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Digital Tools and Language Learning
Digitala verktyg och språkinlärning

Maj Badran

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Examiner: Anna Wärnsby
Supervisor: Björn Sundsmark
Preface

I would like to start by thanking the school in the X town, Norway, who gave me the opportunity to collect the empirical material for my thesis. Then I want to say a big thank you to my best friend, Martina Tinmark, who has helped me throughout all the sweat and tears during my thesis. I also want to thank my family and my boyfriend, Jan-Erik Mok Undseth (Janno Sinclair BuzzBazz), for always being there, and supporting me through thick and thin. I want to thank Anna Wärnsby for believing in me and supporting me, and for helping me to develop my English language skills from day one at Malmö Högskola. Without her help over the years, and the feedback I was given on my development in her courses, I would not have made it as far as I have today. Thank you, Anna, for everything you have done for me. I’m proud to say you were the best teacher I have ever had, and I’m proud that I was your student. Last but not least, I want to thank my supervisor, Björn Sundsmark, for everything he has done to help me with my project, from comments to feedback and opinions during the course of writing this thesis.

Maj Badran
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Abstract
The study focuses particularly on the effects digital tools may have on language learning for students with special needs. The qualitative empirical material was collected through interviews and observations in a Norwegian school. The observation involves four students from two school years (the first and the second students comes from year 8, and the third and fourth students comes from year 9). The data also comes from two different qualitative interviews with the headmaster of the same school. The main findings are that, digital tools are adapted for the majority of the students in the classroom by the school board. Students with disabilities, however, need more tools, and more support. Only the school board can change their own recommendations for the use of digital tools. A comparison between Norway’s and Sweden’s curriculum is also included, to contextualized the headmaster’s point of view upon the Norwegian curriculum when it comes to digital tools.

Keywords: Digital tools, dyslexia, Google, Information and Communication Technology (ICT), Norway, language learning, Sweden, qualitative interview.
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1. Introduction

Digital tools are a huge trend nowadays, used every day not just outside schools but inside the classroom. Their popularity encompasses everything from social media to websites, for example, Facebook, YouTube, and Google Apps for Education, and no doubt there are a lot more to come in the future. However, the digital tools being used to help students with their educational needs are regularly upgraded and updated to help the students keep track. Since the tools are now being incorporated into the classroom, a few questions arise: Who decides what is best for our students? How are the digital tools evaluated, analyzed and documented? Can digital tools be used for students with special needs? I have conducted a study in The X town, Norway, because the schools there have resources to help all students, including students with special needs, to develop further in their education. The school in the X town helped me understand how the schools work in terms of their choices of digital tools as well as the staff and students’ attitudes towards the tools.

As an English teacher in Sweden, we also need to learn more about other school systems than the Swedish school system. Looking at the Norwegian school system helps me as a teacher understand what changes we could make to better our students’ learning and their futures. All of our neighboring countries have a lot to offer, and I chose to observe and interview the staff, headmasters and students in Norway about how digital tools affect students’ learning in schools, and what evaluation programs they use to better their teaching in English.

Looking at the Swedish and the Norwegian curriculum shows similar context. However, Norway’s curriculum (2013) shows more details about ICT and digital competence for their learning competence in the curriculum, which Sweden still has not yet included. According to the Swedish National Agency of Education (2017-03-13) the government has decided to change the curriculum for the compulsory school, upper secondary school and the adult’s educations (universities and so on) to add more learning competence for all the subjects in schools. These competences will also include new working material aside from the existing ones. These new changes will add a new section to the competence section which is the digital competence. All
the new changes in the curriculum will begin in 1st of July 2017 and finish in 1st of July 2018. In addition, the new curriculum year 2018 will include digital tools as a part of the digital competence for the students and the teachers. The new section is to give the students and teachers better understandings for digitization in schools and how it influences the individual and society. Furthermore, the new competence will include strength for the students’ ability to use and understand the digital system and services. Also, so that the students and teachers can approach media and information in a critical and responsible manner. It is also about strengthening the students’ ability to solve problems and transforming ideas into action in a creative way using digital tools. However, the comparison between Sweden and Norway will be discussed later, in the upcoming sections. Learning about different perspectives when it comes to the use of digital tools in other countries than Sweden may lead to new learning opportunities for the Swedish school system, where we can consider new methods to use in the classroom.

This thesis focuses on the use of digital tools in the teaching of the subject of English in schools in the X town, Norway. I focus on how all students, and particularly the students with special needs, work with digital tools within the subject of English. The processes of word acquisition, vocabulary, reading, writing, listening, and problem-solving skills will be highlighted when discussing learning of English with digital tools.

1.1 The Swedish Curriculum

The Swedish National Agency of Education: The Curriculum for Compulsory School (2011) states in the section of “Rights and Obligations” that schools should help students practice and prepare for active participation in the life of society (pp. 10-11). By developing their abilities to take on personal responsibilities, and by taking part in the planning and evaluation of their daily teaching – being able to choose courses, subjects, themes and activities – students will develop their ability to exercise influence and take responsibility. As stated in the curriculum, in the fundamental values section:

Language, learning, and the development of a personal identity are all closely related. By providing a wealth of opportunities for discussion, reading and
writing, all students should be able to develop their ability to communicate and thus enhance confidence in their own language abilities. (Skolverket 2011, p.11).

This quote clearly proves that personal identity is related to communication skills through language abilities.

Furthermore, the Swedish curriculum (2011) has a more structured understanding of how things should be achieved in the classroom, and what students need to do for the aims and goals to be achieved. For instance, the Swedish curriculum introduces English more as a tool for human beings to use in the field, rather than introducing it in the way the Norwegians do in their curriculum. Moreover, the Swedish curriculum states (2011) that “Knowledge of English... increases the individual’s opportunities to participate in different social and cultural contexts, as well as in international studies and working life.” (p. 32). This indicates the focus on the practical application of the knowledge the students are expected to acquire in the English classroom. After this comes the purpose of learning the subject, connected with the given opportunities that are provided for the students to develop, then the core content is introduced by adding in all the years from years 1-9 in different sections. Each year is only described by checkpoints for the students, to make sure their English knowledge develops in certain areas of the subject of English. In the Swedish curriculum (2011) there are more specific sections for each skill, such as: content of communication, listening and reading (reception), and speaking, writing and discussing (production and interaction). In addition, the Swedish curriculum (2011) section for the knowledge requirements is not fully comprehensible neither to a teacher, or to a student, because of the chosen key words from the school board. Each key word can have several meanings to it, therefore, should some key words be more described into sentences rather than key words. Some things need to be described in even more depth for both the student and the teacher to understand them during teaching and learning in school.

The school I collected my empirical material from uses the Google Apps for Education as the main digital tool online for all the students in the school. However, some subjects use extra tools for students with special needs, or just for subjects that are in need of more programs to help the student make more progress in the classes they take. For example, in English, the students need
to use other programs than Google Apps for Education to work on their language acquisition and vocabulary intake. The books that are used by the English classes have online material to help the students work within their abilities.

