Attitudes and reflections about the digital development of teaching material for language teaching and learning

Engelska 15 hp
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Abstract

In this case study, I gathered information with regards to their attitudes to digitalization and digital teaching materials from a small group of language teachers at a school in the south of Sweden. As a teacher to be, my aim was to explore how digitalization and digital teaching materials have changed the opportunities for education and learning for language teachers and students. I intentionally kept my questions wide to learn about the kind of environment I am about to enter and need to be prepared for. As a result, by having undertaken this survey the findings should help me pre-empt different situations, problems and opportunities I am about to encounter. In general, when talking about digital teaching materials, the boundaries between hardware, software, digital teaching materials, the internet and IT-platforms appear vague. Therefore, as they also complement each other, I have chosen to use the term “digitalization” to unify these five components mentioned above.

The results summarize reflections and attitudes of how and in what way digitization has changed the conditions in the classroom for teaching and learning, as well as views on its advantages and disadvantages. The analysis of the results focus on three areas; hardware, software and digitalization including digital teaching materials. The theme of digitalization has been analyzed with the influence of a SWOT analysis which then generates the conclusions, in which the SWOT analysis is commented upon and supplemented with my own reflections and possible developmental scenarios for future improved study results.
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1. Introduction

1.1 Purpose
In this essay I aim to explore a small group of language teachers’ (from a school in the south of Sweden) attitudes to digitalization. Digitalization originally refers to, in a technical context, conversion from analog to digital representation of information. During the interviews it became clear that it was hard to keep a discussion about hardware, software and digital teaching material separate. The analysis will therefore focus on the concept of “digitalization”, as a single unit, which includes the use of hardware, software, digital teaching materials, other IT-platforms and the internet. It will focus on if and how digital teaching materials are being used in the classroom in a school in southern Sweden and how the use of digital teaching materials have perhaps changed the learning and teaching environment in the school. It will also explore how and in what way the teacher’s role has changed and how they feel about it. I will also examine the ways in which language teachers in particular experience the benefits, disadvantages and possibilities of digitalization. Therefore, the areas of focus are:

• What attitudes do the language teachers interviewed have to digitalization in teaching?
• How has the learning and teaching environment changed with the implementation of digitalization?
• How has the teachers’ role changed due to the implementation of digitalization?
• How is digitalization used in the language classroom?
• What kind of experienced benefits, disadvantages and possibilities of digitalization do language teachers have?

1.2 Background
A few years ago, the municipality where I carried out the interview for this case study decided that every student would be given a computer of their own; as a tool to be used in school. From grade seven, the students are also allowed to take their computer home in order to be able to use it for homework tasks. Since this computer might be the only accessible computer in the student’s home, games and apps for social media are also allowed to be installed. Not only are the students allowed to use it at home, they can even install software on it. As they are also allowed to use it for private purposes, they can choose what software to install as long as it does not take priority over that which is needed for school purposes. For example, in the past there were incidences in which downloads used up the computer’s storage or memory capacity.
so that school work could not be done. After being out in school during teaching practice, (VFU), and working as a supply teacher at schools in this municipality, I felt questions about the effectiveness of studying languages through the use of the digital teaching materials needed to be raised. In particular, from a personal point of view, I noticed that the computer and the variety of software available and which is not connected to school work can be a considerable source of distraction to some students.

In this essay, I will describe or explain views and definitions of teaching materials and teaching from a traditional point of view, and how changes in society and technological development and digitalization effect the prerequisites for teaching languages. I will also try to analyze the advantages and disadvantages with digitalization from research studies and the teachers’ point of view, as well as assess benefits and risks for students.

1.2.1 What are teaching materials?
What are teaching materials? According to the Swedish school regulations from 1971, teaching materials were described as ”all of the resources that can be used in an educational situation”. (Skolverket, 2015); no other definition is made. Today what is considered to be teaching material has expanded to cover texts, radio, TV, movies, newspapers, theatre, comic books, video games and computers etc. This is frequently referred to as multimodality. The concept considers the way in which different media is used and how texts, pictures and sounds carry information in different ways and dimensions than just through written text alone. Therefore, Skolverket (2015) has changed the definition of teaching materials to ”resources for learning”.

Furthermore, Skolverket suggests that teaching materials should also be regarded as a memory bank for knowledge, communication and valid ideological standpoints as well as teaching resources. Nyström (2017) refers to Sjödén who has chosen to define digital teaching materials as “multimodal and interactive teaching materials” with a particular subject content that can be used on students' tablets or computers which can help them progress. In this case, multimodality is described as the ability to use both text, image and sound, while the interactive part is that the teaching material provides feedback to the user.
1.2.2 Traditional teaching

From a traditional perspective, the focus on learning and teaching was for the student to develop their ability to memorize. Säljö (2011, p.39) describes it as the ability to repeat what was read or told. He refers to the paper-based book as the object for learning with small or no demands at all for the learner to understand what was read in a deeper sense. The pupil was only required to move within the world of the textbook and what the teacher presented. Even if there have been changes, a lot of the school environment is still based upon reading written texts followed by a test, designed to discover what has been learned. In traditional teacher-centered teaching, there were almost no incentives to see how the individual was able to act in other environments, or how this could be assessed. It is easy to make the assumption that educational technology is something new in the classroom. However, according to Roblyer & Doering (2007, p.10) computers were in use in the classroom by the end of 1970s. The example describes how computers were used in a specific “computer classroom” in which lessons were held; as such, computers were not used as an everyday tool. Roblyer & Doering (2007, p.10-11) believe that the earlier experiences of the digital classroom have laid the foundation for the technological teaching in today’s school and that the digital experience should be a driving force for the digital development in classrooms of today. They have tried to summarize what we have learned from the past. For example:

- For the purpose of education, no technology is a panacea. It does not offer easy, quick or universal solutions, even if the most current and capable technology resources are being used. The potential of success and impact on teaching and learning grows if we keep the expectations realistic and aim at catering for specific needs. Computer-based strategies and materials must be integrated with care and with the use of other resources, such as teacher-led activities.

- It is a common thought that technical skills achieved from the use of technical tools prepare students for the labor market and therefore must be and are used in the classroom. But primarily, technological methods and resources must match the capability and skills in the classroom and be used for common school work such as reading, writing etc.
2. Theoretical Background and Previous Research

2.1 New paradigm - The information society

Säljö (2011, p. 39) points out that today the role of the school and of the teacher has changed drastically. Pre-digitalization the school had total control over what information should be provided for the learner and how this information should be presented. In recent times, however, due to the rapid development of media, students now have access to a wealth of information. This affects the terms and conditions of the classroom and the crucial component is no longer the computer itself. The infinite amount of information available places great demands on students and teachers in learning how to evaluate what is right and wrong. Säljö (2011) also points out the importance of being able to organize the information so that it fulfills the purposes and relevance of the learning tasks.

