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**The effectiveness of digital reading for
motivating student reading and vocabulary
development**

*Effektiviseringen av digital läsning för att motivera elevernas läsning och
ordförrådsutveckling*

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Abstract

Even though vocabulary skills are the essential key to achieving proficiency in a target language, there are some students who do not like reading. Thus, the purpose of this study is the potential use of digital technology for facilitating and motivating reading and vocabulary building in English. Thanks to technological innovations, children and young people are reading and writing in many ways and digital tools have become a part of everyday life for children and adults. Since 2018, the schools in Sweden have been preparing for the first digital national tests that will be taken in the year 2023. The Swedish National Agency for Education (Skolverket) has highlighted the importance of digital tools and the competence that is needed for teachers so that the students will be able to pass and succeed in their education. Digital tools in schools all around the world have become an essential tool in the classroom, especially in Sweden.

Ultimately, this critical literature review investigates whether the use of digital texts in the ESL (English as a Second Language) and EFL (English as a Foreign Language) classroom can help students improve and build their vocabulary as well as motivate children to read. It also examines the advantages, disadvantages, and effectiveness of using vocabulary learning in the classroom to motivate students to read more. The goal is to motivate students to read more so that they will be able to practice reading independently and, thus, become fluent readers. The results indicate that it is crucial that teachers improve their competence in digital technology.

Key terms: *Digital, reading, books, motivation, English as a second language (ESL), English as a foreign language (EFL).*

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1. Introduction

PISA (Programme for International Student Assessment), an international research study that is led by the OECD (The Organisation for Economic Co-operation and Development), held the first digital reading comprehension test in the year 2009. A total of 1921 Swedish students from 179 schools who also completed the traditional PISA tests participated. The results revealed that the Swedish students received a score of a higher than average in the digital tests compared to the traditional tests (Skolverket, 2011). In 2018, another PISA test on Swedish students revealed that students read less in 2018 than they did in 2009 and that their attitudes towards reading have gone down significantly in both Sweden and other Nordic countries (Skolverket, 2019).

The Swedish National Agency for Education (Skolverket) mandates that teachers should help students to develop reading skills in school as it is critical to both digital and traditional forms of communication both in school and in their daily lives. They further state that students need to develop different reading strategies and that digital competence is needed, as digital tools are seen as the future (Skolverket, 2011). There thus is a strong directive for teachers and students to work with both digital and traditional reading materials. Skolverket also highlights in the curriculum the importance helping students to develop their use of digital technology:

All pupils should be given the opportunity to develop their ability to use digital technology. They should be given the opportunity to develop a critical, responsible attitude towards digital technology, so that they can see opportunities and understand risks, and be able to evaluate information. The educational programme should thus provide pupils with conditions to develop *digital competence* and an attitude that promotes *entrepreneurship*. (p. 8)

Digital books have multimedia and interactive features such as providing stories through pictures and texts. E-books need not only represent text on the screen, but may also include links, comments, movies, sound effects, and the text being read for you. Skolverket (2021) maintains that listening and interacting increases through the use of digital books as it evokes thoughts about reading and gives students the opportunity to create meaning from the text through multimedia elements. Given the PISA report that children and young people spend less time reading, Skolverket argues that it is particularly important to study these reading

habits and perhaps think twice that maybe it could be seen as a positive magic pill to enhance children's reading ability (Skolverket, 2021).

Empirical studies have supported the theory that having sufficient vocabulary knowledge is fundamental for successful reading comprehension (Maboe, Smith, Banoobhai & Makgato, 2018; Ma and Lin, 2015). According to Engberg (2013) acquiring the content of a text is not only about decoding or the reading ability but also about practicing reading comprehension, increasing vocabulary, and giving the opportunity to participate in everyday discussions. But students could become bored if they only listen to the teacher introducing the meaning, pronunciation, and spelling of new vocabulary (Nguyen and Khuat, 2003). Yip and Kwan (2006) stated that if students are given assignments and required to learn words and spelling, they will lose interest and motivation in learning. Huang et al. (2012) also argues that when learning vocabulary, it is not effective for students to learn by rote memorization because it is not an effective method.