1.2 The Norwegian curriculum in comparison with the Swedish curriculum

In Norway, the schools have a good partnership with the student’s home, in which the schools help the parents to be involved in students’ digital tools, in line with the Curriculum for Compulsory School (2011). The reason the partnership works between the school and the student’s home is because the school keeps the parents up to date with the digital tools that their students use at school, so that they can use them at home too. The parents need this education so that they can help their students use the program from home as well. The system is different in Sweden and Norway, but the school board in both countries decides on the programs the schools will use. The subject of English is introduced as a universal language in the Norwegian curriculum for English, where it is stated in detail what the subject contains and what will be introduced for the students in their education. The Norwegian curriculum (2013) points out that to succeed in a world where English is used as an international communication language, it is necessary for all schools to teach their students English, for the students to gain all the knowledge the subject has to offer so that they know how it is used in different contexts. The Norwegian curriculum (2013) suggests that the purpose of the school subject is for the teachers to give the students the opportunity to develop their vocabulary and skills. However, the subject of English also requires the student to develop their phonology, orthography, grammar and principles for sentences and text constructions, and to be able to adapt the English language to different topics and communication situations. The Norwegian curriculum (2013) states that English is both a tool and a way of gaining knowledge and personal insights. Schools start teaching English in the first year of primary school. One thing that the Norwegian curriculum (2013) do not have, compared to the Swedish curriculum (2011), is the knowledge requirements for the grading system and for each year. There is an assessment section, but nothing about the knowledge requirements.
2. Aim and research questions

2.1 The Aim

The purpose of my thesis is to investigate how and why digital tools affect students in schools. I focus in particular on students with special needs.

2.2 Research questions

1. What are the perceived language learning benefits, as well as the challenges, in using digital tools when teaching students with special needs?

2. What may a comparison between the Swedish and Norwegian curricula help us learn about the use of digital tools in the English classroom and how these tools may affect students with special needs in particular?
3. Theoretical Background

To understand how digital tools affect student’s education based on the usage of these tools in the classroom, I have studied a number of books, earlier work, scholarly articles and the OECD's comparison results between Norway and Sweden on this subject. I have used the authors’ research and conclusions to help me, and my reader, understand the subject better.

This thesis focuses on scholarly articles, earlier studies, and books about how teachers and schools evaluate the classroom tools, how the tools are used and for what purpose, what complications there are in using the tools for learning and teaching, and what the effect is on language-learning skills.

The earlier studies I have collected for this thesis are extensive regarding digital tools and how digital tools affect students, students with special needs, teachers and parents. I will present the material that involves the use of digital tools and English language learning, and how these tools are used by schools and teachers. I also selected studies on how the digital tools are evaluated before being incorporated into the school environment.

3.1 OECD: PISA results from 2015

The reason for this comparison between the two countries is to highlight the context for the reader and the differences of the school systems, curriculum and the PISA results. However, one cannot judge a country from a year of results from PISA, but since the results are new and efficient it makes them highlight my study’s research and makes my study’s frame much more visible.

According to the OECD’s international PISA tests (2015), Norway put in a good performance year 2015. The results show that Norway’s social equity in schools provides the students with a good education for all, regardless of their parents’ education or career. However, the PISA tests assess how the differences in education outcomes are associated with the social status of the
parents as well as looking at the performance gap between advantaged and disadvantaged students. It identifies students who perform well despite having disadvantaged backgrounds.

Table 1: OECD: PISA results 2015

<table>
<thead>
<tr>
<th></th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean score in PISA 2015</td>
</tr>
<tr>
<td>OECD average</td>
<td>493</td>
</tr>
<tr>
<td>Norway</td>
<td>513</td>
</tr>
<tr>
<td>Sweden</td>
<td>500</td>
</tr>
</tbody>
</table>

The PISA results show a difference in reading for Norway and Sweden. The results for average in reading is 493 points. Norway has a mean score in year 2015 of 513 points above average. Meanwhile, Sweden’s score is also above average with a mean score of 500 points. However, looking at the table one can see that the score with a three-year trend in score difference is above the OECD average score of -1. Norway gained a score difference of 5 points in the three-year trend, and Sweden gained 1 point score difference from Norway.

These results are still available to compare with other themes rather than just reading, although, I chose to focus on reading in the PSA results because my study involves reading. Regarding the table it shows how Sweden is doing well with their score in reading compared to years before 2015. Norway’s score shows 13 points more than Sweden, and to be fair they have a different school system from Sweden and as a teacher in Sweden, we should be able to learn how our neighboring countries work in their classrooms and what methods they use when teaching English to students. Therefore, Sweden should consider learning new teaching methods from Norway, considering their high score in reading in the OECD: PISA results from 2015.
3.2 Theoretical framework

The theoretical framework will be presenting the socio-cultural view on learning and interactionist theories. Furthermore, digital tools in school are more involved with sociocultural and interactional perspectives. These perspectives are central regarding how tools interact and associate with literacy, and language learning in schools, while also focusing on how knowledge is acquired through technological systems towards digital media and communication actions. Using literacy as a concept suggests that teachers’ usage of digital texts and digital tools can help readers understand the usage of digital tools and texts.

3.2.1 Socio-cultural view on learning

Vygotsky’s (1978) sociocultural theory of human learning describes learning as a social process, and the origination of human intelligence in society or culture. The major theme of Vygotsky’s theoretical framework is that social interaction plays a fundamental role in the development of cognition. Vygotsky points out that everything is learned on two levels. The first level is through interaction with others, and then integrated into the individual’s mental structure. The children's cultural development appears twice: first on the social level and secondly on the individual level such as between people and then inside the child. However, these levels apply equally to voluntary attention, to logical memory and to the formation of concepts. Vygotsky (1978, p. 57).

As for the second level in the sociocultural model it is limited to a ZPD and learning and development. The learning process and internal developmental processes that are able to operate only when the child is interacting with people in his/her environment and in cooperation with his/her peers. Meanwhile, learning can lead to development as pedagogy creates learning processes that can lead to development and this sequence results in ZPD. The concept describes how a child that cannot accomplishes a task alone, but only with a more skilled person. Vygotsky (1978) describes learning as a social process, and the process is the origination of human intelligence in society or culture. The major theme is that social interaction plays a fundamental role in the development of cognition.
3.2.2 Interactionist theories

According to Vygotsky (1978) language learning is a social experience, because it observes how a child’s innate ability and their outer environment interact with their drive to connect to others and their surroundings. This means that a child learns best when interacting with those around him to solve a problem, because first a child observes what the adults are doing, and then later develops the ability themselves. Same goes for language, the children listen to the adults talking and eventually the child learns how to respond in turn. Another theoretical developer aside from Vygotsky is Bruner (1978) discovers the learning theory. Bruner (1978) argues that whether learners are adults or children, they learn best when discovering knowledge for themselves. Bruner (1978) mention that an adult and an infant have conversations despite the child being unable to speak. That is when the learners build a language structure from interaction with others. Meanwhile, Vygotsky (1978) points out that learning English as a second language, makes the student an infant, because they cannot communicate with the teacher except through non-verbal communication. Therefore, it is up to the teacher to act as the adult in the infant-adult relationship, because he or she is responsible for leading all interaction at first, and as the student becomes more familiar with the English language and is able to communicate. Which means that the control of the interaction can make the students take more control of their own language learning. Also, if students are encouraged to experiment with the language and learn that it is okay to make mistakes, they will be able to discover for themselves how to combine words and phrases to form full sentences and dialogues.

