addition, we have used Google Scholar for additional information searches. The literature used in this paper was found conducting literature searches ourselves or through advice by our supervisor and other faculty members at the university. In some cases, research literature was found through snowballing, where review of research papers guided us towards more literature within the same field.

Attempts were made to find studies with a similar focus as the current paper, but there were no studies found to be relevant in the context of the Norwegian educational system, critical thinking and the EFL classroom. However, a study mapping digital literacy in Norwegian upper secondary school by Blikstad-Balas (2015), and Pineda-Baez'(2009) article discussing critical thinking in the EFL classroom, are used in the discussion of our findings. In addition, we have

opted to include *Monitor 2019,* a national report on digital practices in Norwegian schools, and The Norwegian Media Authority's national report on the Norwegian populations' critical media understanding in the discussion of the findings.

1.3 Research questions and Aim of Study

The aim of this study is to gain insight into how a group of EFL teachers understand the term critical thinking, and how they put this understanding to practice when teaching. To achieve this aim, three research questions were formed and serve as the focus of this project.

1. How do teachers of English understand critical thinking as a part of digital skills in the English subject?
2. How does their understanding of critical thinking inform their teaching practice of English?

To gain further insight into the teachers' practice, a third research question was added with a specific focus on the students' experience.

3. How do their students experience their teacher's practice when working with critical thinking?

The research questions are investigated with a focus on how critical thinking is relevant to digitally oriented education. To understand this phenomenon, this study uses data from qualitative research interviews of teachers and a selection of their students. By focusing on teachers and students, we hope to gain a perspective from both parts of the classroom practice, potentially providing a more wholesome view. Naturally, students are an integral part of the EFL classroom, as the teaching practiced is aimed towards them and their learning outcomes. Therefore, we believe it is important to not only focus on one side of the EFL classroom, but to include perspectives from both the teachers and their students.

We believe that terms that are highlighted by educational documents such as the digitalization plan, the Educational Act and the coming national curriculum LK20, should provide educators with an unambiguous understanding to be perceived on common ground. By visiting schools and talking to teachers and students, we hoped to learn how the term critical thinking is currently understood, and whether there are similarities or differences across EFL classrooms. Discovering such epistemological differences and/or similarities in the current EFL practice could provide interesting points for discussion and potentially spark the interest for further research into this topic.

It should be noted that our focus is not on rating the teachers' understanding of critical thinking or trying to find flaws in their understanding and subsequent teaching. Nor do we intend to compare the statements made from students and teachers to check whether the two parties are in agreement. Comparisons are made merely in order to gain an insight of the students' experience with critical thinking in the EFL classroom and how the teachers implement this into their teaching.

1.4 Outline

In chapter 1, we clarify the background and motivation for the present study, accounting for the aim of the study and presenting a review of the body of literature that makes up the theoretical framework. In addition, the research questions this study is based upon is presented. In chapter 2, the digital development of the national curricula from M87 to LK20 is outlined. Further, the terms digital skills, digital literacy, information literacy and critical thinking are presented and explained. Chapter 3 presents a description of the research approach found appropriate for answering the research questions. The method used for data collection and analysis are presented, as well as accounting for the informants that participated. In addition, the reliability, validity and ethical concerns of the study will be presented. In chapter 4, the main findings are presented where they are outlined and analyzed, making use of quotes from the interviews. Chapter 5 provides a discussion of our findings in relations to the theoretical framework presented in chapter 2. In addition, some interesting side findings are presented. The final chapter presents the conclusions of the study, its practical implications, and recommendations for future research.

2 Theory and thematic framework

This chapter presents the theoretical and thematic background that forms the basis of this study. First, critical thinking is explored as a term. Second, critical thinking and digital technology are explored in the context of the Norwegian national curricula from M-87 to LK06, as well as outlining the coming curriculum of LK20. Further, digital skills as a basic skill in the national curricula is explained in light of the terms digital literacy and information literacy. Finally, this chapter explores what critical thinking in the Norwegian EFL classroom entails from the perspective of the English subject curriculum.

2.1 Critical thinking: a contested term

In his philosophical work, *How we think,* John Dewey (1910) states that our use of words like thought and thinking is "profuse and varied" (p. 2). From his detailed breakdown of thought, he notes that the common feature of thought is that it is something "suggested", and that "If the suggestion that occurs is at once accepted, we have uncritical thinking, the minimum of reflection." (p. 14). On the other side of this spectrum of thought, Dewey holds that "The essence of critical thinking is suspended judgment; and the essence of this suspense is inquiry to determine the nature of the problem before proceeding to attempts at its solution." (p. 74). For Dewey, a critical thought is thus judgement or assent that is impeded by a process where the individual must consider the origin of a problem, the process itself being a prerequisite for a valid attempt at solving said problem.

More recent work on defining the term, and its position in modern academia, has been undertaken by the Critical Thinking Movement (a group consisting of primarily American scholars in the fields of psychology and philosophy of education) who has been devoted to establishing a unified definition of the term in education. In Berglund's (2017) account, the movement is comprised of two branches, analytical philosophers of logical thinking and educational philosophers. The dispute that has lingered since the movement developed, has been concerned with whether critical thinking in a specific subject can nurture the same type of thinking in other fields, whether it has *transferability,* or whether it is dependent on specialist knowledge in a specific field or subject (McPeck, 2016). The answer to this question remains unsolved, yet, the group successfully popularized the term in debates of higher education and educational philosophy more generally.

Even though there seems to be a broad consensus among educators about the importance of critical thinking, it seems to be an elusive concept in terms of its definition, and thus difficult

to convey to students (Moore, 2013, p. 506). Fox (1994, p. 145) elaborates on the elusiveness of the concept, and suggests that critical thinking is more than just a technique of literacy such as writing or reading, but rather a "voice" that is developed throughout one's lifetime as a result of the relationship one has with texts, authorities and the circles of influence like family, friends, education and media. Barnett (1997, p. 2) expresses the paradoxical notion that "Higher education, which prides itself on critical thought, has done no adequate thinking about critical thinking.". Hence, it may suffice to say that critical thinking has not been addressed with accuracy in the academic discourse.

To address this collective confusion, Tim Moore (2013) wrote an article called "Critical thinking: seven definitions in search of a concept", where he applies the thoughts of philosopher Ludwig Wittgenstein to unravel the problem of definition. As a philosopher of logic and language, Wittgenstein believed that the problem arise when we look at terms such as critical thinking in isolation from the context in which it is used, a perspective that is shared among some of the discussed scholars in Moore's work (2013) and externally in resonance with John McPeck's statement that "In isolation from a particular subject, the phrase 'critical thinking' neither refers to nor denotes any particular skill." (McPeck, 2016, chp. 1, para. 9). Moore (2013) interviewed 17 academics at a university in Australia to find whether critical thinking was a relevant term in their practices. The key findings from the interviews were in opposition to the notion that critical thinking is an identifiable cognitive mode, as promoted by the Critical Thinking Movement (Moore, 2013, p. 519). Moreover, the term was articulated with precision, even though the explanations varied considerably, contesting the idea of the term as being a latent concept 'buried' in people's minds (p. 519). Lastly, Moore (2013, p. 519) holds that his findings implicate a need for clarification from institutions of education when using words like "critical", so that students may understand what is expected of them.

2.2 Critical thinking in the national curricula

In the public Norwegian educational system, all teachers are to follow the national curriculum, which provides guidelines for what their teaching should focus on. The curriculum presents competence aims which the students are to reach by the end of a given period in all school subjects. In addition, it provides more general guidelines for what values, skills and ethical principles students should strive to develop.

2.2.1 M-87 to LK06: A historical overview of critical thinking and technology

The Norwegian Ministry of Education and Research prioritized investments in technological artefacts for educational purposes as early as the 1980s (Kunnskapsdepartementet, 2017, p. 7). In the following curriculum of 1987, technology is brought up in the core curriculum, the more general part of the curriculum; it opted schools to inform students about technology and giving them experience with computers and new technology. In addition, schools were to ensure that ethical and critical considerations were made when students use technology and new mass media "The education must promote an independent and critical attitude towards mass media, while it teaches students to be open for new thoughts and the possibility for a responsible usage of media for positive purposes." (Kyrkje- og undervisningsdepartementet, 1987, p. 18, our translation)[2]. This citation is from the section of the curriculum that stated the objectives for the primary education, under the subsection called "good general knowledge". The plan did not state what "positive purposes" are, nor what it meant to be "independent and critical" towards mass-media. It also stated that "The school must also inform about what technology means to society, labor and industry, and address the challenge that ties to the technological development, both in a national and international perspective." (Kyrkje- og undervisningsdepartementet, 1987, p. 18, our translation)[3]. M-87 recognized the position of technology and that a challenge is tied to this development, although without a more specific explanation of the nature of this challenge. As for the implementation of technology in the English subject, the curriculum did not make any connections between the subject of English and technology, with mathematics being the chosen subject for learning and implementing technology through computer programming (Kyrkje- og undervisningsdepartementet, 1987, p. 204).

In the next curriculum, L-97, the mention of technology and critical thinking were still separate domains. Critical thinking was not expressed explicitly, but an understanding of the concept can be found in a "critical sense and understanding" which is relevant to all aspects of life, and experience will give rise to independent attitudes over time (Kirke undervisnings-og forskningsdepartementet, 1996, pp. 23-24). Technology was mentioned in the core curriculum

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[2] "Undervisningen må legge vekt på å fremme en selvstendig, kritisk holdning til massemediene, samtidig som den lærer elevene å være åpne for nye tanker og for muligheten til å bruke mediene under ansvar og til positive formål."

[3] "Skolen må også informere om teknologiens betydning for samfunnet og for arbeid og næringsliv, og ta opp den utfordringen som knytter seg til den teknologiske utviklingen både i nasjonalt og globalt perspektiv."

of L-97 under the headline of "the working human". It was recognized as the driving force behind human progress on both positive and negative terms, as time saving and for its weaponizing potential. The introduction of the English curriculum grounded the subjects place in primary school and stated that "Linguistic competence enables students to use information in an independent, critical and constructive way." (Kirke undervisnings-og forskningsdepartementet, 1996, p. 223, our translation)[4]. This citation is separate from the brief mention of technology in English:

> Information technology opens up for new ways to work with the language. It can enable students to partake in live societies of language by communicating in English with people from large areas of the world. Diverse software such as multimedia programs, are also constantly evolving. By its form, technology invites independent learning through curiosity and exploration (Kirke undervisnings-og forskningsdepartementet, 1996, p. 224, our translation)[5].

The first sentence in this citation can be said to be accurate, as it describes the vast opportunities for students to find communities through different forums and fan-sites, a fact that is even more relevant today (Brox & Pötzsch, 2019, p. 73). The last sentence, stating that technology, or the "form" of it, automatically invites to independent learning by letting students explore, does not contain a particularly critical approach to using technology in learning English, nor in education more generally.

The Knowledge Promotion was first implemented in 2006 by the Norwegian Directorate for Education and Training. Compared to the previous curricula, it presented learning objectives with an "open" dimension of knowledge, without an explicit description of expected knowledge aims (Andreassen, 2018, p. 67). Hence, students must "use digital tools …", but "relevant information" is an open phrasing of expected knowledge (UDIR, 2013). After 7th grade, when students are 12 years old, the English subject curriculum (UDIR, 2013) express these competence aims in the field of technology, the students shall know how to:

1. "use digital resources and other aids in one`s own language learning."
2. "use digital tools and other aids to find relevant information and to create different types of texts."

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[4] "Kunnskaper i språk gjør elevene bedre rustet til å bruke informasjon på en uavhengig, kritisk og konstruktiv måte."
[5] "Informasjonsteknologien åpner for andre og nye måter å arbeide med språket på. Det kan gjøre det mulig for elevene å delta i levende språksamfunn ved at de kan kommunisere på engelsk med mennesker fra store deler av verdenen. Diverse programvare, bl a multimedieprogrammer, er også i stadig utvikling. Ved sin form innbyr teknologien til selvstendig læring gjennom nysgjerrighet og utforskning."

In comparison, the competence aims expressed by the end of primary school in 10th grade states that students shall know how to:

1. "select different digital resources and other aids and use them in an independent manner in own language learning."
2. "use digital tools and formal requirements for information processing, text production and communication."
3. "be familiar with protection of personal privacy and copyright and chose and use content from different sources in a verifiable way."

The initial aim has minor changes in verb and formulation, the verb "use" has been replaced with "select" and followed with "independent". It is not immediately clear what is meant with "independent" in this context. One could interpret it to mean that students must learn to use selected tools on their own, taking agency in the learning process, or it could signify that they must take a personal stance towards the digital aid they are operating, the latter hinting towards a more critical way of using such tools. The aim(s) expressed as number two for 10th grade, explain what competence the students must acquire with regards to information processing. The verb "use" is followed by the phrase "formal requirements for information processing", which is somewhat unclear; what are the formal requirements for information processing when using digital tools? The third competence aim for 10th grade states that students must be familiar with principles related to personal safety, and that they must use their sources in a verifiable way. Although this last goal is not exclusive for digital tools, it can be regarded as a key part of information literacy (grounded in section 2.2.3) as it highlights the careful treatment of sensitive information and the process of information retrieval from different sources (Lokse, Lag, Solberg, Andreassen, & Stenersen, 2017, p. 4).

2.2.2 LK20: The subject renewal of 2020

Norwegian education is currently at an intersection, standing between the curriculum of LK06 and the coming curriculum of 2020, LK20. Changes in complex fields like education, where there are several different factors in play, can take several years to implement (Ertesvåg, 2012, p. 31). These national level changes present new information that must be understood at a local level. New formulations, phrases and constructs can be said to travel down a hierarchy before they are included in a teacher-learner situation.

In contrast to the previous curricula, LK20 has defined a position for critical thinking in the core curriculum, section 1.3 "Critical thinking and ethical awareness" (UDIR, 2017a, p. 6). The core curriculum is a fundamental document with subsections, which serves to pilot the

pedagogical practice for all lower and secondary education (UDIR, 2017a, p. 1). Critical thinking is defined in section 1.3: "Critical and scientific thinking means applying reason in an inquisitive and systematic way when working with specific practical challenges, phenomena, expressions and forms of knowledge." (p. 6). LK20 also emphasizes that students must be able to evaluate sources of information and think critically about how it is developed (p. 6). In the constant flow of information in today's society, the task that is undertaken by the department of education is ambitious and very challenging. According to Emblemsvåg (2020) it may just be the most demanding curriculum in terms of the expectations put on teachers.