As a result of the rapid development of both technology and access to information, new prerequisites for teaching, teaching materials and learning are being created. For example, in addition to searching for information, technology can also help us remember, calculate, simulate and spell correctly etc.

2.2 New demands for education, pedagogy and teaching materials

According to Skolverket (2015) most researchers agree on the importance of good teaching practice. By this they mean that although digital materials and information- and communication technology possess great potential in raising students’ level of knowledge and results, they are also aware that it will not happen automatically through technical development itself. The role of the teacher is also of great importance.

Many students feel safe and at home in the digital world. Pupil motivation can be raised when they are able to explore the digital world and its possibilities from their own perspective and interests and by themselves. This increased interest feeds learner motivation, while increased access to a wealth of current information and other interesting digital materials offers great potential as a teaching resource. This, in time, effects the teachers and their way of teaching.

The challenge can seem scary from different perspectives. For instance, if the teachers are neither familiar with the technology nor have control over the content, they may become afraid
of not being able to cover the important knowledge that is required for assessment and the specific goals to be attained.

2.3 New possibilities create new teaching materials
Sjödén (2014) has provided a qualitative review of digital teaching materials. He begins by describing how the primary focus on digitalization has been on the administration and distribution of computers in schools and the installation of learning platforms. He believes that in this work, quality aspects such as the content of software has taken second place. His interpretation is that there are plenty of computers in Swedish schools, but they are not being used very well. Similarly, Widebeck (2015, 22 september) also criticizes the implementation of the digital hardware and points out that the cost was taken at the expense of teachers and teaching. Linderoth, professor in pedagogy (Widebeck, 2015, 22 september) states that teachers were putting too much effort into solving computer related problems instead of teaching. Sjödén (2014) states that:

"An associated problem is that research does not keep pace with how you should use and are expected to use computers in the classrooms. First, it is difficult to find digital teaching materials that are based on research and scientifically evaluated. Secondly, there is so much newly produced material that you often cannot rely on common practice or teacher colleagues, in the same way as when traditional textbooks are evaluated."

2.4 Good digital materials; advantages and disadvantage
Sjödén (2014, p. 79) refers to a research report by Roblyer and Doering, in which they describe five main functions characterized by digital teaching materials. The five features are as follows:

- drill-and-practice software
- tutorials
- simulation software
- instructional games
- problem solving software
Drill-and practice software aims to train implicit knowledge and skills for future and more advanced learning. Often the exercises are repetitive and simple and aim to automatize some knowledge so that the learner can focus on more advanced knowledge or calculations. For example, multiplication tables or exercises for the learning of vocabulary are mentioned. Often feedback is simple in terms of right and wrong. Guidance or explanations for achieving an improvement are usually bad or non-existent.

Tutorials can take the form of instructions, a story told interactively, or an independent briefing in a specific area of knowledge. These can be used by students without further explanations from a physical teacher. The interactive part is represented by simpler tasks or check-up questions.

Simulation software can help students to create impossible scenarios (for example, what happens if gravity is taken away) or to visualize how different systems work. One important strength with simulations is the immediate feed-back that the learner receives with regards to the consequences of their actions. For example, if the learner in a flight simulator makes a serious mistake, the plane crashes.

Gaming combines the opportunity of entertainment and education (edutainment). The games often contain elements of competition which keeps the player staying in the game. It is important that feed-back is given and that there is active support for what is taught to increase knowledge. Otherwise the user only becomes a player.

Problem solving functions the main purposes of these are to train the student’s ability to solve problems through systematic analysis and drawing of conclusions within a specific area, such as laboratory work and the testing of hypotheses.

3. Methodology

In order to find out how the development of language teaching materials through technology, hardware, software and digitalization affects students, teachers and the education, I started by collecting background information from literature and articles. In order to then explore language teachers’ attitudes to digitalization, I began by interviewing Cecila Augutis, a language teacher and a representative from a publisher called Studentlitteratur. Among other things this
company produces digital teaching materials for language learning. In this study, I have also interviewed a small group of language teachers from a secondary school in the south of Sweden with the purpose of gaining knowledge and finding patterns or relations about their attitudes and their experiences of digitalization in language teaching and learning. My interview is referred to as a semi structured interview. This method creates a possibility for the interviewees to respond broadly to themes presented by the researcher. The interview has the form of a conversation. This method of interview is a good qualitative one for gathering much information and opinions from a small group of informants. (Patel & Davidson, 2011, p. 82)

In this study, I created broad questions to open up a discussion between the teachers and myself and between the teachers themselves. The interview situation allowed me to ask follow-up or clarifying questions. The following themes and questions were used to give the interview.

### 3.1 Interviewguide

| Background | What is a teaching material?  
| What teaching material is provided from the school?  
| How is it used?  
| What specific published sets of material are available?  
| Do you create teaching material of your own?  
| Reflections about the one-to-one project | Focus?  
| Content?  
| Introduction?  
| Result?  
| Reflections about teaching material | Digital teaching material? Strengths and weaknesses?  
| What is digital teaching material?  
| Traditional teaching material? Strengths and weaknesses?  
| Effects of digitalization | As pedagogues?  
| The teaching?  
| The students?  
| The learning?  
| Results?  
| Future | New possibilities?  
| Future scenarios?  

This group of language teachers teach in a school for 7 to 9 graders in a municipality in the south of Sweden it has implemented an explicit IT (information technology) strategy such as the one-to-one project, which means that every student should be provided with a computer of their own in school. The group was put together for the variety in combinations of languages they teach and their different experiences from having taught in other municipalities and schools. In order to preserve anonymity, I have neither referred to the school nor the teachers
participating by name in this study. The teachers have been teaching for different amount of years and some of them have also taught in different schools before.