It is also well known that both interest and student motivation are essential for learning and success in the language learning classroom (Ushioda, 2011). And Skolverket (2011) emphasizes the correlation between students' motivation and interest for learning. Numerous researchers argue that the use of digital tools in the classroom can increase students' motivation to learn and helps to improve their learning performance (Chen and Hwang 2014; Huang et al. 2014; Hwang et al. 2014). Digital texts can thus potentially be used as a helpful tool to motivate students to read more and thus build their vocabulary and thereby increase their reading skills. Chou (2014) argues that students in English as a Foreign Language (EFL) classrooms can become more engaged in language learning through multimedia such as games and songs. Furthermore, students can also increase their vocabulary by collaborative works, such as pair and group work because they hear new words and phrases from their classmates. Because it provides the students with more advanced words, collaborative work supports students who may be low-proficient (Chou, 2014). Teachers play a very important role in involving students in their learning. Teachers should be engaged in the tasks and improve their competence in digital technology so that they are able to motivate students.

This study will explore the effectiveness of using digital texts for helping students to build vocabulary and thereby also benefit the development of their reading skills, focusing on

children from first grade until high school from different countries in the English as a Second Language (ESL) and/or English as a Foreign Language (EFL) classroom.

2. Aim and Research Questions

The purpose of this study is to investigate digital texts for facilitating vocabulary learning in the ESL/EFL classroom. I will also investigate to what degree reading on a screen helps motivate young learners. These aspects will be researched, analysed, and compared in individual sections with the support of research articles and resources such as the national curriculum and science that covers the questions.

The specific research questions are the following:

- What are the benefits and challenges of using digital texts for the students' vocabulary building in the primary ESL/EFL classroom?
- Effectiveness of using vocabulary learning in the primary ESL/EFL classroom to motivate students to read more.

3. Methods

In this study, different articles have been collected to shed light on the effectiveness of using digital texts in the ESL/EFL classroom. Motivation was derived from the articles about vocabulary learning. The primary resources have been electronic articles available in educational databases. The study started by reviewing numerous texts to get an outline of the research situation. Next, a key word search was carried out, using the research databases ERIC, PsycINFO, ProQuest Central, SwePub, as well as the search engine Google Scholar.

In the following I present the databases that I have made use of as well as the keyword search terms. Next, the inclusion and exclusion criteria are provided. Finally, the results of the search results are presented in table format.

3.1 Search Delimitations

In the beginning of the study, a research area was chosen. After choosing the research area, keywords were formulated to find the relevant materials. The databases and search engine that were searched and used for this study were ERIC, PsycINFO, ProQuest Central, SwePub and Google Scholar. The keywords used in the searches were: screen reading, teaching, reading, digital reading, printed books, digital tools, reading from the screen, motivation, ESL, EFL, read print books, education, school, digital text, technology effects, literacy skills and vocabulary. The keywords were combined in different ways using truncation and combination search. I also made a phrase search, which turned out to be an efficient tool for defining the sample. The database ERIC provided the most relevant hits during the search.

The first search started with the keywords school, digital and vocabulary. The search was formulated as “school AND digital reading AND vocabulary.” This resulted in 12 hits. Additional delimitations were made on the database ERIC by using different functions. The first delimitation generated hits that are only “peer reviewed”. The second delimitation was “full text”. The third delimitation was chronological, only showing articles from the years 2000-2022. This limitation was made since technology is constantly changing and developing in the world and in the classroom. The research should be up to date. The search then reduced the hits to 6. The information collected from all the databases was implemented and used in the study.