Moving from the general to the specific part of the plan, the subject curriculum for the English subject (ENG01-04), "Competence aims and assessment", describes the various competences students shall possess throughout grades 2, 4, 7 and 10 of primary education (UDIR, 2019c, our translation), by the end of the 7th grade students shall know how to:

1. "use digital resources and different dictionaries in language learning, text creation and cooperation."[6]
2. "converse about the reliability of different sources and select sources for own use"[7]

The subsequent competence aims the students should complete by 10th grade are:

1. "use different digital resources and other aids in language learning, text creation and cooperation."[8]
2. "read nonfiction texts and assess the reliability of sources."[9]
3. "use sources in a critical and accountable way."[10]

In contrast to the previous curricula, LK20 provides teachers with a "curricular support" section adjacent to the competence aims. Using this tool highlights what basic skill is grounded in each competence aim. Clicking each of the three aims highlighted above shows that digital skills is the basic skill that should be incorporated in teaching practice, providing an organized overview of which skill that should be weighted in each aim. With regards to critical thinking, LK20 states that digital skills are descriptive of how students shall act critically in the face of digitally mediated expressions and conversations that occur in English. Additionally, they must assess information critically when they acquire knowledge from the variety of sources expressed in English (UDIR, 2019b, p. 4). In a separate document linked as a resource on their webpage, the department of education and training has summarized what the changes are with

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[6] "bruke ressurser og ulike ordbøker i språklæring, tekstskaping og samhandling"
[7] "samtale om ulike kilders pålitelighet, og velge kilder til eget bruk"
[8] "bruke ulike digitale ressurser og andre hjelpemidler i språklæring, tekstskaping og samhandling"
[9] "lese sakprosatekster og vurdere hvor pålitelige kildene er"
[10] "bruke kilder på en kritisk og etterrettelig måte"

regards to the English subject curriculum. On a general basis, students shall learn to be comfortable speakers of English so they can use the language to learn, communicate and form relations to others. Furthermore, "Students shall learn to use digital resources to retrieve information, and be able to reflect critically over the information they locate online." (UDIR, 2019a, p. 1, our translation)[11].

2.2.3 Digital skills and digital literacy

In the Norwegian national curriculum of LK06, and the coming curriculum of LK20, the preferred term for the digital and technological competence that students are to develop is digital skills. It is one of five basic skills that must be incorporated into all subjects, along with oral skills, reading, writing and numeracy. These five basic skills are seen as fundamental to learning and as important to partake in society and future job ventures (UDIR, 2017b). This means that digital skills is equated to and just as important as the other basic skills.

Digital skills are comprised of five skill areas described by a set of competencies within each area. These five are: use and understand, produce and process, communicate and cooperate, exercise digital judgement, and find and process (UDIR, 2017b). The latter skill area includes competencies and skills related to critical thinking and is thus the most relevant aspect of digital skills in the context of the present paper. Find and process entails having the competencies required to "…process, interpret and judge information from digital sources, and exercising evaluation of sources …" (UDIR, 2017b)[12]. A student judged to be a level five in this skill area, the highest achievable level description, is able to make critical evaluations when interpreting and judging information from various digital sources. In addition, a level five student is able to manage potential copyrights in his or her own works (UDIR, 2017b).

When the English subject curriculum was revised in 2013, digital skills, along with the four other skill areas, were fully integrated and reflected in the competence aims for the English subject (Munden, 2014, p. 48). Digital skills has a defined place within the English subject curriculum in LK06 under the subsection "Basic skills":

> Digital skills in English means being able to use a varied selection of digital tools, media and resources to assist in language learning, to communicate in English and to acquire relevant knowledge in the subject of English. The use of digital resources provides opportunities to experience English texts in authentic situations, meaning natural and unadapted situations. The development of digital skills involves gathering

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[11] "Elevene skal lære å bruke digitale ressurser for å hente informasjon, og kunne reflektere kritisk over informasjonen de finner på nett."

[12] "… behandle, tolke og vurdere informasjon fra digitale kilder, utøve kildekritikk …"

and processing information to create different kinds of text. Formal requirements in digital texts means that effects, images, tables, headlines and bullet points are compiled to emphasize and communicate a message. This further involves using digital sources in written texts and oral communication and having a critical and independent attitude to the use of sources. Digital skills involve developing knowledge about copyright and protection of personal privacy through verifiable references to sources (UDIR, 2013).

The five skill areas of digital skills are reflected as subject-specific competencies in this citation from the English subject curriculum. These integrated competencies within digital skills show a strong resemblance to the term *digital literacy*. Digital literacy is a relatively new concept, but it has become popular over the last decade (Sefton-Green, Nixon, & Erstad, 2009, p. 108). Exactly what the term entails is however difficult to pinpoint as digital literacy is a term many scholars from various backgrounds has tried to conceptualize and define clearly.

Paul Gilster is seen as the first to operationalize digital literacy in his 1997 book *Digital Literacy* (Koltay, 2011, p. 215). He promotes a skill-oriented operational approach (Spante, Hashemi, Lundin, & Algers, 2018, p. 14), where he defines the term as "…the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers." (Gilster, 1997, p. 1). Further, Gilster promotes digital literacy as consisting of four skill areas: being able to access and conduct internet searches, assemble information from various sources, navigate online using hypertext and evaluate the content found online (pp. 2-3).

Looking back at digital skills, these areas are of close resemblance to the five different skill areas promoted in LK06 and LK20. The resemblance is especially close, considering the areas that touch upon skills related to operating a computer and accessing online features. However, digital literacy "…is much more than a functional matter of learning how to use a computer and a keyboard, or how to do online searches." (Buckingham, 2006, p. 267), meaning that Gilsters explanation might lack some of the deeper analytic and critical aspects of digital skills.

Buckingham (2006, p. 266) adds to Gilster's understanding of digital literacy, noting that he believes Gilster's four skill areas are too easy to acquire and can be deemed obsolete relatively fast. In addition, he states that Gilster's digital literacy is founded on the partly wrong assumption that information is assessed simply by its factual accuracy. He suggests educators need to provide students with the ability to understand and critique the digital medias they encounter online or on other digital platforms (p. 263). In order to act upon his concern of digital literacy having too little focus on critical thinking, Buckingham suggest that the already

well-established approach of *media literacy* is brought into the term digital literacy. To achieve this, he proposes four broad conceptual areas to consider in order to uphold a critical notion within digital literacy: representation, language, production and audience (pp. 267-268). Including the concept of media literacy into digital literacy means that a broad critical understanding "…which addresses the textual characteristics of media alongside their social, economic and cultural implications." (p. 272) can be developed.

The addition of Buckingham's (2006) understanding of digital literacy compensates for what Gilster's (1997) view lacked in terms of focus on critical thinking. Their paired contribution to digital literacy shows a more complete view that resembles digital skills more accurately. Buckingham's areas for critical evaluation of content are descriptively very similar to the sub-requirements of "find and process" in digital skills, where key words like "process, interpret, judge and evaluate" explain the desired skills. However, there is still a need to address the process of locating, evaluating and using new information from online sources, as expressed in digital skills. The vast body of information that can be accessed through the internet demands certain skills that are not explained fully by digital literacy as presented by Gilster and Buckingham.

Information literacy is a term that further builds on the theoretical grounding for digital skills, as it emphasizes a more detailed position of critical thinking in online information processing. Information literacy is well established in the academic discourse. Like the terms digital literacy and critical thinking, information literacy is broad in meaning and its definition has been part of debates among librarians and scholars since the 1970s (Lokse et al., 2017, p. 13). In 1989 the American Library Association (ALA) released a report on information literacy, where a definition of the term was presented: "To be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information." (American Library Association, 2006). The now 31-year-old definition still holds ground but is not ideal for the contemporary digital society of 2020. Lokse et al. (2017, p. 14) therefore propose a revised definition to information literacy as:

> …the ability to use available information to accommodate your information needs in the best possible manner. This includes knowing where to find relevant information, evaluating its relevance and quality, and using it to suit your purpose, for instance creating new knowledge or enhancing your own or others' understanding of something.

This definition ads to the ALAs definition from 1989 by elaborating on the evaluation of information, where the latter definition focuses on evaluating the relevance, as well as the

quality of the information. It is noteworthy that this definition is from the context of higher education. But there are overlapping characteristic between the definitions from Lokse et al. and digital skills. For example, digital skills includes that students must know how to "…acquire relevant knowledge in the subject of English", and the development of these skills further involves "…gathering and processing information to create different kinds of texts."(UDIR, 2013, Basic Skills). The overlapping features are recognized as Lokse et al. focuses on "relevant information" and the process of evaluating it to suit individual purposes.

Further, Lokse et al. (2017, p. 1) argue that critical thinking and learning strategies are the most important skills to develop from this literacy. These skills can form the basis for any kind of learning activity (Lokse et al., 2017, p. 1), a principle called "learning how to learn". In the revised version of the core curriculum, "learning to learn" is a subsection which states that: "School shall help the pupils to reflect on their own learning, understand their own learning processes and acquire knowledge independently." (UDIR, 2017a). The department of education and training does not operate with information literacy as a term. But a reflection of the essential components of critical thinking and learning strategies (Lokse et al., 2017, p. 1) is reflected in an elaborative part of "learning to learn" (UDIR, 2017a): "Deeper insight is developed when the pupils understand relationships between fields of knowledge and when they master a variety of strategies to acquire, share and use knowledge critically.". Evidently, learning to learn is a way of realizing one's own strategies for developing new knowledge. Similarly, Lokse et al. (2017, p. 4) argue that awareness of learning, reflection and metacognition are central information literacy skills.

2.3 Critical thinking in the English subject

Prior to the publication of the subject renewal LK20, the Norwegian government released a press statement in which they emphasized that: "Critical thinking and the evaluation of sources are prioritized in the new subject curricula, e.g. for social science and English." (Kunnskapsdepartementet, 2019)[13]. The historical overview from M-87 to LK06 reveals that this press release is the first explicit mention of critical thinking as a subject-specific competence for the English subject. The connection between critical thinking, technology and the basic skills is highlighted in this excerpt from the digitalization plan from the government: "Critical thinking and technological understanding, basic skills and social interactions are all

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[13] "Kritisk tenkning og kildekritikk blir sterkere vektlagt i de nye læreplenene. Eksempelvis i samfunnsfag og engelsk."

areas that are related to, affected by and affect digitalization." (Kunnskapsdepartementet, 2017, p. 4)[14]. The view promoted by this statement reflects a complex view of the driving forces behind digitalization. It suggests that the factors mentioned affect one another, rather than being a linear drive towards an increasingly digitalized society.

The need for critical thinking in this context has developed gradually from the first mentions of "critical attitude towards mass-media" in M-87 to the more defined place of critical thinking in LK20, reflected in competence aims for the English subject, as students must know how to "Use sources in a critical and accountable way" (UDIR, 2019c, our translation). Along this development, the inclusion of digital skills as one of the basic skills grounded the need for specific skills related to using digital technology in school. What digital skills entails, is informed by the inclusion of theory on digital literacy and information literacy. These two terms ground digital skills in acknowledged and established theory regarding the competencies and skills required to use and understand digital technology. Digital literacy is seen as being much more than learning know-how skills, where the ability to think critically in the intersection between digital media and information is emphasized as being highly important. Information literacy further accommodates the more specific skillset that one must master in searching for, assembling, and using information. Critical thinking and learning strategies are key components for a person to be deemed as literate in the processing of information.

Looking for new information to inform oneself about any given topic is easily accomplished, granted that one has access to the internet. Norwegian learners of English encounter the English language as a regular part of their online ventures, both inside and outside of education (Medietilsynet, 2020, p. 2). The vast amount of information demands that students know how to locate, evaluate and use information from online sources to best suit their needs. In light of Buckingham's addition to digital literacy, a critical approach to media needs to incorporate the linguistic features of the media itself and the content, analyzing the website and the rhetoric features of interactive communication (Buckingham, 2006, p. 268). Learning English can thus be seen as a prerequisite to be critical to new information, if the language is only partially understood one cannot meet Dewey's defining characteristics of a critical thought, as

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[14] "Kritisk tenkning og teknologisk forståelse, grunnleggende ferdigheter og sosialt samspill er alle emner som henger sammen med, påvirkes av og påvirker digitaliseringen."

judgement or assent must be preceded by a process of determining the nature of the given problem (Dewey, 1910, p. 74).

The definition of critical thinking from LK20's core curriculum holds that critical thinking is relevant to: "…specific practical challenges, phenomena, expressions and forms of knowledge" (UDIR, 2017a, p. 6). Such specific challenges can be located in the English subject curriculum of LK20, which includes competence aims that have a focus on developing and using critical thinking. Using digital resources in language learning is an aim for both 7th and 10th graders, where it seems natural that the skills of using computers, navigating the web and gathering information will be a part of this process. These skill areas are comparable to those found within digital literacy and information literacy. The competence aims states that students are to both select their own sources, as well as converse about and assess the reliability of these sources – requiring the imbedded skills of these literacies paired with critical thinking. Additionally, by the end of lower secondary, students are to be competent enough to use sources in a critical manner.

3 Method and materials

This chapter describes the methodological approach chosen in order to answer the research questions stated in chapter 1.3. Firstly, it presents theory that grounds the present study as a qualitative research project within the constructivist worldview in the field of phenomenological research. Then, we outline the chosen method of data collection, the qualitative research interview, and describe the procedures before, during, and after the interviews were carried out. Next, we elaborate on the method used to analyze the data. The last parts address research quality, through the terms validity and reliability, explain the ethical considerations that were made, and point to possible limitations to the study

3.1 Research Design

In research, there are three different paths researchers can take based on what is being investigated and which answers they seek to find; qualitative, quantitative and mixed method approaches (Creswell, 2014, pp. 3-4). The qualitative research method upholds the task of exploring and searching for understanding of a problem or phenomenon within a social group (Creswell, 2014, p. 4) and entails understanding the participants own perspective or understanding of this problem or phenomenon (Postholm, 2017, p. 17). A quantitative research approach, on the other hand, seeks to test objective theories, often using large numerical datapoints (Creswell, 2014, p. 4; Ringdal, 2018, pp. 110-111). We believe that the research questions posed in the present study are best answered using a qualitative approach, as this research project explores teachers' understanding of a phenomenon, and subsequently how their students' experience of how the teachers address the phenomenon in the EFL classroom.

Qualitative research is normally situated within a constructive world view (Postholm, 2017, p. 126). According to this view, phenomena, ideas and concepts are all social constructs (Ringdal, 2018, p. 42), where individuals seek understanding in the world in which they live and act, developing subjective meanings based on their experience and interaction between themselves and other individuals (Creswell, 2014, pp. 8-9). As it is the case that research within the constructivist worldview acknowledges that participants will have varied and subjective understandings of constructs, the research question should allow for a diverse and broad understanding of the constructs being researched. The research questions that guide this research are based on the premise that these constructs have meaning to our informants, and by asking how they understand these constructs, this opens for their experience and how they are conceptualized in the investigated field. Lastly, it is reasonable to assume that constructs like

critical thinking, which is of an abstract and intuitive nature (Fox, 1994, p. 125), can mean completely different things to teachers and students. In order to attain a perspective that covers the teacher-student interaction it is necessary to interview both parties.

Within the spectrum of qualitative research, Creswell (2014, p. 187) propose five different ways in which the research can be designed: narrative, case study, ethnography, grounded theory and phenomenology. A phenomenological research approach, entails that the researchers attempt to describe the subjective meaning and experience participants have of a phenomenon (Creswell, 2014, p. 14; Postholm, 2017, p. 41). Accordingly, the participants have to have an experience of the phenomenon under investigation, in which the interview is meant to unveil the meaning and experiences connected to the phenomenon (Postholm, 2017, p. 43). This research project is thus grounded as a phenomenological study, as the interview between researcher and informant is the main source of data. When collecting data through interviews, we as researchers are actively partaking in the study. This means that our understanding of the phenomenon being researched is constantly developing as the interviews and research evolves (Postholm, 2017, p. 79).