3.1.2 Reference list

<table>
<thead>
<tr>
<th>Teacher 1</th>
<th>Languages taught</th>
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<tbody>
<tr>
<td></td>
<td>Spanish and English.</td>
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<tr>
<td>Teacher 2</td>
<td>Spanish, German and English</td>
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<tr>
<td>Teacher 3</td>
<td>Swedish, English and German</td>
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<td>Teacher 4</td>
<td>Swedish and English</td>
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<td>Teacher 5</td>
<td>Swedish and English</td>
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<tr>
<td>Teacher 6</td>
<td>Swedish, Spanish and English</td>
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<tr>
<td>Teacher 7</td>
<td>Spanish and Swedish as a second language</td>
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The interview was carried out on the 14th of March 2018 in the teachers’ work study, around a conference table. Teacher 2 and teacher 7 arrived just after the interview had started. The interview was recorded and took the form of a group discussion between the teachers and myself and between the teachers themselves. Even if the interview with the teachers was recorded, because of the conversational nature it is sometimes hard to refer to a specific individual. Specific references from this session have, therefore, been sparingly used. Where references are used, I have referred to them as teacher no 1 to teacher no 7. Data from other sources are referred to in the text, when appropriate.

I also gained valuable information for this study from two different podcasts produced by the producer of the program “Vetandets värld” Camilla Widebeck on the 22nd of September 2015 and the 19th of March 2018. The programs are supplied by Sveriges Radio and available at their webpage sr.se. Through the interviews in the podcasts, information from research studies is provided from different experts, professors and specialists, such as Agneta Gulz, scientist in cognition at the University of Lund, neuroscientist Torkel Klingberg at Karolinska Institutet, pedagogical scientist Sverker Lindblad at the University of Göteborg, Annika Agélii Genlott, Phd student at the institution of informatics at the University of Örebro, professor in pedagogy, Jonas Linderoth and Jan Hylén, expert IT in school.

In my analysis, I have chosen to work with a SWOT-analysis as an outset. The SWOT-analysis is normally used in the business world for marketing analysis to review, identify and evaluate
strengths, weaknesses, threats and opportunities in a concept or a strategy. Kotler & Armstrong (2018, p. 80) describe the model as follows: the strengths are internal capabilities to reach a company’s goals, the weaknesses are internal limitations to achieve a company’s objectives, the opportunities are external factors identified that may benefit the company and the threats are factors that may challenge the company’s performance. This clarifies the influence of the external and internal environment and identifies opportunities to handle the changing world’s changing demands. (Kotler, Armstrong & Parment, 2013, p.61)

In my analysis, strengths and weaknesses have a focus on the direct impact on an individual level for students and teachers. The opportunities and threats have a focus on an indirect impact on learners and teachers such as forthcoming development or problems as well as general advantages, disadvantages or effects. A theme might occur more than once in the SWOT analysis but is then treated and analyzed within the different categories identified.

3.2 Reliability and sources of errors

In this study, no regard has been made to demographic conditions. My interview was carried out at only one school in the south of Sweden. The attitude of the teachers interviewed may have been influenced by the fact that this municipality chose to invest resources in digitalization at school. They, therefore, have access to good hardware, publisher based digital teaching materials, well-functioning networks and support of IT educators. However, they all also have experiences from having taught in different schools and different municipalities within Sweden. Their responses and arguments may have been nuanced and effected by the fact that they were put together in a group. There is a risk that they do not express their full or possibly dissenting opinions. There is also a risk for misunderstanding in the way questions were asked or how they were formulated. However, I find that the teachers who participated in the interview were keen to share their experiences with their colleagues and that everyone’s opinion and different experiences were welcomed and made a contribution of reflection in the group.

Some of the research referred to was carried out a few years ago. More recent facts, if existing, could affect the results.
4. Results

A few years ago, the municipality I chose to work with decided that every student should have a computer of their own. This was referred to as the one-to-one project. The form of computer used in secondary schools in this municipality are MacBooks®. According to the teachers interviewed, the high quality of hardware does not make hardware problems an issue. The school also have access to a digital teaching material software from a supplier called Gleerups which provides a wide range of digital teaching materials within different subjects, not only for English and other languages but also for Maths and Geography etc. Neither the teachers nor the students were included in the process of choosing the software. All schools in the municipality were supplied with the same software. Every student in the municipality has their own licence for the software used. Paper based books are also made available for students with certain needs or for students who wish to have a book (Henceforth, paper-based books are referred to as “books” in this essay) instead of digital teaching material. However, there are no full class sets of books available but can be requisitioned if needed. For instance, there are a few students who are not allowed to take their computer home as they have abused or used their computer for purposes that are not compatible with the agreement, which was signed between the school and the student.

There are also students who use their computer and the digital teaching materials in school but have asked for books for homework tasks. These students claim that they have a hard time to concentrate and remain focused on specific tasks using the computer at home. They are easily disturbed and have problems focusing on school work, when games and social media are just a few clicks away. According to neuroscientist Klingberg at Karolinska institutet (Widebeck, 2018, 19 mars) this is one of the major risks of using digital materials. He claims that all those possibilities to distraction surrounding the digital teaching materials aggravates the span of attention. Klingberg goes on to state that to scroll and browse sets high demands on the brain and its working memory, while texts on paper help the brain to create structure. The brain’s working memory is limited, and all the simultaneous executions steal that memory, which can affect learning (Widebeck, 2018, 19 mars). In my opinion, this might be a reason for choosing books over digital resources for some students.

When the decision of providing each student with a computer was made, there were no real opportunities to reject the digital teaching materials offered. As one of the teacher puts it:
"Well the principal meant that now when they [meaning the students] all have computers, we should not spend money on books." Even if the teachers didn’t feel engaged or involved in the process of the one-to-one project, or the process of choosing software, they cannot remember that anyone was against the project. In order to also get their own computer, the teachers were obliged to take an introduction course in how to use different standard programs. This was not seen as a problem. In certain subjects such as Maths, the provided material was withdrawn, but the teachers are not sure of the reason why. They think that there probably was something wrong with it or did not deliver what was ordered.

The teachers related different stories of how the implementation of hardware and digital teaching materials were carried out. One story from a teacher working in another municipality at the time tells that the teachers did not get any preparation time or education at all before IPads® were handed out to the students. She still remembers how she discovered ways of using it by herself. In particular, she discovered the digital tools for making tasks, which she previously thought would have been impossible to create in a practical manner before.

The interviewees who had been working at the school when digitalization was implemented found it hard to remember the discussions taking place, but often referred to good IT pedagogues, (colleagues with certain skills concerning information technology) who tried to prepare their colleagues as well as possible. Their qualms were more about what would happen if the students were robbed on their way home and would the students be allowed to install and play games on their computers etc.?