3.3 Digital tools

The evaluation of digital tools for the classroom is based on the recommendations from the government and the school board. In the chosen digital tool for this study as mentioned before is Google Apps for Education. This digital tool is also an online software which contains more tools within. According to the website Google for Education (edu.google.com) for this tool contains tools such as: Gmail (Google mail), Google Drive, Google Docs, Google Classroom,
Google slides, Google Forms, Google Calendar, Google Sheets, and Google Vault. All of these services are provided 15 gigabytes of storage space that is shared. For example, if you have 10 gigabytes of files on your Drive you only have 5 gigabytes left for all the other services. Gmail is a free web-based e-mail service that provides users storage for electronical messages, and provides the ability to search for specific messages. Gmail can be accessed through the mobile/tablet apps for iOS and Android. Google Drive is a file storage and synchronization service developed by Google, that allows users to store files in the cloud, synchronize files across devices, and share files. Google Docs is a free web-based application in which documents and spreadsheets can be created, edited and stored online. Files can be accessed from any computer/tablet/mobile with internet connection and a full-featured web-browser. Google Docs is compatible with most presentation software and word processor applications. Google Classroom is a mission control for students and teachers. One can create classes, distribute assignments, send feedback and assessment, but also make it easier for students and teachers to connect outside and inside of schools. Students can see assignments on the work page in Google Classroom, in class stream, or on the class calendar. All class material is automatically filed into Google Drive folders. Google Slides is a presentation editor in Google Docs and Google Drive productivity suite. Google Slides is an online presentations app that allows you to show off your work in a visual way. Google Forms let you plan events, make a survey or poll, give students a quiz, or collect other information in an easy, streamlined way. One can create forms from Google Drive of from an existing spreadsheet that record the responses to the newly created form. Google Calendar is a time-management and scheduling calendar service developed by Google. It became available on the web and as mobile/tablet apps for the Android and iOS operating systems. Google Sheets is a web-based application that allows users to create, update and modify spreadsheets and share the data live online. The Ajax-based program is compatible with Microsoft Excel. Spreadsheets can also be saved as HTML files. Google Vault lets you retain, hold, search, and export data to support your organization’s archiving and eDiscovery needs. Vault supports: Email messages. Google Sites makes it easier to create and publish internal team sites, project sites, event sites, or other internal sites. No technical skills are required and you can collaborate with others to create and refine sites, just like other Google Docs. These digital tools are used by the iPad device in schools, however, iPads are a physical hardware tool used for these mentioned software apps above from Google Apps for Education. The iPad is easy to move
around and to use everywhere the student and teacher wishes for, therefore, the school choose to use the *iPad* over a laptop because they are functional for apps and softwares.

According to Lundh and Thomasson (2013), technical development has accelerated a lot in our schools, mostly toward digital tools and digital texts. Since the students are already highly connected to the new technology in their free time, efficient education providers should understand that the students are already exposed to the digital world, Lundh and Thomasson suggest (2013). Thanks to this new technology – smartphones, computers, and tablets – digital writing and digital texts have become more of an everyday thing for students and teachers alike. However, teachers’ perceptions and use of digital texts and tools affect their knowledge, experience, interests and identity. Lundh and Thomasson (2013) suggest that every teacher should be able to have an in-service education regarding digital to be able to use the tools properly in their classrooms when teaching their students. Meanwhile, Eriksson and Olsson (2015) mention that most of the implications digital tools offer on information and it is consequences, and also their physical possibilities, are limited by the school boards. They suggest that a teacher cannot change or add tools in their classrooms. Furthermore, Eriksson and Olsson (2015) argues that diversifying teaching and learning methods makes it easier to also include digital tools and texts in the classroom teaching. The majority of the problems with digital tools that face a teacher involve technical challenges, which complicates planning. Lundh and Thomasson (2013) suggest that technical problems can take some time to deal with; therefore, each and every teacher should be given an opportunity for an in-service education on the chosen digital tool that their school decides upon.

### 3.4 The effect of digital tools on language learning

Digital tools challenges students to write more formal assignments rather than informal. Digital tools educate students about issues such as plagiarism and fair use. Digital tools encourage students to be more creative and show more personal expressions. According to Purcell, Buchanan and Friedrich (2013) points out that technologies today makes students use: poor spelling and grammar. Furthermore, today’s technology makes it easier for students to shape and
improve students writing. However, it can be difficult depending on the student’s abilities and disabilities, but sometimes it makes no impact on the students if they choose to not show any impact or interests. Digital technologies provide students with many opportunities to practice writing through participation. Mobile technologies allow one to write, capture, edit and publish while on the go, anytime and anywhere. Writing is no longer limited or restricted to time or location. According to Purcell, Buchanan and Friedrich (2013) argue that digital tools make writing more meaningful and less intimidating for many students. Middle school teachers worry that their students are losing the ability to develop, organize and express complex thoughts (p.24). However, many middle school teachers and high school teachers acknowledge that students struggle more when writing in public learning environments. In addition, Purcell, Buchanan and Friedrich (2013) point out that English teachers acknowledge that students are more likely to make shortcuts with digital tools when writing, and use poor spelling or grammar when writing fast and careless.

Nowadays, iPads are often an integral part of the classroom. Eriksson and Olsson (2015) argue that this digital tool is counted as part of the digital toolbox that the teacher uses to teach in the classroom. However, Jönsson and Gjedde (2009) explain that the teachers use digital tools to support their teaching in the classrooms because the work often involves social networking, and mobility for the students allows collaboration between whoever is using the iPads. This means that instead of the students learning from their technologies, they are learning with it. Jönsson and Gjedde (2009) states that “…people employ different strategies for learning, and that these strategies relate to internal strengths and capabilities…” (p. 6). Moreover, they argue that teachers invest their time and efforts to master new technologies all the time, so that they can extend the scope of the new technologies they use in their classrooms to improve the learning environment. Jönsson and Gjedde (2009) mention that using digital tools affects language learning differently depending on the how students use the tools. Since school system is responsible for providing students with skills, knowledge and confidence in the language, it is necessary to examine whether the chosen digital tools for their language learning are effective or not. Take for example Google Apps for Education and the software tools within this tool. This effectiveness depends partly on the students’ social economical background, according to Jönsson and Gjedde (2009). According to Heinz (2016) socio-economic backgrounds from
student’s families often measure as a combination of education, occupation and income. This measure is seen as the social standing, group, or class of an individual, in this case the student’s in the school do influence their motivation on digital tools. In addition, Heinz (2016) points out that students with lower socio-economic backgrounds have more access to digital media than middle class students. However, students that comes from lower socio-economic background seem to be at a disadvantage. It is because low-achieving students often need additional structure and support, so that students from higher socio-economic backgrounds perform easily in learning situations, when using digital tools. Moreover, online learning apps can be adapted to each student’s prior knowledge and provide immediate individual feedback, which should have a positive impact on learning achievements and motivations.

Whenever teachers use texts in their teaching and learning, it affects the student’s normal language because the texts include words that are not involved in their normal language. Niemann, (2016) agrees with this point, and mentions that reading is beneficial for the students, and argues that the students’ reading skills are affected by how much screen time students give to their technologies in schools. Niemann, (2016) concludes that educators and parents should support the students’ screen-time restrictions, and should help the students to have less screen-time and spend more time with real books from the library instead. According to Greener and Wakefield (2015), there is still a disagreement on the role of digital tools inside modern classrooms, but this is due to the lack of knowledge surrounding their potential purpose. Furthermore, is it not enough to integrate mobile technology within teaching and learning, but there must be a focus on pedagogy and relevance for teaching staff to engage fully with the new technology in schools.