3.2 Method of Data Collection

A research method must reflect the research questions asked, where the method will allow for an exploration and answer of the research questions. Subsequently, the method of data collection must reflect the method and the research questions (Tjora, 2017, p. 17). In qualitative research, the most common methods of data collection are interviews and group conversations, text analysis and observations, where the data collected will consist of text, sound or images (Christoffersen & Johannessen, 2012, p. 19). According to Postholm (2017, pp. 78-79), interviews are the most common methods for data collection in phenomenological research designs, as it allows for the investigation of the participants underlying meaning, understanding and experience of a phenomenon. Further, Postholm (2017, p. 43) also states that within phenomenological research, the qualitative research interview is normally regarded as the only possible method to collect the necessary data.

In this research project, the qualitative research interview is the favored method for data collection. We believe that qualitative research interviews will provide knowledge about the teachers' experience, views and practice of critical thinking as part of digital skills in the Norwegian EFL classroom. In addition, we gathered that by conducting group interviews of

the teachers' students we would gain an understanding of how they experienced their teachers practice and implementation of critical thinking in the EFL classroom.

3.2.1 The Process of the Qualitative Research Interview

Kvale & Brinkman (2009, p. 97) state that an interview investigation follows seven stages: thematizing, designing, interviewing transcribing, analyzing, verifying and reporting. We see these seven stages as divided into four phases: planning, conducting, analyzing and presenting. The initial stages of thematizing and designing take place in the planning phase of the research project. Further, the interview stage is the phase where the data is collected as the method of data collection is applied to the subjects. Lastly, the three latter stages of transcribing, analyzing and verifying are part of the analysis phase. The seventh stage described by Kvale and Brinkman, reporting, is the final phase of the research project where the project as a whole is published and made available for readers. Below, the stages will be briefly explained theoretically and how they were materialized throughout the process of this research project.

In the planning phase, the purpose of the study was clarified as well as establishing a connection to the field of research by looking into already existing theories, studies and material. The field of research was narrowed down to critical thinking in the EFL classroom, subsequently leading to the formulation of the research questions. Furthermore, the design of the study was made during this phase. This included choosing an appropriate method for collecting the data necessary and finding subjects that were willing to participate. We decided on using a qualitative research interview, planning to interview four EFL primary school teachers and a small group of students, preferably between two to four individuals, from each teachers' classes. The planning process of the interview also consisted of formulating questions to be asked during the interviews and contacting potential informants, as well as acquiring and learning to use necessary equipment (Sollid, 2013, p. 127). In addition, Dalen (2011, p. 30) propose testing the questions from the interview guide in pilot interviews before the qualitative research interview between researcher and participants takes place.

The second phase consisted of conducting the actual interview. The interview process entailed meeting the participants and conversing with them using the interview guide as a rough guideline for the interview, as proposed by Dalen (2011, pp. 32-33). To ensure a higher level of accuracy of the data collected, we used a recording device for all interviews. Tjora (2017, p. 166) states that this is essential as it allows the researchers to be active participants throughout the interview as well as recording everything being said throughout the interviews.

In the third phase the data and findings are analyzed and evaluated. The analysis started when we transcribed the recordings from the interviews, triggering analytical ideas, as proposed by Tjora (Tjora, 2017). Following the transcription, the analysis was carried out using the chosen method of SDI analysis. Finally, this phase also involves evaluating the measures taken to elevate the validity and reliability of the study, from inception to findings.

3.2.2 Interview Guide

When conducting qualitative research interviews to produce empirical data, a pre-made interview guide will help structure the interview, as well as ensure that the questions and topics of the interview is focused towards the questions researchers are attempting to answer (Dalen, 2011, p. 26). The interview and the interview guide can be rigid and structured in its form and design or, it can be designed in an unstructured and open manner (Christoffersen & Johannessen, 2012, p. 78). When conducting phenomenological research by interview, the interview guide should not contain rigid and elaborate questions, but rather a list of topics and open-ended questions that are utilized to form the conversation (Postholm, 2017, pp. 78-79). The interview can therefore be described as semi-structured, meaning that the topics that are explored are predetermined in the interview guide, but follow-up questions and the order of the topics and questions are not necessarily predetermined (Christoffersen & Johannessen, 2012, pp. 78-79). The questions were formed using interview content guides as proposed by Bjørndal (2011) and Dalen (2011), which is further discussed in section 3.2.3. In addition, the theoretical content and the actual questions were formed using the research questions of this study as a basis. The questions in the interview guide were to open for conversations and answers that would highlight and answer the research questions. Lastly, we made use of our theoretical knowledge and general knowledge of the field that we were in possession of before the start of the research project, described by Dalen (2011, p. 16) as pre conceptualized knowledge. The interview guide designed and used in this research project can be found in appendixes 1 and 2.

3.2.3 Quality of Interview

When constructing questions for the interview guide, there are several considerations that must be made throughout the process to enhance the quality of the interview (Bjørndal, 2011, p. 99). Both Bjørndal (2011) and Dalen (2011) highlights the importance of checking that questions are unambiguous and clear, not leading, whether the questions require specific knowledge, whether questions are personal and sensitive, and whether questions allow the informant to present their own thoughts (Bjørndal, 2011, pp. 99-100; Dalen, 2011, p. 27). Wtried to apply

these guidelines to ensure the interviews upheld a certain level of quality and to be in line with ethical concerns related to interviews.

After the interview guide has been constructed it should be tested by conducting pilot interviews (Dalen, 2011, p. 30). In this research project we used fellow students. The benefits of conducting pilot interviews are that one can get feedback on the formulations and content of the questions, as well as practicing interviewing. After the pilot interview was conducted, it was necessary to revise the interview guide based on the experiences and feedback gathered, as proposed by Mason (2004, p. 519).

When conducting qualitative research interviews, Creswell (2014, p. 98) highlights the importance of respecting potential power imbalances between researchers and participants. To address potential power imbalances, the participants were given the option to withdraw their statements at any given time, they were given the option of reviewing the transcriptions from the interview, as well as reviewing the interpretations that were made of their statements. As the research questions also entailed interviewing students, some extra precautions were made to address the power imbalances that may exist between a child and two outsiders conducting research. To address this power imbalance the students were interviewed in groups. In group interviews, it is possible to gather data from several participants at the same time, but more importantly, it can create a safer atmosphere for the participants (Tjora, 2017, pp. 123-124). The size and length of the group interviews in this project resembles what Tjora (p. 124) refers to as mini focus groups, with a preferred group size of three to four participants per group and with a shorter time span.

3.2.4 The Interviews

The informants were all interviewed at their respective schools, except teacher A who was interviewed in his/her home. This was done as the period in which the interview was to be conducted, the school was closed as teachers had time off. All interviews were conducted with both researchers present, with one of us asking questions while the other was in charge of the recording equipment and focusing on potential follow-up questions that were not picked up by the one in charge of conducting the interview. We used empty classrooms to be able to conduct the interview without disturbance from other students or teachers. The only one present when interviewing the teachers were the two of us and one teacher. For the interviews of their students, the ones present were us and the group of students, ranging from two to four students in size.

All informants were given the interview guide and given time to look through it if they had not done so beforehand, as well as the time to ask questions regarding the project and the interview process. In addition, all interviews started by introducing us and our research project, as well as the various rights they as participants have and explaining that there are now wrong answers as what we are researching is their experience of a phenomenon. The roles of both researchers were also explained, so that no confusion was to arise between the participants and researchers. For all interviews, the interview guide was used to ensure we touched on all the necessary topics, yet the order of themes and questions was not rigid. When the interview was over, all participants were given the opportunity to change or add to their answers, and to ask questions regarding the research project or interview process.

3.3 The Informants

When conducting a qualitative research project, the researchers must extract as much data as possible from a limited sample size (Christoffersen & Johannessen, 2012, p. 49). The sample size is not predetermined within the field and can vary from one person to several persons, as long as the sample size is able to produce data that can answer the research questions (Creswell, 2014, p. 189). Further, Creswell (2014) and Postholm (2017) suggests that the normal sample size a phenomenological study should aim for is somewhere between three to ten participants (2014, p. 189; 2017, p. 43). In addition, Postholm (2017) suggests that in smaller research projects, like the present study, researchers should aim for the lowest number of participants required, as it will allow for deeper analysis in a study that is limited in resources like time and size (Postholm, 2017, p. 43). In the case of this research project, the total sample size consists of 16 individuals, where four are teachers, and the remaining 12 are students of these teachers (2-4 students from each of the teachers' English classes). The data is then gathered from the eight individual interviews, where there are four teacher interviews and four student mini-group interviews.

In qualitative research interviews the participants are chosen through strategic selection where the participants are asked to participate because they are assumed to represent a group with similar traits (Tjora, 2017, p. 130). Based on the research questions in the present study, the participants must fulfill certain criteria to be eligible to participate, thus making the selection a criteria-based selection of participants (Christoffersen & Johannessen, 2012, p. 51). The criteria set beforehand were, 1) having a formal education for teaching English, 2) currently teaching the subject in upper primary or lower secondary, and 3) teaching at schools located in the near vicinity of the main campus of UiT – The arctic university of Norway in Tromsø. Subsequently,

the criteria for selecting student participants were that they had to be current students of the teachers we contacted, and that they were interested and willing to participate. In addition, the guardians of the students that were interested in participating had to approve of their child's participation in the project.

Through an already existing network between us and various schools, we contacted teachers that fulfilled the criteria set for the selection of participants. The teachers were informed about the project and asked if they were interested and whether they believed they had students in their English classes that may also be interested in participating. We managed to get four participants that matched the criteria. A short explanation and overview of the teachers' characteristics can be found below in table 1. The figure shows the amount of credits the teachers have from formal education in English teaching education, the number of years they have been teaching English as a subject in the Norwegian school, and at what level they are currently teaching English.

Teacher	Formal education in English from teacher ed.	No. years teaching English	Teaching level
A	170 credits	3 years	Lower Secondary
B	60 credits	41 years	Upper Primary
C	170 credits	1 year	Lower Secondary
D	90 credits	30 years	Lower Secondary

Table 1: Characteristics of teachers participating

Table 2 shows a brief explanation of the students that participated in the project. The table shows an overview of the size of the groups as well as the grade of the group. The student groups correspond with the teachers, meaning that teacher A in table 1, is the teacher of student group A in table 2, teacher B is the teacher of student group B in table 2, and so on. As the students participating are from the 7th to 10th grade, the age span is from 12 years of age in 7th grade to 16 years of age in 10th grade. The difference in age can influence the level of maturity and capability to reflect within each individual student. As described in chapter 2, critical thinking is an ability that develops over time, meaning that the students might differ in their perception of critical thinking. Further, it is reasonable to think that there are many factors that influence the students' knowledge of and ability to think critically. Even though this study does not seek to measure their ability for critical thinking, we believe that this might influence the answers provided in the interviews.

Student Group	Number of students	Grade
A	3	10th grade
B	3	7th grade
C	4	8th grade
D	2	9th grade

Table 2: Characteristics of students participating

3.4 Method for Data Analysis

The analytical process in qualitative research is characterized by taking the empirical data through processes of coding and categorization (Nilssen, 2012, p. 78). This process is preceded by the transcription phase, which transforms the experienced phenomena into written, empirical data.

3.4.1 Transcription

Transcription – the process of interpreting oral speech to written text is called transcription – is part of the post interview stage. Kvale & Brinkman (2009, p. 177) point out that this process is seldom discussed in terms of quality compared to the interview itself. This may be due to the fact that transcription can be regarded as a clerical task, where the process is an almost non-conscious way of forming the empirical basis for analysis. In Kvale & Brinkman's (2009) accord, such practice can lead to "… the interview researcher's road to hell." (Kvale & Brinkmann, 2009, p. 177), and to avoid this they focus on transcription as a process that transforms meaning between the oral and written mode of communication. The phrase "lost in translation" becomes relevant to this process, as contextualized cues like irony and intonation is often lost in the transcription (Kvale & Brinkmann, 2009, p. 178).

The procedure of transcription follows one basic rule according to Kvale & Brinkmann (2009, p. 180), in that the report should state explicitly how the transcriptions were made. Factors that influence the transcription include time and resources, who is transcribing and in what detail one should transcribe the material (Kvale & Brinkmann, 2009, pp. 180-181). In this project, the audio material was split in two, giving four interviews to each researcher. This project used a transcription key that was developed by UiT – The arctic university of Norway, which were agreed upon by both researchers prior to interviews. In terms of how detailed pauses and emotional expressions should be transcribed is dependent on what is the intended use of the transcript (Kvale & Brinkmann, 2009, p. 181). The agreement that was made prior to transcription for this project stated that the content of the interview was the most important factor to consider. This meant that "ehm's" and similar pauses was sometimes neglected or

transcribed as pauses rather than words, whereas the message of the informant was the main priority in terms of the accuracy of the transcription.

3.4.2 Analyzing Interviews: The SDI model

As mentioned in chapter 3.1, our understanding of the phenomenon under study is subject to a dynamic interplay between the pre-conceptions we had beforehand, the thoughts developed during interviews and the way we choose to analyze the data. This means that a purely inductive method with all presuppositions aside is unrealistic, nevertheless, Postholm (2017) argues that "…the intention with qualitative analysis should be to face empirical data with an open mind, and try to put aside perspectives attained earlier in the process." (2017, p. 86). An inductive research approach is founded upon an empirical focus, where the material collected is the focal point that forms the basis for further analysis. This entails researching the field without a firm theoretical base, but rather investigate and collect data which is then generalized and made into theories and terms (Christoffersen & Johannessen, 2012, p. 27). The phenomenon under investigation is loosely tied to constructs that are grounded theoretically, where constructs like "critical thinking" and "digital skills/literacy" are defined independently. As mentioned in the introduction, the inclusion of these terms in relation to EFL teaching in Norway is a new perspective, and the existing base of literature is scarce. This implies that the analysis will not have a sufficient theoretical background to conduct a deductive approach, but it will still apply theoretical terms to compare the understandings of the informants to the respective branches of theory.