One of the teachers reports that she was so happy when digitalization became a fact, because during her time at university, there had been a great focus on the use of IT in school. However, it had created a problem during her VFU when it appeared that the schools were not even close to implementing these working procedures. Her lessons and material were built on the assumption that IT resources would be available in each classroom. Unfortunately, she was told that IT facilities or resources only existed in a specific computer room, which had to be booked in advance.

In general, the teachers say that they feel privileged to be working in a municipality where every student has a computer of their own and with digital teaching material software installed. They are well aware that this is not the case all over the country.
All of the teachers in this group teach not only English but also languages such as Spanish, German, Swedish or Swedish as a second language. When they compared the published digital teaching materials in the different languages, they came to the conclusion that the different language materials are structured differently, even if they are produced by the same publisher. One of the English/Spanish teachers would have preferred that the published digital teaching material in Spanish should be structured in a similar way to the English material. She explained that, in Spanish, the students get access to a whole range of materials that are of no use to the students at their stage of learning, and which makes them confused instead. In contrast, one of the other English/Swedish teachers felt she would preferred just that, since she and her 7th grade students had stumbled over certain grammatical concepts such as prepositions, which are first treated in the digital material available for the 8th graders. The teachers are concerned that there are few possibilities to adapt the published material for individuals on different levels. They express wishes that all the grammar resources should be available to all students. At present, licences control what specific material the students have access to, which creates limitations in the education. This also brings up the issue of time. Since the students do not have access to the material needed, the teacher has to spend time searching for additional materials to use.

A further question asked was what more than the way the published material was structured did the teachers find important. The answer was a wish for good texts and material that is easily navigated for all students. The teachers felt it needs to be logical and that there should not be different and too many links to confuse the students. There should be the opportunity for the students to listen to texts unlimited times, at different speed and to be able to use the tool for following the texts as it is being read. These were some of the main advantages mentioned. The teachers also highlighted the benefits of a self-correction tool, and that the digital teaching material they have access to creates an overview for both teachers and students of what has been accomplished or what needs to be done, on an individual level. The students can also see statistics of their activities. This creates an awareness of what they found easy or what they need to practice or rehearse.

In general, the teachers felt the system for feedback is not satisfying. Most of the teachers use a platform called Google classroom® instead. They agree that this platform makes it easier to give and provide students with feedback. They also agree that it is a kind of duplication of
work, but surrender to the fact that there are certain writing tasks that cannot be done in the
digital teaching material provided. If the digital teaching material could provide that
opportunity in an easier way, some of them would have preferred working with their teaching
material tool instead.

Some of the teachers say that the tasks provided in the digital teaching material are not good
enough and that they still need another platform to complement exercises. At the same time,
they see the benefits of drilling exercises provided for practicing vocabulary.

Some of the teachers prefer to work with teaching materials in Google classroom and use their
school provided digital teaching material as a complement, while others do the opposite. One
of the teachers tried to list the similarities and differences between the use of paper-based
workbooks and the digital material. She came to a conclusion that the discussions that used to
take place in the classroom do not exist in the same way anymore. For instance, if a learner had
not completed their homework by the time a common review was held, at least that student
could take part in the discussion of what the homework was about and learn from the other
students’ discussions. Since a lot of homework is now individually made, handed in digitally
and sometimes even corrected digitally, that discussion has become limited. This means that if
the student has not done his or her homework, they are unable to assimilate the knowledge by
participating in a discussion; there are none. Working with digital teaching material means that
the student has to take a lot of responsibility for their own learning. Agneta Gulz, scientist in
cognition at the University of Lund (Widebeck, 2018, 19 mars) describes the risk of students
who circumvent the software, which makes teachers think that a certain knowledge level has
been reached.

One great advantage, from the teacher’s point of view is that no student leaves their books at
home or forgets to bring their books to the class anymore. This is also a benefit for the parents
because they do not need to hear typical excuses of books left behind in school. All material is
always there. There are no lost essays or papers. An overview of assignments handed in makes
it easy for teachers to see who has delivered their assignments and who has not.

According to the teachers, digitalization and the provision of digital teaching materials has
made a huge difference for the teachers as pedagogues. Students can come more prepared to
the language lessons. For example, they may have listened to a certain text, worked with
difficult words and other verbal pronunciation challenges before coming to class. So, what do the teachers do with this saved time? At first it was a question without any answers. However, they did come later. (see page 18)

The teachers described other benefits of digitalization. They do not need to carry around all the paper materials, such as text- and workbooks. Having tasks from the students handed in and collected digitally helps the teachers to organize and keep all the material from different classes in order. They also reported that if a task is given and is supposed to be posted back at a certain date, it is easy to see who has not completed the task. It is the same benefit for the students. They can see that they still have tasks to finish and when they are supposed to hand them in. The manual labour of keeping a record of who and what is still to be finished or corrected has been greatly reduced. Reminders of deadlines help both teachers and students to keep them and to prioritize their work. In Widebeck’s pod cast (2018, 19 mars) when students were interviewed, they confirmed that they like to take digital notes during briefings and which they can later complement with their own work and that it is easier to keep school materials in order.

Another possibility with digital material is to provide students with a variety of texts. For example, teachers can provide students with five different texts from five different sources about the same subject. Instead of copying five of each of the chosen texts, it is easily done via links to the different texts. The texts can be at different levels of complexity. This creates possibilities for creating balanced tasks to satisfy students’ intellect on an individual level. Some students should perhaps work with more than one text, while some instead should focus on higher complexity factors, for instance. This also creates greater possibilities, a wider range and variety of a subject or a theme, compared to material in a printed book.

Through digitalization, the real world can be easily invited into the classroom, which is seen as a huge benefit. Richards (2015, p. 641) supports this argument. He states that the internet expands the classroom, by letting the students explore authentic multimodal content. From the intervieweees point of view, this can also be seen as a disadvantage. The source of information never ends, and it is sometimes hard to limit materials. Planning, sorting and selecting of material takes up a lot of time.

"It should be so much easier now, but the supply of options is overwhelming. When you had the book, you knew exactly what to do and the planning was done”. (Teacher no 5)
This gives one answer to where the time the teachers mentioned earlier went and which they should have been able to save. One of the teachers has been teaching for twenty-eight years. She claims that she has never worked so much and never put in so much time into her work as she does nowadays. Since the teachers and the students have access to the same amount and the same kind of information, some of the teachers feel that they have to dig deeper in the supply of information in order to offer the students something they have not already seen, heard or knew about before by googling.