3.5 Students with special needs

There are several disabilities found in schools today, here are some: ADD/ADHD, Autism/Aspergers, Developmental Delays, Down Syndrome, Dyslexia, Emotional/Behavior Disorders, Learning Disabilities, Mental Retardation, Neurological Disabilities, Seizure Disorder, and Visual Impairment. These disabilities are seen in schools, but in my study, I have limited my research to only focus on Dyslexia and ADD/ADHD.
The definition of ADHD/ADD is Attention Deficit Hyperactive Disorder. Each word in that definition has different meanings. According to Armstrong (Teach-nology.com) explains that Attention is when a student wanders of tasks, has lacks of persistence, difficulties to focus in general, and is disorganized. Furthermore, Armstrong (Teach-nology.com) further explains that Hyperactive is when a student seems to move constantly, including in an inappropriate situation. Lastly, Impulsivity is when a student makes hasty actions without thinking about them first, which can have high potential of harm. ADHD/ADD affects 3% -5% of school’s student, with two students in every class. Furthermore, is it important that teachers and parents cooperate and develops intervention and prevention skills for both affected and not affected students at early age. That is to give the not affected students a learning environment free from disruption.

Armstrong (Teach-nology.com) points out that ADHD/ADD students have difficulties sitting still, paying attention and concentrating on classwork in front of them, but they can learn coping skills that serve them well at early age as in the elementary level. These students can learn to cope with their disabilities at young age and succeed in junior and high school. According to the National Institute of Mental Health (2016) students with ADD can be calm and serene, not in the least hyperactive or disruptive. Furthermore, dyslexia are a type of learning disability that alters the way the brain processes written material, causing reading, writing, and/or spelling to become a challenge. However, Armstrong (Teach-nology.com) points out that Dyslexia is different from person to person, were most students have average to above average intelligence, and a reading level significantly low for their age. Moreover, Dyslexia is a part of learning disabilities that makes students unable to read, which affects the students study skills, such as: oral, reading, and social skills. In addition, the National Institute of Mental Health (2016) states that Learning disabilities can teach students effective learning strategies, which will help them adjust to mainstream classroom activities. A student that is trying to learn becomes frustrated in the face of repeated failure, it may lead to low-self-esteem and bad behavior, which can affect their social interactions.

Furthermore, Armstrong (Teach-nology.com) mentions that students with special need are often considered disabled in one way or another. However, a student with mild learning disabilities or profound developmental problems does not always have learning disabilities, because some
students must have their disabilities planned for and addressed within their learning environment. These cases include: food delays, terminal illnesses, emotional concerns, and motor skill delays. However, Armstrong (Teach-nology.com) mentions that the most common disabilities that are seen in schools, falls under developmental concerns, because all students are different from each other, and some of these students may function at high capabilities. Further on, Armstrong (Teach-nology.com) point out that students with low capabilities do not function in a school setting. Moreover, schools and school systems are able to provide specific services for special needs students. Were special education teachers have long supplied students with expanded learning opportunities, that uses cognitive appropriate teacher resources, teacher worksheets, and lesson plans. Meanwhile, Armstrong (Teach-nology.com) claims that these tools are patterned for students with developmental issues, and not all disabled students need special classes, neither are they capable to complete these classes. In addition, some students with special needs may require remedial classes for their disabilities, because that’s where most students with learning disabilities can achieve their educational goals, with the help from their teachers, parents and administrator’s teamwork. Moreover, Armstrong (Teach-nology.com) says that students may need age appropriate services or assistance, when the student has gotten all the help they need to thrive forward and everything is at place. In addition, teachers, parents and administrator’s encouragement are important in the process, because students with special needs need more patience and understanding than the average student.

3.6 Digital tools and students with dyslexia

According to Nilzon (2014), iPads can be used as a pedagogical tool for students in need of special support, particularly because iPads is one of digital tool already often used in schools. Gustavsson (2014) agrees with Nilzon (2014) and mentions how digital tools in an inclusive education can illustrate practical methods and learning. However, Ifverson (2015) states that using ICT for Swedish students with learning disabilities works for all students in years 1-9 and upper secondary even universities. Furthermore, Ifverson (2015) mentions that students with literacy difficulties, such as dyslexia, can be helped with digital tools, but they can also be affected negatively when using tools that are not digital. In essence, MacArthur (2016) points out that using technology to enhance the writing processes of students with learning disabilities can
work, if they are provided with learning support on writing, reading and listening. Furthermore, Eriksson and Olsson (2015) point out that the inclusion of digital tools in the school environment helps teachers to understand how to use these tools, and they also consider what the effect is upon teachers who do not use digital tools. The teachers who do not use the plethora of digital tools available are, nevertheless, still bound to the curricula and influenced by the school boards’ (that are also bound to the curricula’s framework) ambitions on how digital tools should function in the classroom. According to Eriksson and Olsson (2015), some teachers give themselves an advantage by using digital tools in the classrooms.

The development of digital competence between teachers and students in Swedish schools is of daily practical use. According to the Curriculum for Compulsory School (2011), students should know how to work with modern technologies. The student should also know how to search, sort, analyze, evaluate, and use information that exists online. However, Jönsson and Gjedde (2009) state that “…the school system has the responsibility to provide all students with confidence, skills, and knowledge so that they can acquaint themselves with, and critically examine, various forms of quantitative and qualitative information” (p.8). Meanwhile, teachers who use digital tools, according to Eriksson and Olsson (2015), have wider and more thorough knowledge about digital tools, and they also use digital tools more frequently.
4. Methods

This section presents the methodological choices I made for my thesis. The empirical material was collected in the form of two qualitative interviews and an observation: Focus group interview for students with special needs. The interview and observation will be described and discussed in the next coming method sections. The data from the interviews was audio recorded. The interviewees were informed about all the safety and anonymity protocols of the project and the use of the interview. The schools remain anonymous throughout the entire project, because, according to Bell (2005), confidentiality is a promise that the researcher makes to the interviewee according to the ethical guidelines, that the involved persons in this thesis will remain unidentified and not presented.

According to Nunan (1992), classroom research can be done through different methods such as observation schedules, interviews, and instrument analysis. Observation (Focus group interview for students with special needs) and interviews are the most common methods used by researchers. Classrooms are usually researched through comparative studies which evaluate the claims of different methods randomly assigned by students in the observed classroom (p. 90). I am using both an observation and qualitative interview methods to gain a deeper understanding on how digital tools function in schools and with students.

I think my methods also helps me see the students’ physical and psychological connections with the digital tools, and to consider the grade progress of the students with special needs over time. Also, the staff’s knowledge progress is important to note. The reason an interview was done with the headmaster at the school was because the headmaster has the responsibility for incorporating digital tools into the school and classrooms. The interview and the collection of the empirical data was done in nine days while in Norway. The primary data on digital tools is analyzed and compared with research, and particularly with what researchers have said regarding digital tools for the students and particularly students with special needs.
4.1 Interviews

The chosen method for this thesis was to interview representatives of a school in X town (2016-11-22), Norway. Interviews are effective to gather information for research studies, and interviews help the researcher to get a broader view, also more depth within the chosen subject area to be investigated. The interviews here are used to give the reader a deeper understanding about how teachers work, and how digital tools are evaluated before entering the classroom. Moreover, the interviews highlight how all teachers are given the opportunity to have a pre-education session on the digital tools that the chosen school will use to teach students in the school.