To accommodate the factors mentioned above, the analysis in this thesis will be conducted with a Stepwise-Deductive Induction (SDI), a 6-step model grounded theoretically by Tjora (2017, pp. 17-23, 195-226). SDI is founded upon an inductive premise, in that researchers work with empirical data with a curios mindset, where the collected data should define what constitutes interesting topics for investigation (2017, pp. 17-18). According to Tjora (2017, pp. 20-21) , the method shares many similarities with Grounded Theory (GT) in its inductive drive and deductive iteration, also referred to as *theoretical sampling* in GT. The problem with the iterative process in GT is that is can be time consuming because new information or perspectives prompt the researcher to start further down the steps of the analytical process (2017, p. 20). To make the process of iteration more rigid and thus less time consuming, the SDI model limits iteration to two steps a time. Considering the timeframe and resources available for this research, this model became the preferred choice.

| Theory |
| Discussion of concepts
Concepts |
| Concept development
Code groups (ev. level 2: main themes) |
| Code grouping
Code-structured empiri |
| Coding (Codes resembling the content of the empirical data)
Processed data (analytical data) |
| Processing raw data
«Raw» empirical data |
| Generating empirical data |
| In the chosen, empirical world (case/sample) |

6. Test of theory

5. Test of concepts

4. Test of groups

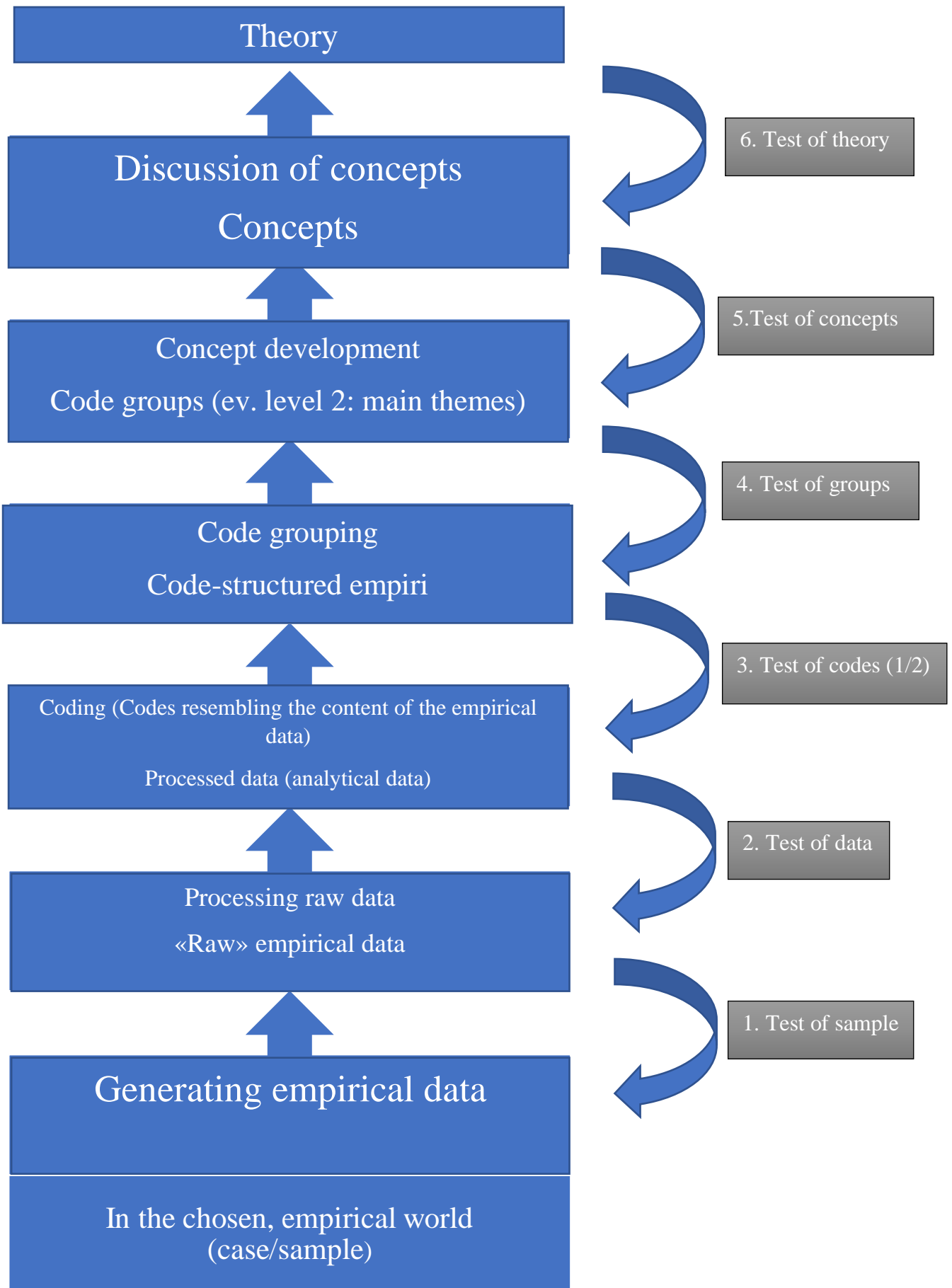3. Test of codes (1/2)

2. Test of data

1. Test of sample

Figure 1: SDI model (Tjora, 2017. p. 19)

The model is re-illustrated based on Tjora's (2017, p. 20) model, and each step will be explained in the following paragraphs. Figure 1 shows the SDI model, and its inductive structure becomes clear as it depicts a bottom-up process, starting with case/sample and generating empirical data. Tjora (2017, p. 20) points out that the model is not strictly linear in its progression because the researchers may be at multiple places at once in practice, and that the sequential ordering is meant to support a systematical approach to qualitative research. The iterative process is illustrated by the arrows with six tests. These tests are the deductive part of the model, e.g. in test 1 "Test of sample", we had to question the selection criteria for informants and whether the sample pool of four teachers and their students was a sufficient size for this project.

The processes of selection, generating empirical data and processing raw data (transcription) of this model is described in chapters 3.2-3.4.1. Before the transcriptions were coded, the test of data (test 2) was carried out by determining whether the generated data had relevance to answer the research question of this thesis and if the equipment for data collection were reliable. The interview guide was revised multiple times to answer the research questions in this thesis to ensure relevant data from interviews. A handheld recording device was used in combination with an app[15] on a phone in interview settings to secure data collection in case of technical issues or unclear recordings. The test of data was reconsidered later in the project, when developing the concepts, and this reconsideration revealed the inexperience of us as interviewers. This revelation is based on the lack of detail in some of the answers from the interviews, an unfortunate consequence we attributed to the lack of sufficiently detailed follow-up questions.

Coding the transcribed data, or processed data, is the initial step of analysis and it is very important for the SDI model's inductive focus (Tjora, 2017, p. 197). According to Tjora (p. 197), the coding process in the SDI model is dependent on codes that are empirically very similar to the transcribed data, contributing to a inductive perspective in the initial phase of analysis. Empirically close coding avoids using theory, research questions, interview guides and hypotheses to avoid what Tjora calls "premature conclusions" (2017, p. 198). Firstly, the transcription from teacher A was coded by creating codes from words, phrases, sentences or paragraphs. These codes were included in the process of coding teacher B, where similar responses were either added to an existing code or made into a new one. The codes were linked

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[15] Nettskjema – Diktafon, an app developed by the University of Oslo

to the excerpt from the transcription using the comment function in Microsoft Word. This process was repeated until all transcriptions were coded. Tjora (p. 198) comments that because the codes are so similar to the empirical data, one must expect a large number of codes even from smaller studies. This process yielded a total of 258 codes for the teachers and 153 codes for the students. The codes were tested in a two-step deductive test illustrated in figure 1.0 as test of codes 1/2 If the generated code is found to be accurate in alternative (b) for both questions, it passes the test and is included in the final set of codes. Tjora (2017, p. 203, our translation) presents the test of codes with the following questions:

Question 1: Could the code be made *before* the coding?

a) if yes: a priori (unnecessary) coding – make a different code!
b) if no: potentially good, empirically close coding – move on to question 2!

Question 2: What does the code reveal *on its own*?

a) thematize the segment of data (from interview: what it was talked about): unnecessary sorting of codes – make a different code!
b) reflects concrete content (from interview: what was said): good coding!

The next step in the analytical process consisted of sorting the codes into groups. Before grouping, the code-structured empirical data from the teachers and the student groups were listed on a document, one for each respective group. Tjora (2017, p. 207) explains that the inductive focus is driving this process, in that groups are formed based on codes that have a mutual meaning. The test of groups, as step 4. in the deductive part of SDI consisted of a constant assessment of whether a code could be attributed to an existing group, or if a new group had to be made. The goal of this test, says Tjora (pp. 209-210), is to create a number of groups which are internally consistent, while thematically different from each other. In addition, one "rest group" was created which contained codes that could not be assigned to any other group. Eight groups were formed based on the codes from the teachers, which were then reduced to six themes after revising the original groups, illustrated as Level 2: main themes in the SDI model. Five themes and one rest group were created, the five themes were named.

- *Concerns related to the use of ICT in the EFL classroom.* Total of 17 codes.
- *ICT and internet usage in the EFL classroom.* Total of 53 codes.
- *The teachers' understanding of critical thinking.* Total of 23 codes.
- *Critical thinking in the EFL classroom.* Total of 28 codes.
- *Thoughts on LK20 competence aims.* Total of 21 codes.

The same procedure was conducted for the group interviews with the students, and yielded four themes in addition to the rest group. These were named as follows:

- *Technology inside and outside school.* Total of 38 codes.
- *Students' experiences with their teachers focus on critical thinking.* Total of 38 codes.
- *Students' explanations of critical thinking.* Total of 25 codes.
- *Students' views of the importance of critical thinking.* Total of 17 codes.

The penultimate stage of the SDI model is called concept development. At this stage in the SDI model, the empirical data is becoming less clear, and the inclusion of theory becomes more relevant (Tjora, 2017, p. 211). Concept development is achieved through what Tjora (2017, p. 223) characterizes as an *abductive* process. Abduction here means that we move between theory and the specific data to prompt ideas which can give meaning to the observed phenomena. It is a creative process which explores what the data can represent in terms of concrete findings which does not fit into existing theory (p. 224). Next, the concepts are tested in the test of concepts, step 5 in SDI which consists of answering the following questions when considering the main themes: "What is this about? Is there a more general term for this phenomenon/problem? Are there existing theoretical contributions which explain the phenomenon or is in any way relevant?" (Tjora, 2017, p. 211, our translation). Tjora (p. 223) elaborates on the development of concepts, and holds that they should be abstract in relation to people, places and time. Further, the concepts are to be understood as findings, and the strongest concepts are those which can stand independently of extracts from the empirical data, giving the study a value of generalization (p. 223). The concepts we developed based on the themes from the teacher interviews were named: *digital disservice* and *context sensitive teaching of critical thinking* which are discussed in detail in section 4.1.6. As for the students, there were no concepts created based on the empirical data. This is because the practice under investigation is focused on the teacher's actions. Instead, we made a thematic comparison to highlight potential findings that cohere with regards to how the teacher's practice is conceived, directly related to research question 2, discussed in section 4.2.5.

The last step of the SDI model is the development of theory. Tjora (2017, p. 224) states that requirements for a theory within social sciences is a topic of constant debate. The SDI model approaches this topic with a test of theory, as deductive step 6. This test is based on Karl Poppers criterion of falsification, reformulated for the SDI model by Tjora (p. 225, our translation): "For a concept to take status as theory, it must be falsifiable and verifiable.". The concepts that were developed in this project cannot be said to meet these criteria, and thus is

not eligible for the development of theory. Tjora (2017, p. 225) comments that the development of concepts must be seen as the most common form of theorizing in social sciences, and that the last step of theory development is reserved for concepts that are systematically developed which can be tested for and debunked in later studies.

3.5 Reliability

Considering the reliability of a study is an important criterion for research, as it indicates the trustworthiness and consistency of the data collected and the findings of the study (Christoffersen & Johannessen, 2012, p. 23; Creswell, 2014, p. 201). A study that can be reproduced by other researchers, where they arrive at the same results, will normally suggest high reliability of the original study (Ringdal, 2018, p. 103). Merriam (2009, pp. 220-221) deems reliability to be problematic within qualitative research, as the field of research is not static. Reproducing studies and expecting the same results as the original study in qualitative research might prove difficult. In the context of this study, the results are gathered from various individuals' experiences with a specific phenomenon. The experience will be unique for every participant in the study. If this study was to be replicated with a different set of researchers and informants, the results would therefore most likely not match the original findings and results.

Nevertheless, this does not mean qualitative research should be discredited because it does not uphold the criterion of reproducibility. According to Merriam (2009, p. 221) qualitative research needs to take a different approach to reliability, where judgements must be made whether the results of the study are consistent with the data presented in the study. Instead of wanting other researchers to conduct the same study with the same results, we must therefore aim for other readers to agree that the results are valid based on the data presented. To achieve this, we have tried to uphold a high level of transparency throughout the study.

In this study, transparency has been ensured by providing readers with a detailed overview of the entire process of the research project, from the initial contact of participants to how the interviews were conducted and analyzed. In addition, the interview guides used in the data collection process are provided in appendix 1 and 2. We believe this information allows for a detailed insight into how the research was conducted as well as providing the necessary information for the study to be conducted by other researchers. Therefore, we argue that the study conducted is not only reproducible to a certain degree, but also that it is transparent in its design, conducted research and analysis of results which allows readers to scrutinize the data and the results.

3.6 Internal Validity

Merriam (2009, p. 213) explains that internal validity refers to whether or not the findings of research match the reality they are conducted in, and whether the researchers are measuring what they think they are measuring. This means that researchers should evaluate the trustworthiness and credibility of the findings and seek to explain how accurate the findings are from the standpoint of the researchers, participants, and the readers of the research (Creswell, 2014, p. 201). According to Postholm (2017, p. 170) the criteria for validity is thus the documentation and clarification of the methods used to collect and analyze the data in the research project.

To uphold the internal validity of qualitative research both Creswell (2014, pp. 201-203) and Merriam (Merriam, 2009, pp. 215-220) propose different strategies that researchers can implement, in which we have applied the following: member checking, clarifying the potential bias of researchers, peer debriefing and using thick descriptions. How these strategies have been implemented will be explained in the following paragraphs.

Member checking entails letting the participants of the study having a say on whether or not they recognize the conclusions and interpretations drawn from their data as accurate, giving them an opportunity to comment on their statements and the interpretations made by researchers (Postholm, 2017, pp. 132-133). When conducting member checking, Creswell (Creswell, 2014, pp. 201-202) suggests that the raw transcription should not be used on its own. Therefore, we chose to send the participants a copy of the transcription from their interview with the codes created through the analysis, as described in section 3.4.2, attached. In the document sent to the participants, the codes were attached to various statements in the transcribed interview, allowing for transparent view of how the interpretations were made. In addition, the codes were supplemented with short comments elaborating on our understanding of their answers. The teachers were then asked to read through the document and comment on whether they agreed with our interpretations of the interview. We believe this gave the participants an opportunity to change or comment on previous statements from the interview or challenge our interpretations of their interview. For this study, we did not member check the transcriptions from the interviews of the students. This choice was made as the current pandemic situation during the spring of 2020 made it difficult to contact and get a response from the students and/or their guardians. Further, we believe that the most important members to check were the teachers, as they are the main focus of the study. All teacher participants responded to our request, and all reported that they regarded our interpretations as accurate.

It is further suggested that researchers must present their own experiences of the phenomenon researched in order to clarify potential biases (Creswell, 2014, p. 202; Postholm, 2017, p. 137). In order to present potential biases, the following will be a short description of our interests and experiences. Firstly, we are young males with an interest in ICTs both outside and inside the classroom. Our own classroom practices include active use of ICTs in both planning and execution of the teaching. When it comes to the terms critical thinking in the Norwegian school, we are of the belief that it is essential for partaking and maintaining our democracy. Therefore, it can be said that we value the development of critical thinking in teaching of any subject, and especially English.