This leads to another subject which is more important and relevant than ever; criticism of sources which is something the teachers have to guide their students in. According to the curriculum, the English subject should contain among other things:

“Teaching should help pupils to develop their skills in searching for, evaluating, choosing and assimilating the content of spoken language and texts from different sources.” (Skolverket, 2011)

Some of the teachers feel that it is not a particular problem when it comes to the teaching and learning of languages. Although, there can be some discrepancy between reality and the facts provided in the texts, they feel it is not that relevant as long as the language is correct. The reading and the practicing of the language is carried out anyway. Producing correct facts is something the publisher providing the digital teaching materials needs to be responsible for, according to Cecilia Augutis at Studentlitteratur. They also have to work with issues of copyright especially, when using pictures and certain material online etc.

Teacher no 6 believes that it is not only the amount and quantity of information that steals their time but also, and in particular, ensuring the quality of what they want to provide their students with. In general, the quality of texts chosen are evaluated by the teacher who found it. The teachers also wish to be able to evaluate materials found together with colleagues, but of course, there is an issue of time which makes it practically impossible.

Even digital materials provided from publishers contain errors. The teachers reported that they are often found in the so called self-correcting exercises, where the demands of writing exactly as the material proposes is necessary for the student to be correct. The opportunity to be able to improve those kinds of exercises is an ongoing discussion with the publisher. Through those dialogues improvements are made. That dialogue did not exist when the teachers only had
access to work- and textbooks. Today, even students are mailing the publisher reporting errors or suggesting corrections and changes.

Both Hylén, an expert in IT in school (Widebeck, 2015, 22 September) and Gulz (Widebeck; 2018, 19 mars) refer to different studies which propose that if students are to get the most out of the digital teaching material, it needs to be adaptive on an individual level. This means that the program should be able to adapt and create an awareness of what the student already can do or needs to improve by delivering tasks adapted to each student’s level of knowledge. This is something many suppliers of digital materials cannot deliver and provide today. In Widebeck’s podcast (2018, 19 mars) it is stated that if the digital material could deliver adaptive abilities, most researchers agree that digitalization and its tools can help increase the results of all students. Unfortunately, the functions provided by standard digital teaching materials compared with more traditional teaching materials, such as books, only tend to benefit weaker students the most today, according to Gulz (Widebeck, 2018, 19 mars).

The teachers interviewed are trying to limit the supply of online materials and information by only using certain webpages or following certain groups at Facebook. At first, many of them participated in many different groups and forums online but, after a while, it became stressful and they limited the amount of input to some favorites of their own. Teacher no 2 explains that she needed to stop searching for new material and start to re-use materials to lower that stress.

The teachers interviewed often create teaching material of their own to complement the provided teaching material. They do point out that it is no different to using traditional books, which also needed to be complemented. The difference lies in the access to the wealth of information and inspiration available to choose from.

One opinion from teacher no 2 is that the whole one-to-one project has made a greater change than the digital teaching material alone. She believes that it allows students to work more independently from the teachers, where the teachers’ role has become a provider of materials for the students to work with. Teacher no 5 argued that she can see a problem with it. She states that if that is the teacher’s main role, then it is easy to lose the communicative and the conversational. The part of language learning that all interviewees agreed that it is important not to forget about is communication practice and to provide opportunities for conversation. Otherwise, there is a risk that the students do all their work, all on their own. From a
sociocultural perspective, learning is strongly connected to the communication process (Phillips & Soltis, 2014). The teachers suggested that this risk can be eliminated by providing exercises that encourage students to be divided into pairs or groups to cooperate and work together.

The teachers were also positive to the fact that digital teaching materials allow students to practice the same exercise over and over again. This offers a moment of competition, as they are able to repeat the tasks until they reach the "jackpot" and which contrasts with a workbook where the task was done when it was done. Richards (2015, p. 641-642) also gives examples of benefits for the students of using technology in the classroom. In particular, he notes that it supports teaching in mixed-level classes. He states that rather than working on the same kind of material on the same level, students can work on skills they most need to practice, using appropriate resources for their individual proficiency level.

One less desirable effect with digitalization and the one-to-one project, according to the interviewed teachers, is that a lot of students end up doing something completely different than they should be doing on their computers during lessons. For instance, checking Facebook or YouTube clips that are not relevant for the task given. Teacher no 6 also claims that she sometimes gets a positive reaction from the students, when they get to work with a pen and a paper because they are so tired of clicking all day long. Linderoth (Widebeck, 2015, 22 September) argues that it would have been very positive to have provided a wider variety of technology in school rather than just computers or Ipads®, which are common tools for many students and which they also often have at home. Letting students become acquainted with a variety of technological tools would increase the technological understanding. For example, they should also be provided with digital drawing boards or smartboards.

Another question raised by teacher no 2, is the aspect of health. In particular she worries about the health of the students’ eyes when they spend day after day in front of a computer screen. There are also students who keep the light of the screen low in order to save battery power so they are able to play with their computer during the breaks.

Referring to the world’s largest study, the PISA test (Programme for International Student Assessment) which has the aim to evaluate how students translate their knowledge into different contexts by testing students’ knowledge and skills in reading comprehension,
mathematics and natural sciences (Skolverket, 2018), I asked the teachers to what extent the one-to-one project have been good for learning in general. The teachers’ common opinion was that it has nothing to do with digitalization or the digital material. They instead, referred to the effects of the new curriculum Lgr 11, which are yet to be seen and they also question what the PISA test really measures.

When it comes to the question of how or if the students results have been affected by digitalization, the teachers’ opinion is that no such distinctions can be made. They believe that it is the teaching and the setup of the education, not the choice of traditional or digital materials, that creates the prerequisites for the result of the studies. Digital teaching materials do not make you a better teacher. Teachers can choose to work in a traditional way even with digital materials. According to Linderoth (Widebeck, 2015, 22 September) technology itself sometimes stands in the way of knowledge. For example, working with a theme, where students are supposed to search for information and then create a movie concerning the subject, can easily end up with the technical challenge of creating a good movie, more than focusing on the knowledge concerning the subject. Linderoth also claims that it can be good to learn the movie making software, but not at the expense of education and knowledge, which is often the case.