The interview was conducted at the school contacted to conduct my study at in Norway, however, I did two interviews with the headmaster at different date and locations at the school. The first interview was held at the conference room where meetings were held for the staff. The environment at the beginning was tense, because the headmaster was waiting for me to present the study and to give a summary on what I want to do at the school. I gave the headmaster on the first interview the ethical guidelines that are mentioned at the end of the method section, so that everything is cleared and conducted correctly, anonymously, and safely for the interview and the study. The environment became more comfortable after giving the summary, and presenting every security details for anonymous documents I had with me for my study. Thereafter, the headmaster invited me for a cup of coffee while doing the interview which showed me that everything was ready to start with the interview.

The interview guide has three themes such as: evaluation, student with special needs, and language learning programs, plus there are follow-up questions. The follow-up questions are there to keep the headmasters on track for the subject, and to help clarify the answers. I chose to use evaluation as a theme because the study has a strong focus on how digital tools are incorporated and evaluated by the school. Evaluation is an important process for anything in general especially if the process is used to evaluate the effect from digital tools for schools. Tools should be used correctly to enhance the good quality from them and to help students develop further in their education. The questions asked in this theme are mainly focused on
who/what/when/why the school has chosen the digital tool they are using, and how it has been incorporated into the classroom. Also, sub-questions about how they train their teachers and staff to gain new information about new digital tools. Each question is connected to the previous one to keep the red thread in line and not go into other subjects outside the evaluation theme.

Thereafter, I chose to have students with special needs as my second theme in the interview guide. This theme is mainly focused on students with different disabilities, although, my study mainly focus on students with dyslexia. The theme question the headmaster how the chosen tool affects students with special needs and whether the tools are helpful during learning and teaching for the student’s studies. This theme is efficient because it is a part of the research I’m doing for my paper, also, important to see how the headmaster handles different perspectives about the tool for the students. Moreover, for my third and last theme I chose to highlight different language programs that the school uses to help the students in their education. Using this theme helps the interviewer to understand that the study does involve other things than just tools and effects from tools on students. There are parts of this study that highlights how language learning gets effected by digital tools and how these tools further effect the teaching and learning both in a good matter and bad matter. At last there are the follow-up questions that I have added after each theme to ask the headmaster if there are any further details and information that needs to be added for the content.

My sub-questions are thought through very carefully before added to the interview guide, and before used in the interview. I made some of them very open to help the headmaster stretch outside of the school information and give me information about the school board as well.

4.2 Theories about interviews

Furthermore, according to Nunan (1992), interviews can be characterized in terms of their degree of formality. This means that an unstructured interview has a guide for the questions and responses that the interviewer uses, rather than the actual subject agenda found in the research. Another term is the semi-structured interview. Such an interview method involves a general idea from the researcher’s subject idea on what they want to achieve with the interview and what the results will look like after the interview. However, as mentioned by Nunan (1992), the
interviewer “does not enter the interview with a list of predetermined questions” (p.149). When the topics and issues of an interview are already predetermined, and placed in an order, this is a formal interview, as mentioned by Hatch (2002). Nunan (1992) states that semi-structured interviews give power and control to the researcher to access more information, and more details about the subject area he or she is researching. Furthermore, such an interview method is flexible (Nunan, 1992, p.150). Hatch (2002) mentions that interviews also can reveal the meanings and significance of the collected data from the field. Moreover, Nunan (1992) points out that before going through with interviews, the interviewer should give the interviewee a brief introduction about the subject area, and the possibility of reading the material once done with the research (p.152).

4.3 Observation: Focus group interview for students with special needs

The observation (2016-11-22) that I chose to do is mainly focused on a small group of students with learning disabilities. The observation took place at the school in Norway, where the teacher and I came up with a plan how to choose the students and why these students got to be interviewed, regarding their learning ability. This classroom group focused interview observation is based on a small group of 4 students from year 8 and 9. The reason it is important to see the student’s point of view is because they are more involved with the tools daily. Furthermore, these students got all the information about my study and why I wanted to get to know their learning methods and how they feel about the digital tool they were given to use in the school to develop their learning better. The focus here is to observe how the students work with the digital tool given by the school and what their attitudes are toward the tool they are using. Each student get to answer four different question. The teacher will also, be observed upon how he or she helps the students during their work on the tool. My study’s focus on disabilities is mainly dyslexia, ADD and ADHD and those students happens to have these disabilities. In addition, the teacher and students are aware of my study and that the results will be incorporated into my study. I was very sensitive when asking the question because it is about a sensitive part of the student’s life. Also, each student was observed for 20 minutes during the interview when they
were answering and discussing the digital tool effect on their ability in the classroom and their learning experience with the tool. I chose to take notes while listening with sensitivity and empathy to what each student has to say about the questions, and how they work with the tool. The reason I chose not to video record, nor audio record the observation is to give the students freedom to think, and act normally without any pressure or stress on the audio recorder. The students name, school and age will remain anonymous identification of individuals as they make comments according to, Vetenskapsrådet: Ethical guidelines. These guidelines will be discussed by the end of the method section.

### 4.4 Theories for observation: focus group interview

Nunan (1992) mentions that observation can give poor results, caused, for example, by the teachers in the classroom who are supposed to follow the researcher’s instructions, ending up doing other things, (pp. 91-92). This gives the researcher too little data. However, focusing on the important parts from the thesis and asking the students specific questions could actually lead to a better understanding upon what the tool does for the students, the people who are mostly affected by using it at school. Furthermore, Nunan (1992) states that “…language classrooms are complicated places that makes life difficult for the researcher who wants to carry out a formal experiment to establish a relationship variable such as innovative methods and materials” (pp, 98-99). Nunan (1992) argues that the researchers need more details when it comes to complete studies in action. As mentioned before, observation protocols have been developed for the documented observation of classroom interaction (p. 96). Nevertheless, looking at the classroom interaction is similar to other observation schemes. Classroom interaction is an analysis process, carried out through talk and discussion, to embrace the social perspective on a language (for instance, the English language). Nunan (1992) suggests that classrooms in general are based on talk and discussion, so that the social language enacts with activity structures to share systems, when teachers are among the students (pp. 98-99). Furthermore, Nunan (1992) points out that investigating language learning and use can be time-consuming and difficult depending on the method the researcher has chosen to investigate the subject area. Such time-consuming methods can be observed in the classroom (pp. 136-137).
4.5 The participants

I decided to travel to Norway and collect research for my study on digital tools and students with special needs. The school I chose to collect research and data from is a big school with students from year 1 up to 10th grade. In Norway, they have divided their school years differently from Sweden’s school’s system. The Norwegian school system is divided into three parts: elementary school for ages 6-13 (grade 1-7), lower secondary school for ages 13-16 (grade 8-10), and upper secondary school for ages 16-19 (grade 1-3). The elementary school and lower secondary school are compulsory, which also makes them mandatory for all children aged 6-16. The participants in my study comes from lower secondary school and from two different grades 8 and 9. The school has 400 students’ today. These students that I chose were a part of my observation focus group interview. During the observation for my study I started by observing each student for themselves while talking in the group and each student was observed and interviewed for 20 minutes. In addition, my two other interviews were with the headmaster of the school, because the headmaster is the one who has all the responsibility on the equipment that gets incorporated into the school and has the responsibilities over everyone in the school including the students. Furthermore, I chose to do a full interview with the headmaster at first which I did, but after a few weeks I had more questions, so I scheduled another interview with the headmaster to get more research to my study. The first interview took one hour and the second interview took 30 minutes. The material I collected was handled by an audio recorder, but only for the interviews, for my observation focus group interview I decided that I could do it with pen and paper which I did. This method gives the student less stress and more focus on the subject and nothing else.