Creswell (2014, p. 202) further argues for using peer debriefing as a method of increasing the validity of qualitative research projects, as it can ensure that findings are commonly concurred by someone else than the researchers. As a process, the peer debriefing can take place as a discussion with colleagues who have read the study, where the process of the study and the agreement of findings, data and interpretations are the focal points of the discussion (Merriam, 2009, p. 229). As students at UiT – The arctic university of Norway, we have been allocated a supervisor that is a member of faculty with extensive experience as a researcher. Her insight and thoughts on the study's method, data, interpretation of data and the findings have been utilized to meet the criteria for peer debriefing. After the data was collected and analyzed she was given access to the raw data transcripts, codes and the subsequent themes.

Lastly, using a thick description when conveying the findings is essential to be able to let potential readers of the study into the context and the thoughts of the researchers, opening for shared experiences when discussing the findings of the study. This allows for the results to become more realistic and thus increasing the validity of the study (Creswell, 2014, p. 202). In addition, we have provided a description of the setting of the interviews and explained the procedure of interviewing for both the teachers and the students alike. This is provided in chapter 3.2 This was done in order to uphold a level of transparency and detailed descriptions, so that readers of the study have the possibility to further increase their understanding of the interview settings.

3.7 Transferability

In qualitative research, the external validity of a study is referred to as the transferability or generalizability of the findings (Cohen, Manion, & Morrison, 2017, p. 248). The purpose of focusing on, and evaluating the transferability of a study, is to determine whether the results

can be used to generalize within similar groups in similar situations (Cohen et al., 2017, p. 248; Merriam, 2009, p. 223). In the current study, participants were chosen on the premise of volunteering, which in turn means that the results of this study will not be transferable and generalizable to a wider population outside of those participating (Merriam, 2009, p. 224). Therefore, the transferability of the study is deemed to be low. Further, the external validity is also challenged by the very limited sample size of the study as well as the limited experience of the researchers. However, as accounted for by Meriam (2009, pp. 224-225), it is difficult for us as researchers to judge whether someone else will find the data and results of this study relevant and applicable to their specific situation or problem. Therefore, we have tried to uphold a certain level of thick description of the study, as mentioned in section 3.6, as we believe that the present study might be useful for some readers, who may find the data and findings relevant for them or their research.

3.8 Ethical concerns

The national committee for ethical considerations in research for social science and humanities, abbreviated to NESH, provides researchers with ethical guidelines. The idea of research is founded upon an autonomous drive on the part of the researchers, and these guidelines are not legally binding but rather considerations that follow international conventions that pilot accountable research ethics. Guidelines that describe considerations of personal safety and human dignity are also grounded legally. With reference to Nerdrum (1998), Christoffersen and Johannesen (2012, p. 41) summarize the guidelines by NESH in three categories that researchers must consider. They are presented here for the purpose of ensuring transparency in the ethical considerations that were made in this project, supplemented by comments by Postholm (2017, pp. 142-155). Lastly, this chapter will discuss ethical concerns related to using children as informants, grounded by NESH (2016, p. 20).

The informants have rights that protect their integral position as independent human beings. All teachers and students that were interviewed to answer the research questions in this thesis were asked to participate voluntarily, and they retain their right to decide over their own participation throughout the project. Their consent to participate was expressed explicitly and on a voluntary basis. This means that informants can withdraw from participation at any given time without the need to justify this withdrawal, and they shall not face any consequences of discomfort or a negative nature if they decide to do so (Christoffersen & Johannessen, 2012, p. 41). All informants in this project were informed about this before interviews in a written document, and orally as a part of the introduction to the interview.

Informants retained the right to privacy throughout the project. We as researchers must respect this right. Informants are crucial to the collection of data and the data in qualitative interviews belongs inherently to the interviewee. According to Postholm (2017, p. 148), honest and open opinions are shared when a trustworthy relationship is established, and that this relationship automatically lays ethical responsibilities on the part of the researchers. If an informant finds any reason to deem this relationship as untrustworthy, s/he has the right to refrain from sharing their experiences. As Christoffersen & Johannessen (2012, p. 42) see it, the perspective of the informant must include a firm belief that the researchers act with confidentiality, meaning that personal information must be anonymized to ensure that the person in question cannot be identified. To ensure anonymity, participants should read through their answers, at least they should have the opportunity to do so if they wish.

All research must be conducted in a way to avoid harm. Considerations must be made throughout the process of data collection, as researchers can touch upon sensitive issues (Christoffersen & Johannessen, 2012, p. 42). Both sources mentioned here exemplify that interview may be a gateway to emotional distress in a qualitative research process (Christoffersen & Johannessen, 2012, p. 42; Postholm, 2017, p. 150). The interviews conducted in the current research project did not touch upon a subject we believed to be sensitive to any of the participants in a way that could cause emotional distress or other feelings of discomfort.

With regards to children's participation in research, NESH devotes subsection 14 in their guidelines to these concerns and states that: "children and youth who participates in research, has special demands for protection." (NESH, 2016, p. 20, our translation). These demands may vary greatly between children, as they are individuals in a forming process with different needs and capabilities (p. 20). Further, it is an important reminder to treat children with dignity and as independent human beings, their opinions matter and it is especially important to give weight to their perspectives after they are 12 years old (p. 20). In this research project, the youngest informants are 12 years old. Their well-being, voluntary participation and opinions have been handled with utmost care and in line with the guidelines given by NESH.

Before the interviews could take place, the Norwegian Center for Research Data (NSD) was contacted to gain approval for the project. The official approval can be found in appendix 3. After receiving approval, teachers and their students were given information about the project in a document that stated the purpose of this thesis, as well as asking for their participation. This document was made using a template given by NSD, where an information and

participation document was given to teachers, whilst students received a separate document. These documents are included in appendixes 1 and 2. The students were asked either by their teachers in class, or by us as researchers when presenting the project. Only those willing to participate were given the information document and asked to give it to their guardians. Since most of the students in this project are 15 years or younger, all of the students' guardians were asked to sign the participation document in order to give consent for their child to participate in this research project. The documents with information and participation were signed and provided to us before we interviewed the participants. This process is in line with the guidelines by NESH (2016, p. 20) and those recommended by NSD in their evaluation of our project.

3.9 Limitations

In all research there will be limitations to the results, methods, theory or analysis, and this master thesis is no different. Some of the limitations of this study are further discussed in the conclusion as recommendations for future research of the current subject.

First, we as researchers have very limited experience with conducting projects of this nature, including conducting and analyzing interviews. To counter this, we have attempted to follow methodological steps for interviews and analysis as outlined in the chapters above. In retrospect we have realized that there were several points during the interviews where we had missed the opportunity to ask follow-up questions or to ask participants to elaborate.

Further, the number of participants in this study can be said to be limited. Four teachers and twelve students make up the participants over a total of eight interviews. We recognize that this factor must be taken into consideration in the concluding part of this thesis. It should also be noted that the selection of informants was made through an already existing network between us and the teachers who volunteered to participate. Additionally, the students participating were selected through volunteering.

4 Findings

This chapter presents the themes that were constructed through the process of applying the SDI model. First, the themes regarding the teachers will be presented in 4.1 before the themes of the student groups are presented in the subsequent chapter 4.2. The themes form the basis from which the concepts were developed and are regarded as the findings from this study. Additionally, a comparison of the teachers' own thoughts about their implementation of critical thinking in the EFL classroom and the students' experience of the implementation will be presented in section 4.2.5. This section represents the findings from the students experience with their teacher's implementation of critical thinking in the EFL classroom.

Each theme is based on several codes that reflect the experience of our informants. To account for how the concepts were made from these themes, high-frequent codes and their main content is presented within each theme respectively. The first paragraph of each theme presents the opening questions with a brief contextual explanation of the section of the interview in focus.

4.1 Teachers

The themes presented below are the themes extracted from the interviews with the teachers participating in this research project.

4.1.1 *Concerns related to the use of ICT in the EFL classroom*

In the opening sequence of the interviews with the teachers, we asked the question: do you have any concerns related to the use of ICTs in EFL teaching? The question was asked as an introduction to the main subject of investigation, and it was meant to make the teachers reflect upon their own practice when using ICTs. All four informants expressed that they have some concerns related to the use of ICTs in their English lessons. The most frequent answer is related to the difficulty of monitoring the students while they are using ICTs, and that the students are easily entertained by activities unrelated to planned class activities and the topic of focus. Teacher C expressed this concern about this topic:

> "It is hard in classes with 30 students when they are supposed to work with a PC, and half of them are playing games when you are not monitoring them, so that is one of my major concerns, that they are actually doing something and learning something from it."

The second most frequent answer to this question was related to the actual benefits of using ICTs to learn the English language. Two teachers expressed that autocorrect functions on word processing software like Microsoft Word are actually doing their students a disservice as they

do not necessarily teach the students about how and why words follow grammatical principles. A third teacher said that s/he believed that ICTs removed focus from oral communication, which was a key element of language learning for this teacher.

4.1.2 *ICT and internet usage in the EFL classroom*

The teachers were asked to elaborate on how they experience the use of ICTs in their own EFL teaching. This theme includes the teachers' experience with using ICTs themselves, as well as experiences with their students using ICTs in class. In the interview, we asked the teachers how they saw the role of digital skills as a basic skill in the English subject. Furthermore, we asked follow-up questions about what themes and teaching methods they saw as relevant, as well as how they make use of the internet in their own teaching.

Firstly, it should be noted that the use of ICTs is an integral part of a teacher's daily work. Hence, all four teachers have their own computer, which is used for planning their lessons in all their subjects. Teacher C reported that s/he actively used YouTube, Power Point, Kahoot and Quizlet[16] in both planning and when teaching. Most of the teachers reported similar usage, except for teacher B who noted that ICTs in his/her teaching in the EFL classroom "played a smaller part than it perhaps should.", as the use of ICTs was not a prevalent part of the favored teaching style.

A common feature seems to be that the teachers do not themselves use ICTs as much as their students in the classroom. The most frequent use of ICTs is the use of word processing programs such as Microsoft Word and various digital dictionaries. In addition, the teachers report that their students often use presentational tools such as Power Point for oral tasks. Furthermore, one of the most common usages of ICTs is accessing search engines to extract information about specific topics the students are working on, either for a written or oral task. Even though this was something teacher A said they did regularly, s/he also noted that the students lack the knowledge and skills of how to conduct information searches and how to incorporate the information into their work: "They are very bad at using sources, at least in lower secondary, where I notice there is a lot of like, using only Wikipedia and copying all the text [into their work]…"

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[16] Kahoot and Quizlet are interactive quiz tools.

Despite the students often using computers and various software during class, all teachers highlight that they consider their students to be poor at simple tasks when using ICTs, as made clear from this extract from teacher D:

> … but I think that, almost every English lesson, I have to show a student where they can find OneNote and how to open it. So, I'm not really impressed by their digital know-how when it comes to using computers. They are really good at lots of things [with ICTs], but when it comes to these school things [software and PC], we spend a lot of time on it!

Even though the teachers experience most of their students to have little knowledge of using ICTs in school, they still find positive aspects of using ICTs in their teaching. This is highlighted by teacher Bs answer to the question of what role s/he believes digital skills has in the English subject:

> …I see many positive using ICTs while teaching English. Many of the different themes we work with, for example getting to know the culture of different English speaking countries, which we do during the 7th grade, now it is Australia and New Zealand, and we can just go in [on websites] and look at them [the cultures of the countries].

4.1.3 The teachers' understanding of critical thinking

The teachers were asked about their personal understanding of critical thinking, while follow-up questions asked how they would explain the relationship between critical thinking and information literacy. Moreover, we asked them to elaborate on their answers. It should be noted that in the beginning of the interview the teachers were told that they should relate their answers to the English subject and subsequently their own teaching. Therefore, the answers are to be seen as their understanding of critical thinking in the context of their EFL instruction. When asked about the term critical thinking, all teachers expressed that they understood the term as an important factor for information processing to consider in EFL education.

Teacher A	"Critical thinking is about understanding how to find information and how to use it correctly."
Teacher B	"...In particular, it means a lot to have a critical view on what one reads and extracts of information."
Teacher C	"In short, I understand the term critical thinking in that one reflects on the question of why something is presented in a certain way, or who has something to gain from this presentation."

Teacher D	"I understand [critical thinking] as having to make sure that the information retrieved is correct."

Further follow-up questions on their initial explanations, presented above, showed that the teachers were divided in their understanding of critical thinking and information literacy. Two of the teachers placed their understanding of critical thinking as being an integral part of information literacy, as further explained by teacher A: "… it [critical thinking] is about how one can find good information and how one can use this information correctly.". The two other teachers had no immediate explanation of the term information literacy. However, through their reasoning it was established that they likened it to digital literacy, or digital skills, which is the preferred term in the national curricula of LK06 as well as LK20.

4.1.4 *Critical thinking in the EFL classroom*

Before asking questions about the new curriculum, we asked questions that sought to reveal how they experience their own practice of critical thinking in the EFL classroom. The question asked was: how would you say that you work with critical thinking in the English subject? The follow-ups on their answers revolved around whether they described their practice as implicit or explicit teaching.

The most frequent answer to questions about their teaching of critical thinking involved different ways of implicit implementation, with one teacher saying that an implicit approach is the easiest way to include it into the daily teaching in the EFL classroom. All teachers said that they try to give good examples of online resources for the students to use. Further, three teachers said that they always include criteria regarding the use of sources in the tasks the students are given. Here, an example is given by teacher A: "Well, it is more that I always have it as a criteria when writing, so when we [the teacher and the students] create the requirement we agree on criteria regarding whether they should have x amount of sources, and y amounts of a different type of source".

Secondly, the teachers appeared to agree on the fact that critical thinking and information literacy are themes that are best explored when it comes naturally in relation to that task in hand. In practice, this means that they normally make it a talking point when the task the students are given might require knowledge or reflection about the use of different online resources. Below are quotes from all four teachers:

Teacher A	"Well we go through it and we talk about it, it is not like I say that now we are going to think critically."

Teacher B	"I would say that it is more indirect …especially when we use the internet in class. I seek to accentuate critical thinking in general."
Teacher C	"It is more what I choose as material and how I present it for them [the students] and [it] is more based on critical thinking than what I teach them to do."
Teacher D	"Well I do not think that we work with it in the way of saying now we are going to work with critical thinking. It is more that it is part of the task they are given and then I remind them of the fact that they must use and include different sources and to remember to use sources and that I go through what I expect of them."

Commenting on the criteria the teachers said they used in tasks, they appeared to normally include a minimum requirement of sources. In addition, these criteria also pointed out the need for sources other than only including one form of encyclopedic source, for example only using Wikipedia.

4.1.5 *Thoughts on LK20 competence aims*

We asked the teachers to present their thoughts on how they imagine they could work with some of the new competence aims from the subject renewal of 2020, LK20. These competence aims are all related to the English subject and are the ones that targets the concepts of critical thinking as part of digital skills. The following aims were presented to teachers teaching 8th to 10th grade:

1. "Use different digital resources and other aids in language learning, text creation and collaboration."
2. "Read nonfiction texts and assess the reliability of sources."
3. "Use sources in a critical and verifiable way."