There is also an equality perspective in having access to digital teaching materials. Children who cannot get support from parents with homework, have instead the opportunity to listen, practice and receive feedback from the digital teaching materials. This argument is supported by both Cecilia Augutis at Studentlitteratur and the teachers interviewed. They also add that using digital functions for recording speech creates the possibility for all students to be heard, instead of a few students who often take over the conversation lessons in the classroom. Not everything has to happen in the classroom anymore. Another example is how writing skills, due to less developed motorial skills, no longer need to be an issue. No student needs to be singled out in front of the class as having difficulties with reading when every student can listen to texts in advance. Richards (2015, p. 642) also supports this argument and mentions that using technology for language learning and teaching (TLLT) can be less stressful for learners. Students might feel compared with their peers in classroom-based activities, while TLLT supports individualized learning. Harmer (2015, p. 206) also gives example of how some students cannot attend classes and have no other possibility than to learn online. Through digitalization, students in this kind of situation can attend group- or private lessons by using videoconferencing tools. Appropriate material can easily be provided through mail or websites.
Over all, with digital teaching materials, the teachers find it easier to follow their students’ development and to control and follow up what the students have done. They do not find it intimidating to lose the control of their classroom as a consequence of digitalization. They feel secure in their knowledge of their subject and choose to see students, with certain digital skills as a resource.

5. Analysis

When analyzing the data collected from the interviews, literature and electronic resources I was able to identify three major themes. They are hardware, software and digitalization. From the interviews, it was clear that when talking about these themes, they are constantly mixed and are dependent on each other. To begin with, I will briefly analyze the references to hardware and software separately, even if these elements are also referred as a part of the concept of digitalization. The reason for it is that these specific elements are essential for the development of digital teaching materials. Hardware and software are, nevertheless, to be considered in the continuing analysis of the digitalization concept. As the main focus during the interview tended to be on digitalization, I have, therefore, chosen to analyze the concept of digitalization through a SWOT- analysis.

5.1 Hardware

Providing hardware of good quality makes a huge benefit to both students and teachers. First and foremost, it has to be functional and stable, so that teachers do not need to put effort and time into making it work. It would be good if students were exposed to technology that they do not possess or use on an everyday basis at home, in school. This would increase the technological understanding. This is supported by Linderoth (Widebeck, 2015, 22 September). The one-to-one project so far has been a good investment and continues to be so, as long as the administration- and distribution costs are in parity with good functional software (Sjödén, 2014). Another prerequisite for getting the best out of good hardware is, for example, a reliable network or other hardware components.
5.2 Software

According to research, publishers and teachers, digital teaching material itself does not create prerequisites for a better learning or adaption among students. According to PhD and Senior Lecturer at the University of Gothenburg Catarina Player-Koro (Widebeck, 2015, 22 September) digital material needs to provide certain properties, and only then can it be useful in certain areas and for creating specific knowledge. Even if the teachers interviewed consider the digital teaching material to be good, they still tend to supplement it with other digital platforms, such as Google Classroom®. Other platforms tend to be used because teachers feel that the digital teaching material provided often lacks functions, is too complicated or does not fill their or the students’ needs for providing different kinds of feedback. There are indications that other platforms are also being used as a result of habits or inadequate knowledge about the digital teaching material’s functions and opportunities. Some teachers challenge such positions and state that other digital platforms instead of the digital teaching material are used for specific functions. These teachers believe that the specific functions mentioned are as easy to use in the digital teaching material.

The most important issues with regard to digital teaching material for language learning purposes is that, in general, the texts are well structured and are easy for teachers and students to navigate. However, the teachers would prefer variety of structures, depending on the specific level languages are to be taught. For example, they believe that a beginner in a new language needs very well-structured material to work with to avoid confusion. On the other hand, specified licences for certain grades limit the access to materials needed in other grades. The teachers then need to find or make materials on their own. However, this also needed to be done even when they were working with paper-based books.

Examples of digital tasks found for language teaching are listening exercises, drilling vocabulary, writing- and pronunciation exercises. Students get instant feedback and can repeat exercises if needed when using digital teaching material. The moment of gaming and competition in digital teaching materials, with instant feedback and rewards, are one of the functions being emphasized as an opportunity and benefit.
5.3 Digitalization
As noted earlier, the concept of digitalization originally refers to, in a technical context, conversion from analog to digital representation of information. During the interviews, it became clear that it is hard to keep the discussion about hardware, software and digital teaching material separate. This analysis will, therefore, focus on the concept of digitalization as a single unit or a phenomenon which includes the use of hardware, software, digital teaching materials, other IT-platforms and the internet. Where further references are not given in the SWOT-analysis, I have drawn conclusions or summarized what was said during the interview.
## 5.3.1 SWOT analysis

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<td>• Demands great working memory</td>
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<td>• Individualization</td>
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<td>• Great variety of tasks</td>
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5.3.1.1 Strengths

Control and overview - Digitalization gives both teachers and students control and an overview of the material. Teachers can easily set deadlines for tasks and easily follow up those who have handed in tasks and see if they were done on time. They can also follow their students’ efforts in doing homework and assignments; if and how many times they have had to finish or tried to finish a task. All materials for one group of students or a class is gathered in one place. Teachers do not need to carry around materials. Both the teachers interviewed and Richards (2015, p. 644) support this argument.

Even students have a better control over what is to be done. An assignment does not disappear, in the same way a piece of paper could do. All materials needed for different tasks are collected in one place. Students do not need to carry around books. They don’t forget to bring homework home, or to bring finished homework back to school. By having dates and all assignments from different subjects collected, it is easier to prioritize what and when things ought to be done.

Individualization - The digital teaching material offers, for instance, texts that can be listened to. Depending on the students’ skills or ability, they can choose to listen to the texts at different speeds and as many times as they wish or need. The great variety of texts and tasks available, through digitalization can be adjusted individually for optimal learning. Richards (2015, p. 642) states that learners are helped to be engaged in assignments with content that interests them and suits their needs more closely.

Statistics – Using digital materials or platforms, results and students’ efforts are gathered in a database that makes it easy for teachers to follow up their students’ achievements. This simplifies the process for the teacher to adjust assignments for their students on an individual level. Being able to present this kind of data can also be useful for clarifying circumstances in cases where efforts or grades are questioned by students, parents or schoolboards.

Awareness raising - It is easy for teachers to show students what efforts have been made. It is also easy to compile a list of exercises the student has failed and what needs to be prioritized for a certain student. It also shows what knowledge is already well known so that students can put their effort into what needs to be practiced.
All material in one place - Workbooks, textbooks, homework, assignments, extra material etc are gathered in one place, the computer. Students don’t forget homework or books to take home or to bring back to school. All materials are also there in case extra subject tasks are to be done.