4.6 Ethical considerations

The ethical guidelines are very important when it comes to interviews, observation or any other methodological material collector. No names and no personal information should be highlighted, or mentioned in the paper that is written, because of safety reasons. According to Vetenskapsrådet (2016) interviews and observations in Sweden follows a checklist of guidelines before being published online. Personal information needs to be kept anonymous. As a researcher, I have to be honest with my results, never distort, never falsify, nor mislead or
plagiarise my material, as the first rule states on Vetenskapsrådet (2016). In addition, all research results must be reported openly so that other researchers can check and repeat my research, once this has happened the research can be scientifically approved, as a second rule in the guidelines. For the third rule in the guidelines the researcher should not cheat in research, which is known as dishonesty in research, which can lead to humans being exposed to society and put at risk. It would mean that confidence in the research and the researchers is damaged. As a fourth rule and the last rule the examination of misconduct would fail if any rules are mistreated.
5. Results

In the result section a presentation of my research findings will be presented. The first presentation is from the interview with the headmaster about how the evaluation on digital tools in schools are processed before usage. Thereafter, the second presentation is also from the interview about how digital tools affects students, and what the school and parents, and what the school and parents can do to help the students. The third presentation is about how digital tools affects the language learning in the subject of English. The fourth presentation is about the headmaster’s perspective on digital skills in the Norwegian and Swedish curriculum. The last presentation is from my research findings from the focus group interview with students with special needs, after they have used the digital tool Google Apps for Education in the classroom.

5.1 The evaluation process of digital tools

Before a tool is incorporated into the classroom, an evaluation of the tool must be done, to check whether it will work in the classroom with the teacher and the students. However, tools contain both pros and cons, and those must be worked around to give minimal fallout for the teacher, parents, and students, to gain a better education, and better progress in their learning. Therefore, an evaluation is the best start for a new tool before incorporating it into the classroom, because such tools need to be pre-tested before considering handing them to students. However, the interviewee explains that all schools in the X town county use the same digital tool: Google Apps for Education. Google Apps for Education is an online software for students. The program includes reading, listening and writing activities for the students to participate with and to work on; it has been compared to Microsoft Word, part of Microsoft Office. Since text utility program Word contains many options that Google Apps for Education also has. In addition, the interviewee mentions that Microsoft Word was the county’s first used tool, until they changed it to Google Apps for Education. Google Apps for Education works for both students and teachers at the schools. The interviewee points out that Classroom is used for homework, exams, assignments, feedback, communication between student-teacher, and to keep track of the students’ grades.
The interviewee believes that students with special needs do not get included in the evaluation of the digital tools. This suggests that their progress is not as effective as the others. Therefore, they have special tools to work with besides Google Apps for Education, which help with the evaluation of students with special needs. Since the evaluation is only decided by X county’s school board, the schools do not have a say whether or not a tool is incorporated into the classroom. In addition, the town county states what is said in their Norwegian curriculum for the school that all students should be treated as equals when a tool is to be evaluated among students, but still the students with special needs are excluded from the evaluation. However, the interviewee points out that this tool has been evaluated and confirmed as bringing positive effects for the students and the staff at schools. The primary schools started to work with Google Apps for Education about a year ago, and they confirmed that this tool is suitable for usage in the classroom. The implementation of the tool even became a school project for teachers. The interviewee illustrates that the bodies responsible for the effect on students of this tool are X county and the school board. Nothing happens without their decision on school resources. Before they agreed to use Google Apps for Education, they introduced the tool as a “teacher and teaching project”, for teachers in schools to use, and to help make the tool more efficient for students to work with it. Each school sends out three or four teachers to have in-service education on the tool. These teachers become guides for the tool in their schools to help them with the tool and to guide the students with their progress in the use of the digital tool. The interviewee points out that for Google Apps for Education, this project took one to two years before teachers agreed to incorporate it into the classrooms. However, Google Apps for Education does not provide any special tools for the students with special needs at the school. The interviewee explains that “students with special needs also use Google Apps for Education, but not all students find this tool helpful for their language learning development”. The schools provide the students with special needs special tools such as Lingis, Ling-write, and Page Turner. The interviewee claims that these are very helpful for the dyslexic students.

5.2 How digital tools affect students
All digital education tools work differently on students depending on their needs and how well they adapt to the new tools, because some tools are harder to use for students with special needs. In addition, the interviewee states that they have built a system that cooperates with the student’s parents “so that the students can work with their homework, projects and school work from home”. This applies to the students with special needs too. Furthermore, the interviewee asserts that students have access to their help-program from home. Parents help their students with the homework they get from school so that they progress further with their language learning in the subject of English, and any other subject for that matter. The interviewee claims that students do not always gain all the knowledge that the curriculum states that the teacher should teach in the classrooms. Therefore, the digital tools should be used in the correct way by the teacher, so that the feedback on the tools is more effective, and so the students feel more comfortable when using the tools for their learning. The interviewee concludes that students feel more comfortable than the teachers when working with digital tools in the classrooms, because they are more involved with the new technology and the use of the media in their daily lives.

5.3 Language learning of the subject of English

Moreover, nowadays, digital tools have a greater impact outside of school than inside, which makes it easier for the students to adapt to the use of digital tools and digital media in school. According to the interviewee, the schools often choose to work with regular old books instead of the digital tools that the town county has decided for the schools. The books provide further communication, problem-solving and cooperation skills for the students rather than just working with a tool by themselves online. Each book has its own digital place online that complements the books the teachers use for language learning in English. However, 
Google Apps for Education provides the students with a writing place to put their activities, papers and exams up, so that the teachers can follow the students’ progress from beginning to end. The tool gives teachers more freedom to work with other tools regarding the subject they are teaching in; in this example, English. The interviewee points out that the more freedom a teacher has in his subject over choosing more tools and websites to use, rather than only sticking to one tool, gives the teachers more knowledge and confidence about teaching the students more efficiently within the subject.
The interviewee admits that online tools do not always work well with all the students, especially students with special needs; however, *Google Apps for Education* is still recommended to other schools and teachers, disregarding the effect on students with special needs. The reason the tool is recommended is because it helps both students and teachers to keep track of each other during the learning progress. However, the interviewee states that it is the teacher’s responsibility to make the tool fit the goals, results and teaching in the classroom. This makes the teacher the guide and leader for the classroom to “help the students understand everything they are learning in the classroom...from the digital tool” (2016-11-22). Using the tool means adapting it to what the curriculum has to offer the students in the subject of English.

Furthermore, the interviewee states that “digital tools are usually made to exercise the student’s vocabulary and gap exercises”. This suggests that the tool would be used in an incomplete learning matter. Using *Google Apps for Education* exercises and activities only for gap exercises provides little learning knowledge for the students, which suggests it is not a good fit. Furthermore, the interviewee points out that for it to be a good fit, the teacher should change the activities, and use full sentences and not gap exercises. This teaching and learning method would give the student a better grip on the vocabulary in their learning of English. Currently, *Google Apps for Education* is mostly used to help students to work with communication and cooperation strategies and skills in the English language.