The teacher teaching in 7th grade was presented with the following competence aims:

1. "Use digital resources and different dictionaries in language learning, text creation and cooperation."
2. "Converse about different sources reliability and select sources for own use"

Initially, all the teachers had a positive response to the competence aims. Their response was centered around the way the aims are formulated, saying that the aims are "open" and allow for a diverse range of possibilities to achieve these aims. While their answers varied somewhat in terms of the focus area, all teachers exemplified evaluating sources in relation to digital resources.

Teacher A	"1 and 2 are language learning and text creation; they are open and nice in that you can include them in a variety of tasks. Aim 2 is what we have talked about all the way in that they must always check their sources."
Teacher B	[In response to competence aim 2 7th grade] "In my opinion, the internet provides one with a range of opportunities to develop both linguistic abilities and the capabilities to retrieve information here and there, which demands a certain skepticism to what one learns about, to believe that this may not be the truth in its entirety."
Teacher C	"These competence aims are directly related to both critical thinking and digital skills. I envision that there are opportunities to work in depth with being critical of sources in the English subject in many different ways."
Teacher D	"LK20 is much more focused on cross-curricular cooperation, so I feel a bit lucky to have English and social science, so I think I will combine them and work more towards history in English, as it is natural to consider the reliability of what one finds."

4.1.6 Concepts

The concept we developed from the themes were named *digital disservice* and *context sensitive teaching of critical thinking.* Each concept is presented and explained in this section. The latter concept is our main finding, as it relates directly to research question 1, and the questions that follow step 5 (the test of concepts) for this concept is included as the introduction to our discussion, section 5.

The first concept was named *digital disservice* and it explains the negative consequences that follows the digitalization of EFL education. We used the term "disservice" because digital technology is supposed to enable learning through inclusion of ICTs like the PC, but their usage may come with challenges that can have negative impacts as pointed out by our informants. The thematic groups 4.1.1 and 4.1.2 contributed to the development of this concept, as they explain concerns and experiences from the teachers' perspectives. From our opening question, we found that the teachers were critical to the use of information technologies such as the PC. These concerns related to two aspects in particular. Firstly, monitoring students' use of PCs in class was expressed as a challenging practice. They feared that valuable time was lost to activities unrelated to the task at hand, this was clear from the interviews with teacher B, C and

D. Teacher B found that a minor concern in that students are easily distracted when they use ICTs and teacher C said this about his/her experience:

> I feel like I often become too dependent on the PC because it is easier, but I am not quite sure about the actual learning benefits of it, it is difficult in classes with 30 students, when you work with the PC half of them could be playing games when you are not watching. So, a major concern of mine is the amount of learning they gain from it.

Teacher D shares the experience "When it comes to co-authoring in digital writing, students become easily entertained by sabotaging other's presentations or chatting with each other and thus it can lead to a lot of unrelated activities."

Secondly, we found that both teacher A and D were skeptical towards the grammatical correction functions found in software programs such as Microsoft Word and Clarify, saying that they fail to stimulate the students' reflection on why words follow grammatical principles. Teacher A said "We use Clarify, which is a correction program where students gain a lot for free. You can tell that students often fail to understand why words are written in a certain way and the way they are conjugated, e.g. the difference between irregular and regular verbs.". On a similar note, teacher D commented on correction functions "On one side, instant feedback on grammatical correction programs are good, but at the same time it is very easy to just click for the correct alternative. So, in a way you have not really used the hand and the brain, your thoughts, you have just clicked a button."

These perspectives highlight an important reminder for all teachers and education officials whom are responsible for investment, using ICTs and software programs is no way to guarantee learning, as Buckingham puts it: "Education *about* the media should be seen as an indispensable prerequisite for education *with* or *through* the media." (Buckingham, 2006, p. 263). The concept can be regarded as a subsidiary finding in this study, as it has no immediate relation to the research questions. However, it can promote skepticism for teachers in the face of new technology, in that the effect of learning must be at the heart of all pedagogical practice, no matter how convenient or convincing a program may seem. In terms of the strength of this concept, it is realized through the deductive step 5. in the SDI model. Even though the concept is subsidiary to the focus of investigation, it summarizes the central notion of our informants out of the context it was developed in. External research on technology integration in education describe the underlying concerns of digital disservice, such as the importance of professional development of teachers and proper technical support (Inan & Lowther, 2010, p. 149). The

existing base of literature on the issues of technology integration imply that the strength of digital disservice is deemed as low.

Context sensitive teaching of critical thinking is a concept that is based on themes 4.1.2-4.1.5. A large number of codes formed the basis for this concept and highlight how the term critical thinking is conceived of, from the teachers' experience with ICTs and internet usage to how their understanding informs their teaching practice. The concept describes how critical thinking is a contextualized term for the EFL teachers in this study, as its relevance surfaces when the teachers find it natural. The theme 4.1.4 elaborates on the implicit focus that our informants share. Both teachers A and D said that they do not state explicitly that their task at hand is to work with critical thinking. Likewise, teachers B and C elicited implicit teaching methods, B focusing on critical thinking "indirectly" and "in general", while C held that his/her learning material was picked with critical thinking in mind.

While analyzing these themes and their respective codes, we found that the teachers' conceptions of critical thinking were similar when we asked about the term's relevance to the use of ICTs, with a focus on the internet. Other parts of the discourse revealed that the teachers had very different understandings of critical thinking, e.g. teacher B attributed the term with possible lifelong implications, stating that "I think that critical thinking could be a positive force, that it could give the children courage in life.". As such, the statement shares similarities with the "voice" that develops in one's life as described by Fox (1994, p. 145). More varieties revealed themselves when we asked about the relevance of critical thinking to information literacy as a follow-up question. Teacher C for example, stated that: "I feel like it comes as a natural consequence when one uses digital tools, and to teach them [the students] about information literacy, one has to talk about critical thinking.". The quote highlights an understanding that is promoted by Lokse et al. (2017, p. 1), in that critical thinking along with learning strategies are the two essential components of information literacy. While teacher C found critical thinking to be a prerequisite for information literacy, teacher D and B had no immediate relationship to information literacy as digital skills was their preferred term. To summarize, this revealed that critical thinking had an important place in the teachers' practice, but its meaning was only commonly understood when we talked about EFL students' use of the internet. Both of these findings are replications of Moore's (2013) study, showing that critical thinking is not an entirely latent and ineffable term even though it has no clear-cut meaning that is shared among the participating teachers. Lastly, the context is essential to how they perceive its meaning and thus its importance to teaching.

4.2 Students

The themes presented in this section are based on answers from the four student groups. Information regarding the groups is presented in table 2 in section 3.3.

4.2.1 *Technology inside and outside school*

In the initial questions in the interviews, we asked about the students' use of technology in their spare time, and of their use of technology in school. It should be noted that before the interview started, the students were asked to relate their answers about school to the English subject and their English classes.

All students report that their smartphone is the primary technological device they use on their spare time, where they mostly use it for communication and games through various social media platforms. In addition, some of the students say that they use computers and TVs for entertainment purposes. Their use of technology in school is mostly centered around using computers. When using computers, students say that they use text processing programs like Microsoft Word, and presentational tools such as Prezi and Power Point. In addition, they report that they use digital dictionaries in the EFL classroom as well as online search engines when tasks require them to extract information online.

However, it is important to highlight that student group B report that they seldom use computers during their EFL classes. They mostly write by hand in their notebooks and use their textbooks for reading and searching for information.

4.2.2 *Students' experience with their teachers focus on critical thinking*

The students were asked whether they have worked with themes related to critical thinking and information literacy, and if they have done so, questions were asked about whether they were able to recall how they worked with critical thinking and information literacy.

All student groups recall that they have had some sort of focus on aspects relating to critical thinking and information literacy in the EFL classroom. The most common description of the focus is that the teacher provides them with websites deemed as "safe" and trustworthy, with SNL[17] being the most common one.

> **Group A** "…our teacher usually reminds us to use safe sources … and I think that s/he [their teacher] always write on them [their task criteria] things like: use good sources or write down the sources [used in their tasks]."

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[17] Store Norske Leksikon is a Norwegian public encyclopedia written by experts.

Group B	"… it's like the three websites we are recommended to use and then sometimes we are reminded that there should be a reliable source included."

Concurrently, the students mention Wikipedia, saying that it is a source they often use, where student group B includes it as one of the three sources they are recommended to use for online searches. Further, the student groups also report a certain amount of skepticism towards Wikipedia, as they are aware of the possibility of information being false or incorrect. This is shown with the following quote from group C. The answer was given for a follow-up question asking what online sources the student was told that they could use. Further the quote from group D exemplifies some of the skepticism towards Wikipedia.

Group C	"… Store Norske Leksikon … but I'm not entirely confident only using Wikipedia, as everyone can edit there [the content found online] … but I use Wikipedia if Store Norske Leksikon says [claims] the same."
Group D	"I sometimes think whether Wikipedia is better to use than SNL [Store Norske Leksikon] or… Sometimes it is not entirely correct what it [Wikipedia] says. Like who was it that wrote this? Do they have good knowledge about what they have written about?"

4.2.3 *Students' explanations of critical thinking*

The students were asked if they were familiar with fake news and clickbait; how one can potentially reveal the information to be false or misleading; when is it necessary to be critical and who needs to think critically. Additionally, the students were asked to explain how they would approach an imaginary task where they had to conduct online research on a topic. During the interview we used the terms fake news and clickbait as ways of making the students reflect on their understanding of critical thinking. The decision to use fake news and click-bait when discussing critical thinking was based on the understanding that the students were aware of the terms. In addition, it would require that the students were aware of the need for critical thinking and reflections when exposed to such information. All students interviewed were familiar with fake news and clickbait. They also expressed that when encountering fake news and clickbait they need to reflect and think about the content they are accessing.

The most common answer to critical thinking revolves around the premise of being skeptical when encountering information online as well as in print format. This is highlighted by the following quotes:

Group A	"… when thinking critically it is about being skeptical of what … one is reading. So, it is more or less about being as confident as possible that the source [the source of the information] is correct."
Group B	"… you should not believe everything you read straight away."

Focusing on the students use of critical thinking in the EFL classroom, it appears as though it is more prominent in tasks which requires them to conduct internet searches themselves. As mentioned in 4.2.2, they usually stick to using sources they know to be reliable and trustworthy. However, they also express that there is still a need to be critical and check the correctness of information, especially when encountering information about an unknown topic or information that "… does not seem quite right" (Student from group D). In these cases, all groups suggest comparing the information they are skeptical towards with other sources. When they encounter information that triggers their skepticism, they examine other sources to check whether there are multiple authors, websites or books that claim the same thing.

4.2.4 *Students' views of the importance of critical thinking*
In the final stages of the interviews, the students were asked how they view the importance of critical thinking in today's society. This was done by asking them to give their view a rating on a scale of 1 to 5. 1 was given the value of not important, while 5 was given the value of highly important.

It appears to be a consensus amongst the students that it is quite important, as most rated the importance as 4 or 5 out of 5, while a total of four students deemed it to be somewhere in the middle and thus reporting it as being a 3. Amongst the twelve students, the mean ranking of the importance of critical thinking is calculated to being 4 out of 5. The students were further asked to elaborate on why they believed critical thinking to be of a certain importance. The answer to this question varied slightly across groups and between students. However, there were some commonalities amongst their answers across the groups.

The common answers revolve around the fact that there is a vast amount of information available for them when conducting searches online. This includes information they do not seek themselves in the form of pop-ups, advertisements and personalized posts on various

social media platforms. When exposed to such amounts of information, choices must be made to distinguish between information and what might be correct or false. Therefore, most of the students are of the belief that it is important with critical thinking skills in the form of skepticism towards information.

4.2.5 Thematic comparison between themes *critical thinking in the EFL classroom* and *students' experience with their teachers focus on critical thinking*

For teacher A, critical thinking is always a criterion in written tasks, where the teacher and the students make the criteria together, a demand for a certain number of sources is commonly included. S/he says that a regular practice involves conversations about critical thinking as a part of source evaluation, without explaining the term in detail. The teacher said that the ability to discriminate between sources and their correct application to the task at hand is an important way of working with critical thinking. As an example, s/he said that s/he would go to a Wikipedia page and retrace sources that were used to make the article. Student group A opened by saying that they have not learned too much about critical thinking, but that they talk about it when they are given tasks, in that they must use proper sources and cite them correctly. Source comparison was mentioned as a method they use on a regular basis, although not as a specific task, but rather as a reminder from the teacher to secure their selection of sources. The students also said that sources are a standard requirement in tasks. Finally, they said that they have a focus on critical thinking in the English subject, but it is not an explicit one, but a point that is discussed related to task production.

When teacher B was asked how s/he implements critical thinking in the EFL teaching, a chapter from the textbook called Power of the Press was brought up, where s/he links critical thinking to this theme. In addition, they normally bring up news from the previous week, discussing the events and news stories. This sometimes leads to an opportunity to converse about the news presented, what really happened and that there are many sides to the story. The students confirmed that they do, occasionally, work with news stories. However, they also noted that they seldom use computers in their EFL class. When asked about the use of news stories, their focus is on their teacher giving them different sites that they are to use in this process. The students did not share this experience. This might be because they seldom do it, or that they do not think of that process as being a form for critical thinking and reflection. Further, the students reported that they sometimes compare information between different sites to ensure that it is correct.

Critical thinking plays an implicit part for teacher C, who says it is a natural part of the way s/he works, by selecting teaching material with critical thinking in mind. Presenting web pages and how to use them is one of the ways s/he applies critical thinking in classroom situations. Talking with the students about the reliability of sources is another method applied in class and s/he said that Wikipedia is one example that could foster such discussions. Lastly, s/he said that citing sources is a part of critical thinking that can come in focus in his/her EFL teaching. His/her students said that they occasionally write fact-based texts in English, when we asked about how critical thinking was relevant to their EFL lessons. They also said that they sometimes make oral presentations for which they have to search for information online, and that they look for sources that share the same information to find the most reliable page. SNL is their recommended web page for information, while they elicit their doubts towards Wikipedia as everyone has the potential to edit content. Lastly, they highlight cross checking information as a common method they use in their EFL classes.

Teacher D started by highlighting that s/he does not state explicitly that they are going to work on critical thinking, and thus favoring an implicit approach. The teacher stated that critical thinking is seen as a part of the tasks the students are given, where certain criteria are set regarding the use of sources and information found online. The students brought forward that they sometimes speak about being critical of some online sources before they start on their tasks. They stated that they prefer when they are told what sites to use and which to avoid, as this means that the source of information is safe. Further, the students explained that when they encounter claims that sound false, they often try to find other sources making a similar claim. The same procedure of comparing sources is done when they research topics that they have little knowledge of beforehand.

The thematic comparison revealed internal variations regarding the experiences with critical thinking as a practiced phenomenon in the EFL classroom. In terms of coherence, we found that teacher-student group A gave the most similar responses as to their experience with critical thinking. This was evident in the way the teacher explained critical thinking as a topic of conversation relates to task production. Both parties said that it was implemented implicitly or as a natural part of classroom discourse and consistently as a standard of source criterion in tasks. In terms of the widest gap between experiences from the two parties, teacher-student group B stood out. While the teacher highlighted conversations about the news as a way to reflect upon critical thinking, the students said that they were given the news rather than conversing/discussing them or their sources. Group C had shared experiences, with some minor

differences. The teacher holds that his/her choice of teaching material is based upon critical thinking, and that the preferred way is to exemplify potentially unreliable pages such as Wikipedia to elicit a response from students, a point that was recognized by his/her students. Cross-checking information is a student perspective that did not come forth as a method applied by the teacher. Lastly, teacher-student group D had both similarities and differences. The teacher held that an implicit focus on critical thinking implies criteria related to tasks that demands online searches for information, a statement that resonates with the views of the students. On another point, the students in this group held that source comparison is a common practice, a view that is exclusive to the students.