Preparation possibilities when working with pronunciation for example, instead of taking time in the classroom to read texts together, students can already have listened to the text, and time instead can be used for solving problems or difficulties the students might have had.

Keeping deadlines and track of uncompleted tasks - This is a part of control but where students can make priorities and plan their time for all different homework and assignments.

Great variety of tasks - Access to the internet has created an unlimited source of inspiration for creating different tasks and assignments. Not only tasks made by teachers but also the digital teaching material provided often have links out to the www. This makes it easy for the teacher to invite the real world into the classroom. Richards (2015) writes about this benefit and it is supported by the teachers interviewed. He states that:

“Using the internet, students can follow up on topics dealt with in class and explore authentic multimodal content drawn from the real world.” (p. 643)

Equality – In general, students have different opportunities for getting help with their studies and homework at home. Through digital materials and its tools for support and feedback, every student has the possibility develop skills and do homework on their own outside school without requiring the help of others. Other examples, are the different levels of motorial skills among students. By writing on the computer, those who have problems find writing is not an issue. Similarly, examples of speaking exercises that are recorded by the students and listened to by the teacher after class give all students the same opportunities to be heard.

Working independent - Providing tasks and assignments digitally creates the opportunity for instant feedback and the possibility for the students to work independently without the teacher. Students are given time to reflect or consider how things should be done or how to improve.

Repeating exercises – Assignments in workbooks or on paper are done when they are done. Digital teaching material exercises can be repeated over and over again, especially for drilling pronunciation and repeating with the purpose to practice and learn.
Focus on assignment instead of good handwriting or spelling - Using tools, such as a spell- and grammar-check, students can focus and concentrate on the content and purpose of the assignment, rather than putting too much effort into the practical implementation of the assignment.

Distance learning – Students who are unable to attend classes or physical groups can still get their education through videoconferencing tools for example. (Harmer, 2015)

5.3.1.2 Weaknesses

Demands great working memory – According to Klingberg (Widebeck, 2015, 22 September) working with digital materials on a screen demands a great effort of our working memory. Humans need to put more effort into their working memory to scroll, jump between tabs and to keep the structure of texts presented on a screen. This can be very tiring and demanding for many students, and the focus on the tasks can be lost.

Distractions - There are students who admit that they have a hard time to concentrate on assignments when using the computer. Sources of distractions, such as games and social media are only a few clicks away. Reminders and notifications constantly pop up and disturb concentration.

Inflexible - Since licenses for different year groups are needed for the digital teaching material, appropriate materials are not always available when needed. This might hamper the development of knowledge if certain questions are raised during lessons and no material are being found for use. This might also hamper improvised moments of students’ curiosity. It can also be hard to satisfy students’ different demands if licenses control the supply of suitable teaching material.

Duplication of work - To provide students with digital material, other IT platforms than the digital teaching material need to be used, because of absence of certain functions or incomplete materials in the digital teaching material provided of the school.
Control - If students can and decide to circumvent the digital teaching material there is a risk that the teacher gets a false picture of the student’s efforts and true knowledge. It can, of course, be detected and, hopefully, in time can be rectified so that the student passes and gets a fair grade which matches to their knowledge.

Unlimited options – By mining the internet and different groups on social media the supply, inspiration and alternatives of obtaining and creating teaching materials are almost unlimited. This can be stressful and creates a sense of not being good or adequate enough as a teacher. The pressure of always having to create or find new teaching materials, in order to provide variety makes it difficult to evaluate those that have already been created.

Working with material created by teachers - Creating teaching materials is very common, as it is necessary to complement the provided digital teaching material. There might be a risk in doing so, as the teacher creating the materials also evaluates and validates that material according to their own criteria. This demands a high level of knowledge of the students and the pedagogical aims to find the right level suitable for the class and the individual being taught.

Loss of communication and conversations - As a consequence of the possibility for students working independently with their digital material, handing in assignments digitally and receiving feedback digitally, there is a tendency for communication and conversations in the classroom to decline.

Monotonous - Having digital teaching materials in many subjects can make the days quite monotonous for the students. They work in front of the same screen and click the same buttons all day long irrespectively of subject.

Issues of health - Questions concerning the health of the student’s eyes are raised. Unfortunately, the solutions to the problems are few.
5.3.1.3 Opportunities

*Adaptive programs* - To optimize the effects and potential of digital teaching materials, programs need to be adapted to the individual. The program collects information about the individual in order to offer each student tasks that lie within their zone of proximal development (Phillips & Soltis, 2014, p. 92). It is in this area of application that the digital teaching materials and digitalization can affect the results of the student considerably in contrast to the use of traditional books or equipment. (Widebeck, 2015, 22 September; 2018, 19 mars)

*Opportunities of development* - The technological development creates possibilities for increasing functions and flexibility in the digital teaching materials. This generates developed opportunities for supporting the individual in a more sophisticated manner. (Widebeck, 2015, 22 September; 2018, 19 mars)

*Variation of materials* - The unlimited source of materials and inspiration that the internet and digitalization offer generate the possibility for the teacher to offer their students a greater variety of assignments adapted for different groups or individuals. This is also pointed out by Richards (2015, s. 641-642).

*The teacher can choose materials* – As a teacher, it is a privilege to be able to choose from an unlimited source of different materials. If the provided materials are incomplete or a different or specific subject is required by the students, it can often be found on the internet. The teacher has the possibility to create variety both for the students and themselves.

*Equality* – Due to digitalization, knowledge and learning become more available and inclusive to a widened group of participants; cultural, capital, social background and economic resources no longer prevent certain learners from accessing information.

*Good preparation for society and the labor market* - The information society is a fact. Digitalization is a fact. The internet as a resource and the increasing capacity of computers and their functions are facts. Students need to be prepared with the skills and knowledge of digitalization and its tools to be able to contribute and take part of the society. School is an arena to prepare young people for the future.
5.3.1.4 Threats

*Distractions* - The issue of distraction from available social media, games or other apps might create an environment, in which students have a hard time to concentrate and focus on the relevant tasks. This can lead to declining results and grades.

*Limited transfer of knowledge through social interaction* - Communication and conversation in the classroom is an important tool for knowledge. If these parts of the education become less common, it might affect the level of conversation skills and lead to declining results.

*Bad quality of teaching materials* - Less competent teachers might provide students with materials of interior quality. If a lot of free materials are used in schools, publishers might not find it no longer profitable to provide digital teaching materials that are actually evaluated and validated.