### 5.4 The headmaster’s perspective on digital skills in the Norwegian and Swedish curriculums

The Norwegian curriculum (2013) states clearly what digital skills in English are required, and what the students need in terms of resources in order to fully succeed with and develop their digital skills. The subject of English in the Norwegian curriculum (2013) has a varied selection of digital tools, media and resources to assist in language learning. These selections of resources are provided to help the students communicate in English, and to acquire relevant and reliable knowledge regarding the subject of English. Digital skills give students the opportunity to
experience English texts in authentic situations involving, natural and un-adapted situations within the subject. In authentic situation texts, can students’ gain digital skills from: Restaurant takeout menus that offer a wealth of authentic food-related vocabulary texts, magazines, newspaper articles such as *New York Times* and so on. Authentic situation involves the natural situation and un-adapted situations that can be found in the mentioned text examples above. The curriculum (2013) states that digital skills involve a process of gathering information for the students, to help them to create different kind of texts. The Swedish Curriculum for Compulsory School (2011), it does not mention that digital skills are required in the subject of English, nor does it state how the students are to fulfill their digital knowledge needs in English. Furthermore, formal and informal English are always mentioned by the teacher during the English lesson at school, but nothing can be found about this in the Swedish curriculum (2011). In contrast, since the Norwegian curriculum (2013) gives students the opportunity to work with digital resources, this makes it easier as a teacher to work with the written digital resources, which involves and requires “effects, images, tables, headlines, and bullet points… to emphasize and communicate a message” (p. 5). Working with digital skills involves developing the students’ knowledge of “copyright and protection of personal privacy” through reliable sources and references for their digital skills (p. 5).

According to the headmaster (2017-03-09), students are introduced to IT and technology resources in the primary and lower secondary school. However, the headmaster (2017-03-09) also points out that problems occur in the digital technology process during the learning of, for instance, languages, because students are mainly exposed to the new technology and not the old-school methods such as using books, pen and paper. Instead of helping the student gain knowledge from both sides, the town county decides that the schools are to use mainly digital resources in order to cover the digital skills mentioned in the curriculum. The headmaster (2017-03-09) states that students with digital skills might have fulfilled the requirement for digital skills in the curriculum, but this focus could cause problems for students with disabilities, preventing them from becoming better writers on pen and paper, not just via the digital resources. However, after giving the cons around the use of digital technology and digital tools, the headmaster (2017-03-09) did point out that it is a requirement for the school to prepare the students for their future studies or jobs.
5.5 Focus group interview with students with special needs

The classroom observation recording results show that students react differently depending on their usage of the digital tool. I observed four students with different diagnoses, including ADHD, ADD, and dyslexia. Some of the students explained how they work with the tool and how it affects their learning outcomes. The reason I wanted to know the answers to the questions below is because I wanted a student’s point of view, since they are the ones who will be affected by the use of the tools in their education, and not the teachers. Using a digital tool can lead to positive results or negative results, depending on how a person sees the results and from what point of view.

What makes Google Apps for Education good/bad?

Student 1: Google Apps for Education apps is good because we have a connection to teachers and our classmates, but sometimes it is hard to understand, particularly because this is the only program we use when learning English. I would like to have more developed programs that teach us about grammar and more speaking programs, or activities.

Student 2: I believe it is a good tool to use instead of using the Office program Word, because this tool involves reading, writing and listening. It is bad because it distracts me from doing what the teacher says I have to do. The distraction becomes stronger, and then I’ll have to work harder to keep my focus.

Student 3: The digital tool is neither good nor bad, because I lose focus no matter what.

Student 4: It is good because it helps my dyslexia and corrects me when I’m writing.

Do Google Apps for Education help you develop within your English language learning?

Student 1: It is only used to help us write our homework and papers online. We use these apps for everything which makes it difficult for us to focus on our lessons sometimes. It corrects my English when I write because I have dyslexia, but I would want to write more on paper than on technology.
Student 2: *Google Apps for Education* apps are mainly used for writing our school stuff, homework and assignments. It corrects grammar, but we have other programs that are connected to our books we use in English.

Student 3: Kind of, because, I learn more when I have English and need to get my language and grammar corrected online.

Student 4: Yes, because we use it in English and when we write we also get feedback in English which helps me develop my English language.

What are your thoughts on the digital tool?

Student 1: Digital tools are fun, but *Google Apps for Education* Apps is just like Word [rather] than a digital fun tool. Some tools we have aside from *Google Apps for Education* Apps [include] more grammar, spelling, and pronunciation activities online, or come with the books we have in English.

Student 2: I think it is okay. It helps us write and read what we hand in, and it also teaches us how to give each other feedback.

Student 3: I don’t know, it is a tool that the school chose for us so that we can learn better I guess. But sometimes it feels like they choose digital tools without our say on it.

Student 4: I think the tool is helpful and it has so many tools that come with it to help us students develop our knowledge and experience more technology knowledge every day. The digital tool also teaches us how to give feedback which is good.

Does the tool help you with the dyslexia, ADHD and ADD?

Student 1: I have other special tools that also help my dyslexia because using only one tool would not give me all the support I need for my dyslexia.

Student 2: No, it does not help my ADHD, but I have other programs that help me with my diagnosis.

Student 3: Yes, it keeps my mind occupied when I have to write a paper, but if the paper is boring and I am not into it, it will distract me and I will start doing other stuff than the actual assignment.

Student 4: I have other programs for my dyslexia, but it helps me when I’m writing online, because it corrects my mistakes.
Does the tool do what it is meant to be doing? Is it a distraction?

Student 1: For me it is not a distraction. I think it is doing its job, sometimes, because when we don’t have internet we cannot do anything but work with other stuff.

Student 2: For me it is a distraction, because I keep hearing my teachers saying that I have a focus problem, but I mean if you are online, don’t you get curious and search for other websites? I use it only when I need to turn in papers and homework, then I use the internet for fun for English.

Student 3: Maybe a distraction, I’m not sure, I do wander off sometimes and do other things than the actual activity, but it is doing its job – it is only me who gets bored from the same program.

Student 4: I have dyslexia, so I try and keep my focus to what the teacher says and does, so that I don’t miss anything.

Each student showed me how they use the tool during the English lesson. When the students wanted to show me how they give each other feedback, they had to use old material, because their teacher had given them something new to do that was still not up online. These answers determined how the tools work differently depending on the students’ disabilities. The school should consider involving the students when picking the tool for their classroom teaching.
This discussion in this section will come from the presented research in the theoretical background, the earlier studies and the results from the qualitative interviews, the observation and the OECD: PISA results. The mentioned research in earlier sections is of use when discussing the results and how they may influence my future role as an English language teacher for lower secondary students. However, I shall discuss my methodological choices from a critical point of view as well. Furthermore, I make suggestions for future research and the conclusion outline the conclusions for this study.