It should be noted that the interviews were not conducted with a comparison of this manner in mind. The coherence or gap found between teachers and students answers for the themes explained in sections 4.1.4 and 4.2.2 can therefore not be said to be a fully supported claim. However, we see it as an interesting pattern that some teachers and students explained the classroom activities and focus on critical thinking in a coherent manner, while other teachers and students showed less coherence. In hindsight, we believe a more appropriate method for this kind of comparison would include the teachers' response to their students' experiences.

5 Discussion

In our discussion, we will highlight two points that were prompted by the test of concepts when we analyzed the concept context-sensitive teaching of critical thinking. The test of concepts revealed that context-sensitive teaching of critical thinking summarizes how the term critical thinking is understood and implemented in the EFL teaching practice of our informants. Critical thinking is itself a term that is sensitive to the situation it is practiced in. This becomes clear from our interviews, as it is understood as a crucial part of processing information found online expressed in English, but the term suffers inconsistent definitions when it is discussed outside of this context. The concepts' value of generalization is difficult to assess. Although it is supported by the findings from Moore's study (2013), we have to consider that other schools may have conventions for how one can work with critical thinking. However, it is rather unlikely because the new focus on critical thinking in LK20 has not been implemented yet. The concept is specific enough to describe the findings from this study, but without similar studies in this setting it is not at all clear whether one can assume that it is descriptive on a more general level. Nevertheless, if we think about the implications of teaching important terms like critical thinking solely based on contextual cues, there are several interesting questions that could be posed; To what extent can we expect teachers to understand abstract terms like critical thinking without a unified definition? Is there a meaningful way to incorporate critical thinking into the digital skills that students must acquire as a basic skill, or is information literacy a better suited term?

5.1 Institutional meta-language

The language that is used in policy documents for the education in Norway is susceptible to ambiguity. From a top-down perspective, education is an institutional part of society and the way words are chosen and explained on a policy level meet what Sefton-Green et al. (2009, p. 117) characterizes as "institutional barriers" on the way to the school level. These meta-linguistic descriptions are in effect the basis for how educators should understand terminology, but they may be understood very differently on the two sides of such barriers. For subjects that have concise language about specific phenomena, meta-language is less susceptible to potential ambiguity, e.g. photosynthesis in science is a direct representation of a fundamental biological process. In comparison, critical thinking is a term that is used profusely and with many variations across disciplines (Dewey, 1910, p. 2; Moore, 2013, p. 506). As highlighted by our concept, *context-sensitive teaching of critical thinking*, teachers rely on their ability to act upon contextual cues that can spark conversations on critical thinking. Furthermore, critical thinking

was explained with different attributes by our informants, although on somewhat similar terms when we asked about its relevance to students' information processing online. In this regard, we concur with Moore's (2013, p. 519) assertion that critical thinking is a *polysemous* word, which means it can have multiple meanings depending on the context it is used in.

The questions that follow should address how polysemous terms like critical thinking should be defined in the curriculum. Highlighted in section 2.2, the emergence of critical thinking and its relation to technology took on a gradual development. Previous curricula defined critical thinking separately from the learning outcomes in the English subject. The introduction of the knowledge promotion (LK06) placed the concept of critical thinking within digital skills, one of the five basic skills to be addressed in all subjects. However, in the competence aims for the English subject, critical thinking was not mentioned explicitly, but introduced characteristics like "information processing". The teachers in this study have been using LK06 as their guiding document for many years, and from our interviews we found that their major concerns related to the technical use of digital technology in the classroom. From theory, we know that digital literacy describes a technological understanding equivalent to digital skills. Both Buckingham (2006) and Gilster (1997) promote the literacy term to highlight that a technical know-how of digital technology is insufficient to be digitally proficient in a technologically infused society.

Furthermore, our interviews revealed that the teachers' understanding of critical thinking resembled the term information literacy, but only teacher C highlighted the connection between the two terms as grounded by Lokse et al. (2017). The question that remains, is which of these terms that are best suited to incorporate critical thinking, or whether it should be defined independently. The latter alternative is found in LK20: "Critical and scientific thinking means applying reason in an inquisitive and systematic way when working with specific practical challenges, phenomena, expressions and forms of knowledge." (UDIR, 2017a, p. 6). Even though it is defined separately, it highlights that it is relevant to specific areas of knowledge as promoted by McPeck (2016) and the findings from Moore's (2013) study. Alternatively, the exact position or definition of critical thinking may not be the most important aspect, as researchers Ferguson and Krange (2020, p. 202) promotes that a fundamental part of developing critical thinking skills in primary school depends on the pedagogical space teachers have to discuss the meaning of the term. This space to locally define the term is in agreement with our finding, that the term is contextually sensitive, as the teachers articulated the most coherent answers when we talked about critical thinking as finding and processing information from online sources.

5.2 Teaching and learning critical thinking

The interviews with the students revealed that they are told to use certain safe websites when conducting information searches online, while the teachers themselves did not necessarily highlight this aspect of their approach to critical thinking. Taking the perspective of the students, where they are being told what sites to use and not, this might impede the development of independent critical thinking skills. If we consider Dewey's (1910, p. 14) definition of uncritical thinking "if the suggestion that occurs is at once accepted, we have uncritical thinking, the minimum of reflection.", merely providing students with sources to use might favor uncritical thinking over critical thinking. This way, the students are not required to reflect upon the validity and trustworthiness of the content from the sources, but simply trust the information based on the critical reflections their teacher has already done for them. However, our thematic comparison in section 4.2.5 reveals that teachers and student groups have shared experiences of the conversations that take place in task production that requires information assembly. These conversations between teachers and students might reflect upon the use of certain sources as a group rather than relying on all students making their own individual reflections. It is reasonable to assume that a collective reflection is easier for students and teachers alike, because individual differences in such thought processes may vary significantly. Nevertheless, we have to consider that each student shall reach the competence aims after their 10th year, for LK06: "select different digital resources and other aids and use them in an independent manner in own language learning.". And for LK20: "Use sources in a critical and accountable way.". In words like "independent" and "critical" we find intellectually demanding thought processes, and their demanding nature is supported by statistics from the Norwegian media authority, revealing that 21% of 16-20-year old's are ranked as having low critical media understanding (Medietilsynet, 2019, p. 69). Even though thinking critically is shown to be a difficult process for adolescents, most of the students in our study deems critical thinking as important in today's society. The mean score on a scale from 1-5 for the twelve students revealed that critical thinking was weighted as a 4, thus being quite important. Whether or not they actually hold the necessary skills and competencies is difficult to say. Nevertheless, they have an understanding of critical thinking as being skeptic towards information that they encounter.

The development of such competencies must be seen in a wider perspective than the particular moment in which this research was conducted. A point that was highlighted by teacher C: "In a lower secondary perspective, these things are goals we work to achieve, and of course we

talk to our 8th graders too, but not to the same extent as those in 10th grade.". Furthermore, s/he stated that unsupervised use of digital media can lead to cyberbullying and that to prevent this s/he said that: "Teachers and students must learn to use media critically much earlier, although it is difficult for young learners to grasp critical thinking, it should be a part of education already from primary school." As for the individual differences between students in a class, teacher A stated that "the students are at very different levels of maturity in lower secondary school" in reference to the students' conception of source evaluation as an important part of learning. These citations highlight a long-term development of critical thinking that is supported by Fox' (1994, p. 145) "voice" that develops throughout one's lifetime, a definition we previously compared to teacher B's more generalized understanding of the term. Thus, some our informants relate the ability to think critically in a developmental perspective.

Our findings revealed that critical thinking is a term that has an implicit role in the EFL practice of our informants. The meaning of critical thinking is very much contextually dependent, as the term shared an important place for our teachers, but only when instructing classes using online sources. Statistics from *Monitor 2019* show that our informants' emphasis on critical thinking as a significant part of education is shared among other teachers, as more than 70% of the teachers participating put "some or strong emphasis" on developing the students competence of evaluating sources, as well as to teach students to explore several sources online (Fjørtoft et al., 2019, p. 80). The relevance of these skills is undisputed, however, if we problematize an implicit approach to teaching critical thinking, an immediate concern relates to whether critical thinking is actually nurtured if it remains as a latent part of EFL education.

Is it enough to engage students in conversations about source evaluation to nurture critical thinking? A study done in a Colombian EFL setting suggests so. Pineda-Báez (2009, p. 75) found, among other things, that teacher-feedback centered around thought-provoking questions and statements were essential for allowing EFL-students to engage in critical thinking. This finding is supported by Børresen, a professor emerita with 20 years' experience with philosophical conversations with children in Norwegian school settings. Børresen (2020, p. 83) holds that such conversations should seek to go deeper into problems, not necessarily arriving at a correct answer instantly, but rather stimulate students to elicit their own ideas, knowledge and experiences to promote potential solutions. This method appears to be the preferred method for implementing critical thinking in EFL education among our informants, but without observational data it is difficult to say how these conversations take place and whether they stimulate students' deeper thought processes.

An implicit approach to teaching critical thinking may be a way for students to "learn how to learn". The meta-perspective to learning as promoted by UDIR (2017a) holds that "deeper insight is developed when the pupils understand relationships between fields of knowledge and when they master a variety of strategies to acquire, share and use knowledge critically". As we pointed out in section 2.2.3, these meta-cognitive skills are also central to information literacy as promoted by Lokse et al. (2017). However, one of the interviewed student groups showed impressive reflection when they said that they transfer knowledge about critical thinking from the Norwegian subject to other subjects: "…but in a way, we have learned a lot of this [critical thinking] in the Norwegian subject, and it spreads across all subjects anyway.". This statement challenges the view held by McPeck (2016), that critical thinking is a subject-specific skill. Another student from the same group found even wider implications for the ability to think critically "especially in a politically active society, it is important for the representative democracy to pay attention so one can vote accordingly, when it is election time there are a lot of news one has to think critically about, it is imperative that one can do that.". From such reflective statements, these students showcase that they can discuss critical thinking explicitly and draw parallels from subjects to societal implications.

The student interviews revealed how students differentiate between their digital media exposure in and outside of school. Outside of school, the most common answer among the 12 students showed that they mostly used their smartphones to connect to various social media platforms. The use of PC was exclusively tied to school activities either as homework or task production in class, except for a few mentions of using the PC for gaming purposes. We assume that this means that their practice of digital technology outside and inside of school is vastly different. This might be problematic, as Blikstad-Balas (2015, pp. 134-135) points towards students in higher secondary having an established digital technology practice that they bring into school. The way students approach digital media, internet searches and critical evaluation outside of school might be transferred into educational settings in school. As highlighted by the concept digital disservice, this is a concern among the teachers we interviewed. This raises an important debate for the future of internet-based practices in school; to what extent should students be allowed to explore the internet for information freely? Blocking off school practices entirely from what Sundqvist (2019, p. 88) calls the digital wild, may be a step too far. Such a perspective is shared by Blikstad-Balas (2015) who highlights the need for proper guidance in students' online ventures: "It goes without saying that banning Internet activity will not contribute to developing students' literacy skills. What might need more explicit attention, is

that neither will allowing unlimited Internet access without any guidance or clear educational purpose." (p. 135). Allowing free roaming online to develop critical thinking skills is a point that is shared among teacher A and B. Teacher A said:

> If everything is to be centered around a package [digital workspace and textbooks] you receive, the students' ability to learn and explore becomes very limited. Using only these packages, they are never going to learn digital skills, which is gathering information, using the information correctly to write tasks.

The opportunities provided by the internet was also an important aspect for teacher B, who said: "…the internet provides many opportunities to develop both language skills and abilities to gather information, where one needs to have a certain skepticism to what is learnt, and believe that this may not be the truth in its entirety.". The viewpoints held by these teachers are supported by Ferguson and Krange (2020, p. 202), who highlights the importance of exposure to different types of information and the following evaluation of its origin.

To summarize, students use of digital media inside as opposed to outside school have very different properties, and it may be of considerable concern if their digital habits do not receive proper guidance. Such guidance may lie a place between complete enclosure and free access to the internet, a theme that is likely to draw more attention in the coming years.

6 Conclusion

Our research has sought to answer how EFL teachers understand critical thinking and how they act upon this understanding when teaching English to their students. In addition, the research project looked towards the students, investigating how they experience their teachers' practice when working with critical thinking in the EFL classroom.

Critical thinking is a meaningful term for all the English teachers interviewed in this project. The term has solidified its place in national policy documents, lawfully in The Education Act, and more recently as a desired skill in the digitalization plan, the current understanding of "learning to learn" and in the core curriculum of the subject renewal LK20. From its position in the core curriculum, critical thinking is reflected in some of the competence aims in the English subject. Finding and evaluating information through online searching using different digital resources is seen as a central part of digital skills in the curriculum. The interviews revealed that teachers put a strong emphasis on critical thinking as an integral part of evaluating digital information, which more often than not is found in English. We believe their understandings of the term show a strong resemblance to the term information literacy.

The concept *context-sensitive teaching of critical thinking* summarizes how teachers conceive critical thinking and how they implement it in their EFL classes. The teachers in this study articulated similar and precise descriptions of what critical thinking means to them, but only when the term was discussed in the context of internet searching and source evaluation. In classroom situations, critical thinking was taught in an implicit manner, presenting itself as relevant to the criteria of tasks and as conversations triggered by cues identified by the teachers.

We found that the student groups experienced critical thinking as a term that is incorporated into the criteria of written and oral tasks as source evaluation. In likeness with the teachers' experience, this focus is of an implicit nature. The typical criteria for these tasks held that students must remember to include a specific number of sources as a minimum and to "check" their sources. The students report that they often are given sources which the teacher deem as reliable. If they compare information in such tasks, the most prominent answer included two sources in particular, Wikipedia and SNL. SNL is clearly the favored source for reliable information, while Wikipedia is deemed as an unreliable source by most of the students because they are aware that anyone can edit information on this site. The thematic comparison in 4.2.5 revealed that the conversations about critical thinking in the form of source evaluation is in fact the most common method applied by the teachers to address critical thinking in the EFL

classroom. The students recognize that critical thinking is an important term for their EFL education, as their ranking of its importance show a score of 4/5 on average. Their understanding of the need for critical thinking is grounded in the fact that they are exposed to such large amounts of information daily, where thinking critically about the information they are exposed to involves being skeptical.

6.1 Practical implications

The institutional meta-language in policy documents can be susceptible to ambiguity, especially with polysemous words or phrases like critical thinking. Our findings suggest that critical thinking is term that is defined best in the specific context it is used in at any given time. This implies that even though information literacy was found to incorporate the most coherent descriptions of critical thinking, we cannot see that information literacy should be adopted into policy documents, as it would more likely than not lead to more confusion and definitional problems. We would advocate a stronger link between critical thinking and digital skills with subject-specific acquisition processes. For the English subject, one such task could highlight *how* one can discriminate between reliable and unreliable information, and preferably with more examples than two webpages. Thus, one may define the term based on the actions/specific teaching methods that may follow critical thinking in the EFL classroom, not on some generic account from a top-down perspective.