*New materials all the time* - No evaluation is made of used materials if the teachers constantly provide students with new materials. This might endanger the quality and validation of materials because no comparison can be made of what worked and what did not. Evaluation of used material becomes limited. Sjödén (2014) also mentions the risk of using materials that have not been evaluated.

*Technology issues becomes more important than knowledge itself* - Efforts of being creative, by using technology in education can sometimes move the focus from the educational task to how to handle the technology in creating a movie, for instance. The technology and how the movie software works becomes the main task and the actual subject becomes secondary. (Widebeck, 2015, 22 September)

6. Discussion, summary and conclusions

In section 4 I recorded the results of the interview in detail and in the general order that they were asked. In section 5 I then analyzed these results through a SWOT inspired methodology, and now in this section I conclude the whole study through an overall summary and discussion of the most important findings.
It is very hard to limit a discussion on digital teaching materials. The connections to hardware and digitalization itself are so strong and dependent on each other and are constantly mentioned as a single unit or a phenomenon. In the following summary, I will discuss the main findings in the literature, teacher’s opinions and attitudes to both digitalization and the digital teaching materials along with their benefits and disadvantages. I will also mention how the teachers perceive some changes of their role as teachers.

Digitalization is an important part of school and its work. It creates possibilities for students to become familiar with technology, hardware, software and how to work with it. Through access to the internet, the real world is easily invited into the classroom. This is something that contributes to create motivation and engagement in the learning process. The source of materials is unlimited along with sites of inspiration and ideas for teachers. I think that teachers should use the opportunity to exploit the wealth of information provided by the internet but only as long as it has relevant and clarified purposes and aims for what is to be taught.

Digitalization also benefits equality and fairness. Help is always available; it is only a few clicks away, for all students. Digital tools, such as computers or IPads®, can be helpful for students with disabilities or who are in different stages of maturity (physical as well as mental). However, it is important to provide paper-based books if the teacher or the student require them to be used to meet certain needs. I think that teachers should not be afraid to let students explore new technology that can contribute to their development and skills in different areas. Even if the teacher does not feel comfortable with all new technology I think exploring together could create knowledge that benefits learners.

Digital materials are more easily adapted to individual needs, mainly through the adjustable functions of the materials or the ability to access and provide a wide and deep range of assignments or texts, for instance. Drilling tasks and other assignments with instant feedback can be practiced several times by students, if needed. The potential of the digital materials is not always optimally explored. Currently, it is only certain groups of students who gain the most benefit from their use. The reasons could be an absence of knowledge in functions and usage. Software being used needs to be developed with functions of adaption on an individual level to optimize the potential of digitalization and, thereby, learning for every student. Therefore, it is very important for teachers not to use digital tools and materials in a perfunctory
manner. They need to be specific about in what way or with what tools all learners benefit from using digitalization and its tools in teaching.

Another huge benefit are the properties of order. The digital teaching material and platforms make it easy to keep track of deadlines, gather and divide materials for certain subjects, classes or groups or gain an overview of what has been done, and by whom. These functions benefit students as well as teachers. As a result, students and teachers always have all materials available, at home as well as in school. No papers, homework or books are lost or forgotten, either in school or at home. Information and calendars can always be updated and are current, correct and available for everyone at the same time. Time could be saved and invested in teaching to provide deeper or wider knowledge in different subjects if administration is reduced.

Distractions from digital sources should be limited for students in order to develop skills of concentration and focus. A teacher needs to think about and be aware of what kind of distractions the students are being exposed to due to digitalization in the classroom and during digital homework, and how the teacher and the students themselves can reduce it to keep concentrated and focused. If we consider theories that state that knowledge is created in a social context, it seems important that teachers invite learners to converse and communicate. However, these opportunities seem to have become limited in the classroom, due to the fact that all individual work is being done on the computer. Therefore, initiatives need to be taken to invite these parts in education for support of learning.

To create a variety of tasks for motivation and to supplement the digital teaching material, new materials are being found on the internet and used in the classrooms. The teachers’ competence in their subject becomes very important as they have to evaluate and validate these tasks, since most of them are individually selected by one teacher without verification from other colleagues. Teachers, but above all, learners might benefit from reuse of assignments. By reusing assignments, they can be evaluated and adjustments can be made to optimize them for learning. It also creates possibilities to lower or reduce pressure and, in some cases, feelings of stress and insufficiency from the teacher’s point of view.

In the end, the preparation for further studies and the labor market would be insufficient without working with digitalization and technology in school. In our highly developed information
society, the digital and technological skills are requested and demanded in most businesses and professions, one way or another. Therefore, the dialogue with the students is important in order to create awareness of the advantages, disadvantages, possibilities and responsibilities of working digitally and generating new knowledge.

It would be very interesting to carry out further research into how the digitalization impacts on the students’ results and abilities, compared to a more traditional way of teaching.
7. References


Electronic sources


https://www.skolverket.se/skolutveckling/forskning/didaktik/tema-laromedel/pa-vilket-satt-forandrar-it-verktyg-undervisningen-1.181725#
Appendix 1

Extract from the interview with the teachers. (Author’s translation)

Author: My first question is, what teaching material is available for you today? who decides what material and…. we are now referring to English.

Author: So, what teaching material is available today?

T3: Gleerups.

T4: Happy… We need to say Happy.

Chorus: Right, Happy. Happy it is.

T1: Plus we have "Proverbial"

Author: What is Happy?

T3: Ok, the whole school did get a good price if we bought most subjects, or many subjects from Gleerups läromedel.

T4: But Happy is a textbook which is paper-based

T3: and it has existed for…

T4: and Gleerups has chosen to have that in their line of books in English, or rather that is the book provided if you buy from Gleerups; then it is Happy, as simple as that…

Author: Is that a digital or a paper-based teaching material?

T1: It is both. But we have it digital.

T6: Yes, but we only have it digitally…

T4: No, no we even provide books for some…

T6: Yeah, that is right

T3: Well it has existed for quite some time…

T6: ….but it is provided as book for students who requires…

T3: ….but then they made a digital version of it.

Author: Are there full sets of paper-based books?

T3: I think we have approximately 5 copies of each set or something…

T6: Are there workbooks too?

T3/T4: Well… I am not sure really…

T4: They are in the library [meaning the library in school] and becomes a book you borrow. They are meant for the students who really needs them. That way you have a control of that the right students, the ones who needs them, actually gets them. Some of the students manage to work with the digital teaching material in the classroom but need a paper-based book at home to be able to stay focused when doing their homework.
Pär Cederhag