From the two qualitative interviews and the observation: focus group interview results in the results section, I can conclude that all schools today mostly use iPads/tablets as their writing support device for their software apps. However, according to the interviewee, all schools in the X town use the online program Google Apps for Education as their main digital tool for all the staff and students. As has already been noted in the theoretical background, the online programs are much more effective than using books. Furthermore, Jönsson and Gjedde, (2009) state that all teachers can use digital tools, but these teachers have to invest time and effort to master a new technology in order to be able to use it in their learning environment. Incorporating digital tools into classrooms, or in general into schools, takes a long time, which most schools fail to into. Consequently, incorporating the wrong tool into students’ education can damage their learning. Therefore, there should be an evaluation process looking at how well the students work with certain tools and how these tools help with their education. Then this information should be used in an evaluation done by the school board. However, if a tool is to be evaluated, the school board, staff, teachers, students, and parents need to be in the picture for it to work correctly, as was also mentioned by the interviewee and the earlier research. One mistake that several schools in Sweden and Norway make is evaluating the tool only for the students without disabilities, and excluding the group of students with special needs. Students with special needs require special tools to aid the use of regular tools, and separate programs may make it easier to determine what program works better both for the whole class and for a student. If schools want a digital tool to work well in the classroom, an evaluation from all perspectives need to be done. The interviewee
(2016-11-22) mentioned earlier that, at the moment, schools get involved in digital tool projects as assigned by the school board, before deciding whether the tool is functional or not.

According to Jönsson and Gjedde, (2009), it is the school’s responsibility to involve all students in the evaluation when tools are to be incorporated into the teaching classroom, because it is mentioned in the Swedish Curriculum for Compulsory School (2011) that the school’s obligation is to fulfill everything that the curriculum states they must, and provide for the students in this matter for the subject of English in school as well. However, Google Apps for Education is a well-known tool that most schools use these days, making it harder for students with disabilities to keep up, because these students use this program only as a writing program. Students with disabilities find it harder to write by hand, because it is easier to write on the iPad. However, increased screen-time is time that could be spent on reading and writing, according to Niemann (2016). Books nowadays are easily forgotten because of all the new media options and new digital technologies that schools incorporate into the classrooms, and elsewhere on school grounds. However, looking at the research, it seems that schools are trying to adapt to the a new age of technology, and keep forgetting that not all students are able to connect with the new tools that the school board incorporates into their lives. Furthermore, research shows that using online writing programs rather than using pen and paper minimizes the chance of the students developing fully with or without technology. Resources must be provided by the schools; according to the Curriculum for Compulsory School (2011), “The school has a special responsibility for those students who for different reasons experience difficulties in attaining the goals that have been set up for the education. For this reason, education, can never be the same for all.” (p. 10). This clearly states that resources can be accessed differently depending on what the students need to better their education.

6.1 Future Research

This thesis is not the end of the road, as more research is needed on this subject. As for future researchers, and future work on this study could be based on several things regarding this study. Furthermore, future studies can be based on the depth of student’s thinking, behavior, and attitude on the use of digital tools. Also, the researcher could do an observation on students who have and do not have special needs and find out the difference between their behavior on the tools.
6.2 Conclusion

In conclusion, the questions remain: what makes these tools better than the old methods, and why does the school system only evaluate the students as a majority, and not consider the minority, special needs or otherwise? Furthermore, all the tools work differently for the students, depending on the need of the student to use these tools in the classroom, or school in general. Meanwhile, the interviewee points out that to make something work in schools with students, they need help from the student’s parents. This implies that the parents need to cooperate with the school to develop the digital tools for the future education of their students; however, using the parents in this way would mean that the school needs to in-service educate the parents on the tools their students will be using, as well as the teachers, so that the students get help from both their teachers and their parents. According to Jönsson and Gjedde (2009), digital development is speeding up in schools nowadays because students are highly involved with technology, and they feel more comfortable than the teachers using tools. The Curriculum for Compulsory School (2011) states that schooling, and the means to learn a subject in school, should be provided for the students. Therefore, the school should take better care for all students when it comes to incorporating digital education tools into the students’ education. In conclusion, the chosen research questions have been answered; yet such questions also deserve a greater dissertation project and further research on the students’ behalf. However, the results and the research I have worked with in this thesis determine that all tools should be properly evaluated before use, no matter the size of the population using the tool, or the students’ need for the tool. Following the Curriculum for Compulsory School could help schools provide better help for all students.
8. References


Skolverket. (2017-03-13). *Tydligare om digital kompetens i*


9. Appendixes

9.1 Interview guide 1: the headmaster (1 hour)

Evaluation
1. What are your attitudes towards the digital tools you incorporate into your school?
2. How are these tools evaluated? By whom are these tools evaluated? Are students with special needs included in the evaluation of the tools?
3. What made you decide on this specific tool for your school?
4. Is there any in-service training for the teachers before the use of the tools?

Students with special needs
1. How are they affected by them?
2. Do they learn better using digital tools? Are they more comfortable learning by using digital tools?

Language learning programs
1. Is there any specific tool that your school uses to teach the subject of English that helps the student with language learning? Such as, vocabulary, problem-solving, communication, writing, and reading?
2. Do you recommend the tool for other teachers? Why?
3. How important is the tool for language learning?

Follow-up questions:
1. Help me understand how you work with digital tools in your school.
2. What do you mean by that, can you please elaborate?
3. Help me understand the importance of digital tools in your school.
9.4 Interview guide 2: the headmaster (follow up questions: 30 minutes)

How does the curriculum provide digital skills for the students who use digital tools in their education?

What problems might occur from the use of digital tools?

9.3 Focus group interview with students with special needs (80 minutes)

Classroom observation schedule
Observer
Maj Badran

Course
English year 8 and year 9

Time
08:30-09:50 = 80 minutes

Date
2016-11-22

Location
Norway

Information
This classroom group focused interview observation is based on a small group of 4 students from year 8 and 9. The focus here is to observe how the students work with the digital tool given by the school and what their attitudes are toward the tool they are using. Each student get to answer four different question. The teacher will also be observed upon how he or she helps the students during their work on the tool. My study’s focus on disabilities is mainly dyslexia, ADD and ADHD and those students happens to have these disabilities. In addition, the teacher and students are aware of my study and that the results will be incorporated into my study.

Method
Group focused interview with students with special needs.

Type of disability
Dyslexia, ADD ADHD.

Material
Interview questionnaire with 4 question.

Digital tool
Google for Education

Time for each student to interview and observe
20 minutes

Questions
What makes Google Apps for Education apps good/bad?
Do Google Apps for Education apps help you develop your English language?
What are your thoughts on the digital tool?
Does the tool help you with the dyslexia, ADHD and ADD?
Does the tool do what it is meant to be doing? Is it a distraction?
## Schedule

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<th>Question 1</th>
<th>Question 2</th>
<th>Question 3</th>
<th>Question 4</th>
<th>Time</th>
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<tbody>
<tr>
<td>Student 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>08:20</td>
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<td>year 8</td>
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<td>Student 2</td>
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<td>year 8</td>
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**Break before meeting year 9**

|               |            |            |            |            |        |
| Student 3     |            |            |            |            | 09:20  |
| year 9        |            |            |            |            |        |
| Student 4     |            |            |            |            | 09:40  |
| year 9        |            |            |            |            |        |

## Conducting the focus group

I will take notes while listening with sensitivity and empathy to what each student has to say about the questions and how they work with the tool. Will not be using the audio recorder. The reason is to give the students freedom to think and act normally without any pressure or stress on the audio recorder. The students name, school and age will remain anonymous identification of individuals as they make comments according to, *Vetenskapsrådet: Ethical guidelines.*