National policy documents, the teachers and the students in this study all agree that critical thinking is a desired skill. In the English subject, it is realized as a part of information processing, particularly in the intersection between ICTs, English as a digital lingua franca and students' online exploration. Teaching critical thinking as a subject-specific skill can thus be seen as something that ties these areas together. An implicit approach was favored by our informants, as they implemented criteria for sources and initiated conversations about the topic in class. We acknowledge the developmental view held by our informants, critical thinking cannot be said to be achieved in a single year, much less in a single lesson. An implicit approach may thus be a logical way to incorporate critical thinking over time. However, we would recommend teachers to try to use the term and discuss its meaning for the English subject. Our student group interviews revealed that many students have profound insights to share, both on debates relating to fake news, and even the societal implications of thinking critically about information.

Lastly, we take into consideration the thoughts our informants shared on the coming national curriculum LK20 and the debate on internet access as a learning resource. The open dimensions of action in the new competence aims were positively received among our informants. To address students' digital skills, one must acknowledge that students have very refined vernacular practices outside school that can be transferred into the classroom. Should we then make a digital border for our students, and restrict their free use of the internet to gain a more controlled atmosphere of online exploration? We recognize the difficulty in monitoring students' online ventures. Nevertheless, we would argue that one can avoid digital disservice with proper training of teachers, it would be a great loss to EFL education and education in general if we were to discourage all internet activity within the school's border. As some of our informants point out, this freedom of online exploration can be crucial to attain a perspective of the spectrum of information, and in turn foster critical thinking skills by assessing content and using it in new, creative ways. In light of the principle called "learning to learn" as presented by UDIR (2017a) and Lokse et al (2017); critical thinking and learning strategies are deeply rooted to the students' capability to reflect upon their own learning. It is reasonable to assume that such reflective processes necessitate the opportunity to experience both positive and negative examples of information assembly. Furthermore, a scenario where schools have completely abandoned free exploration of the internet could accentuate the divide between students' digital vernacular practices (Blikstad-Balas, 2015). Taking this into consideration, we will argue that critical thinking skills as digital judgement cannot be sufficiently stimulated by further investments in digital learning material designed to safeguard students from potential harm.

6.2 Recommendations for future research

This research project has highlighted how four teachers understand critical thinking as part of the EFL classroom and how they implement it into their teaching. When this research project was conducted, LK20 was not fully implemented, as teachers were only beginning to plan for its implementation to take place in the fall of 2020. Future research will be conducted after its implementation, where teachers might have new insight, knowledge and experiences of critical thinking in the EFL classroom.

We believe that it would be beneficial to conduct research on a larger scale with more participants and from different geographical locations with a focus on sourcing information on exemplified learning of critical thinking as a subject-specific skill to the EFL education for Norwegian students. We also suggest further research to focus on observations from EFL

classrooms to gain further knowledge of how teachers and students work with and approach critical thinking in EFL education. Such research might also outline the developmental steps of critical thinking in the English subject from primary school and through secondary school.

The scope of this research has merely touched upon some of the major issues that lies ahead for the frontier of EFL education, technology and critical thinking. In a wider perspective of education, the transferability of critical thinking is particularly interesting. If critical thinking skills from the English subject can nurture the same kind of thought processes in other subjects and outside of school borders, it may be a crucial life skill for ethical concerns relevant to a digitally surrounded society that demands awareness. Aptly put by students in group A, to think critically about information is an imperative part of a functioning democracy.

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Appendix 1: Interview guide – Teachers

Oppstart

- Presentasjon av oss
- Om prosjektet: hva handler det om og hvilke typer spørsmål
  - Formål: ikke kartlegge enkeltlæreres kompetanse, men samle virkelighetsbeskrivelser fra folk i feltet – gjerne svar så ærlig du kan
- Hvordan vi kommer til å bruke lydopptak
- Hva det innebærer å være med + hvordan svarene anonymiseres
- Informere om rett til å trekke seg fra intervjuet når som helst
- Hvis du ønsker kan du kontakte oss for å få innsikt i masteren, transkripsjonene og analysen før det trykkes
- Antyde tidsperspektiv på intervju: ca. 30 min

Intro

1. Hvor lenge har du undervist i engelsk?
2. Hvilke trinn underviser du på nå?
3. Hvor mange studiepoeng har du i engelsk?

Bekymringer ved bruk av IKT

4. Har du noen bekymringer med tanke på bruk av IKT i engelskundervisningen?
   a. *(Hvis utrykt bekymring av informant)* Hvordan går du frem for å møte disse bekymringene?
   b. (*Hvis definisjonen anvendes*) Hvordan kan man arbeide for å dyrke kritisk tenkning hos elevene?

IKT og digitale ferdigheter i Engelsk

5. Hvilken rolle mener du digitale ferdigheter som grunnleggende ferdighet har i engelskfaget?
6. Hva slags tema og arbeidsmåter synes du det er naturlig og viktig å bringe inn?
   a. Hva krever dette av deg?
7. I hvor stor grad vektlegger du informasjonskompetanse som en digital ferdighet?
8. Hvordan bruker du internett i undervisningen?
   a. Hvordan tror du det vil bli brukt i fremtiden?
   b. Bekymringer?

Kritisk tenkning og Engelsk

9. Hvordan vil du forklare begrepet kritisk tenkning?
10. Anser du kritisk tenkning som en viktig del av informasjonskompetanse og digitale ferdigheter?
    a. Hvorfor? / Hvorfor ikke?
11. Hvordan vil du si du arbeider med kritisk tenking i engelskfaget?
    a. Implisitt?
    b. Eksplisitt?

Kritisk tenkning og digitale ferdigheter i LK20

12. Har du arbeidet spesifikt med engelskfaget i fagfornyelsen LK20?
    a. Har du lagt merke til noen endring i hvordan IKT er en del av engelskfaget

13. Hvordan ser du for deg at man kan jobbe med noen av de "nye" kompetansemålene som f.eks: Elevene skal kunne:

10.trinn

    1. "lese sakprosatekster og vurdere hvor pålitelige kildene er."
    2. "bruke kilder på en kritisk og etterrettelig måte.
    3. "Bruke <u>ulike digitale ressurser og andre hjelpemidler</u> i språklæring, tekstskaping og samhandling"
        i. Hvilke og hvilken rolle?

7. trinn

    1. bruke digitale ressurser og ulike ordbøker i språklæring, tekstskaping og samhandling
    2. samtale om ulike kilders pålitelighet, og velge kilder til eget bruk

Avslutning

1. Før vi avslutter dette intervjuet, er det noe mer du ønsker å snakke om? - Er det noe du vil presisere om svarene dine under intervjuet?
2. Har du noen spørsmål til oss om intervjuet eller prosjektet? - andre tilbakemeldinger du ønsker å gi?
3. Om vi har spørsmål angående tolkningen av intervjuet kan vi kontakte deg via e-post?

Takke informanten for deltakelsen i studiet.

Appendix 2: Interview guide – Students

Oppstart
- Presentasjon av oss
- Om prosjektet: hva handler det om og hvilke typer spørsmål
- Hvordan vi kommer til å bruke lydopptak
- Hva det innebærer å være med + hvordan svarene anonymiseres
- Informere om rett til å trekke seg fra intervjuet når som helst
- Rett til å se gjennom transkripsjoner og analyse før publikasjon
- Antyde tidsperspektiv på intervju: ca. 20 min

Intro:
1. Hvor gammel er dere og hvilken klasse går dere i?
2. På fritiden, hva brukere dere teknologi til?
    a. Hva vil dere si teknologi er i deres hverdag
3. Bruker dere mye engelsk på fritiden?
    a. Når brukere dere engelsk?

Generelt om digital teknologi og engelsk
1. Hvordan brukes teknologi i skoletimene?
    a. I Hvilke typer oppgaver må dere bruke teknologi?
    b. Liker dere å arbeide på denne måten?
2. Hvordan brukes teknologi i engelskundervisningen?
3. Hvordan verktøy (PC, iPad, mobiltelefon) bruker dere mest i engelsk?
    a. Er det noen av disse dere liker bedre enn andre?
    b. Kan dere bruke verktøy og enheter når dere vil i løpet av engelskundervisningen?
4. Lærer dere noe om teknologi/bruk av teknologi på skolen som dere ikke lærer på fritiden?
    a. Hva?

Generelt om kritisk tenkning og digitale ferdigheter?
1. Hva tenkere dere på når vi sier at man tenker kritisk?
    a. For eksempel: Har dere hørt om Fake News?
        i. Hva er det?
        ii. Hvordan avslører man dette?
        iii. Hvem må tenke kritisk/Når?
        iv. Hva med Click-bait, har dere hørt om det?
2. La oss si at dere skal skrive en fakta-tekst på engelsk ved å bruke PC og internett, hvordan skiller man mellom fleip eller fakta?
    a. Er dette noe dere har arbeidet med i engelsk tidligere?
    b. Har dere noen faste rutiner for hvordan dere søker etter informasjon på internett?
        i. Hvis ja: hvordan bruker dere denne informasjonen?
    c. Har dere noen faste rutiner for å sjekke om noe dere leser stemmer?
3 På en skala fra 1-5, hvor viktig vil dere si det er å kunne tenke kritisk i dagens samfunn? (1 er lite viktig, 5 er veldig viktig)
    a. Synes dere det er for my fokus, eller for lite fokus på dette i engelskundervisningen?
    b. Hvorfor / Hvorfor ikke?

Avslutning
1. Før vi avslutter dette intervjuet, er noe mer du ønsker å snakke om? - Er det noe du vil presisere om svarene dine under intervjuet?
2. Har du noen spørsmål til oss om intervjuet eller prosjektet? - andre tilbakemeldinger dere ønsker å gi?

Takke informantene for deltakelsen i studiet

NSD NORSK SENTER FOR FORSKNINGSDATA

NSD sin vurdering

Prosjekttittel

Kritisk tenking i engelskundervisning: En fagdidaktisk master i Engelsk

Referansenummer

725267

Registrert

20.01.2020 av Elias Stenersen - est092@post.uit.no

Behandlingsansvarlig institusjon

UIT – Norges Arktiske Universitet / Fakultet for humaniora, samfunnsvitenskap og lærerutdanning / Institutt for lærerutdanning og pedagogikk

Prosjektansvarlig (vitenskapelig ansatt/veileder eller stipendiat)

Hilde Brox, hilde.brox@uit.no, tlf: 77660507

Type prosjekt

Studentprosjekt, masterstudium

Kontaktinformasjon, student

Elias Stenersen, Est092@uit.no, tlf: 41760138

Prosjektperiode

20.01.2020 - 13.05.2020

Status

18.05.2020 – Avsluttet

Vurdering (1)

_____

07.02.2020 - Vurdert

Det er vår vurdering at behandlingen av personopplysninger i prosjektet vil være i samsvar med personvernlovgivningen så fremt den gjennomføres i tråd med det som er dokumentert i meldeskjemaet den 07.02.2020 med vedlegg, samt i meldingsdialogen mellom innmelder og NSD. Behandlingen kan starte.

MELD VESENTLIGE ENDRINGER

Dersom det skjer vesentlige endringer i behandlingen av personopplysninger, kan det være nødvendig å melde dette til NSD ved å oppdatere meldeskjemaet. Før du melder inn en endring, oppfordrer vi deg til å lese om hvilke type endringer det er nødvendig å melde:
https://nsd.no/personvernombud/meld_prosjekt/meld_endringer.html

Du må vente på svar fra NSD før endringen gjennomføres.

TYPE OPPLYSNINGER OG VARIGHET

Prosjektet vil behandle alminnelige kategorier av personopplysninger frem til 13.05.2020.

LOVLIG GRUNNLAG

Utvalg 1 består av grunnskolelærere og utvalg 2 består av grunnskoleelever (10-15 år). Prosjektet vil innhente samtykke til behandlingen av personopplysninger. Foresatte vil samtykke til behandlingen av personopplysninger om sine barn som deltar i prosjektet.

Vår vurdering er at prosjektet legger opp til et samtykke i samsvar med kravene i art. 4 og 7, ved at det er en frivillig, spesifikk, informert og utvetydig bekreftelse som kan dokumenteres, og som den registrerte kan trekke tilbake.

Lovlig grunnlag for behandlingen av personopplysninger om utvalg 1 vil være den registrertes samtykke, jf. personvernforordningen art. 6 nr. 1 bokstav a.

Lovlig grunnlag for behandlingen av personopplysninger om utvalg 2 vil være foresattes samtykke, jf. personvernforordningen art. 6 nr. 1 bokstav a.

TAUSHETPLIKT

Vi minner om at lærere har taushetsplikt og at de ikke kan snakke om enkeltelever på en identifiserende måte under intervju. Dere har et felles ansvar for at det ikke kommer frem taushetsbelagte opplysninger under intervjuet.

PERSONVERNPRINSIPPER

NSD vurderer at den planlagte behandlingen av personopplysninger vil følge prinsippene i personvernforordningen om:

- lovlighet, rettferdighet og åpenhet (art. 5.1 a), ved at de registrerte får tilfredsstillende informasjon om og samtykker til behandlingen

- formålsbegrensning (art. 5.1 b), ved at personopplysninger samles inn for spesifikke, uttrykkelig angitte og berettigede formål, og ikke viderebehandles til nye uforenlige formål

- dataminimering (art. 5.1 c), ved at det kun behandles opplysninger som er adekvate, relevante og nødvendige for formålet med prosjektet

- lagringsbegrensning (art. 5.1 e), ved at personopplysningene ikke lagres lengre enn nødvendig for å oppfylle formålet

DE REGISTRERTES RETTIGHETER

Så lenge de registrerte kan identifiseres i datamaterialet vil de ha følgende rettigheter: åpenhet (art. 12), informasjon (art. 13), innsyn (art. 15), retting (art. 16), sletting (art. 17), begrensning (art. 18), underretning

(art. 19), dataportabilitet (art. 20).

NSD vurderer at informasjonen som de registrerte og foresatte vil motta oppfyller lovens krav til form og innhold, jf. art. 12.1 og art. 13.

Vi minner om at hvis en registrert/foresatt tar kontakt om sine/barnets rettigheter, har behandlingsansvarlig institusjon plikt til å svare innen en måned.

FØLG DIN INSTITUSJONS RETNINGSLINJER

NSD legger til grunn at behandlingen oppfyller kravene i personvernforordningen om riktighet (art. 5.1 d), integritet og konfidensialitet (art. 5.1. f) og sikkerhet (art. 32).

For å forsikre dere om at kravene oppfylles, må dere følge interne retningslinjer og eventuelt rådføre dere med behandlingsansvarlig institusjon.

OPPFØLGING AV PROSJEKTET

NSD vil følge opp ved planlagt avslutning for å avklare om behandlingen av personopplysningene er avsluttet.

Lykke til med prosjektet!

Kontaktperson hos NSD: Eva J B Payne

Tlf. Personverntjenester: 55 58 21 17 (tast 1)