3.2 Inclusion Criteria

When selecting the results, the inclusion criteria included exclusively peer-reviewed empirical studies. This assures the adequacy of the information and that it is trustworthy. The studies consisted purely of young learners in the primary school, aged between six and twelve years old. The articles were from all over the world so that they presented how digital technology was used globally in the ESL/EFL classroom to learn the English language. The chosen articles were in English for the time frame 2000-2022. I found one Swedish research on this study area, but it focused on older students. Which is why, studies from all around the world were included.

3.3 Exclusion Criteria

Articles that concerned older children or adult students were excluded. Many exclusions were also made when the articles were before the year 2000, it was crucial that they were after the year 2000 since technology is frequently changing and developing in the world and in the classroom. Thus, to prevent the research area becoming too broad, additional articles were excluded that did not focus on vocabulary building and/or motivation, but instead focused on other aspects of digital technology and/or other language skills. Furthermore, articles that did not specifically target second language acquisition and foreign language acquisition were excluded. Many of the articles focused on games which is why out of the 6 articles only one was chosen.

A summary of the Inclusion and Exclusion criteria is presented in Table 1.

Table 1. Inclusion and Exclusion Criteria

Area of interest	Total number of references	Number of references used
Vocabulary	10	8
Motivation	8	7
Other	2	2

4. Results

There are different aspects in relation to the area of interest that are presented. Each heading includes an overview of the questions. The study has the following structure: advantages of reading on a screen for building vocabulary knowledge (4.1), disadvantages reading on a screen for building vocabulary knowledge (4.2) and motivating students to improve their vocabulary (4.3).

4.1 Advantages of reading on a screen for building vocabulary knowledge

Many sources affirm that the incorporation of digital technology such as e-books can be effective for building vocabulary in the ESL/EFL classroom. A study by Amelia and Abidin (2018) provides further evidence that the combination of multimedia and technology in the ESL classroom increases students' interest in reading and learning. This study was in a Malaysian city called Perak where six students aged eleven in a primary school were chosen. Many Malaysian families have English as their second language and children are obliged to study the English language in schools. Despite this, the students in this study have different English language skills that are between high and low. The research method was based on qualitative methods. Digital storytelling applications on a tablet were used to learn vocabulary in the study, the authors claim that it presents positive effects concerning students' listening, speaking, reading, writing skills, and vocabulary skills. Multimedia and technology that are combined in the schools have positive effects on learning and become more effective, which is confirmed by different Malaysian researchers.

Correspondingly, Maboe, Smith, Banoobhai and Makgato (2018) examined the ESL classroom in Atteridgeville, South Africa students in fifth grade from selected primary schools if the use of tablets improves their English vocabulary skills and reading comprehension. The research methods were based on a qualitative method involving a case study and consisted of twelve learners, six teachers, and six parents. This study demonstrates an advantage to using tablets because modern digital natives like to use technology in their learning and enhance the learners' reading and learning. The learners learn new words and become more fluent with the help of audiobooks, and they are able to develop their vocabulary by listening to stories on tablets. The parents of the learners did not think that

tablets could be used as a teaching tool in schools because they generally used them for other communication purposes. One learner adds that their vocabulary has increased since using audiobooks in school and likes using them because of the multimedia it delivers and the difference from reading printed books. Audiobooks provide sound and pictures which means that the learner could hear the correct sounds as well as follow how they are spelled, in return the student's confidence enhances because their pronunciation improves as well.

Moreover, a study in Perak, Malaysia by Leong, Abidin and Saibon (2019) investigated the impact that digital storytelling has on vocabulary learning in the ESL classroom among six Malaysian students, age eleven in the fifth grade. The research was based on qualitative methods where the survey results indicate that digitalization has positive outcomes regarding vocabulary learning through digital storytelling. Digital stories have a positive impact on the students, and the students speculate that it enhances their language learning in terms of their vocabulary development as well as improving their English language learning.

Furthermore, Maynard (2010) claims that combining multimedia and technology in the ESL classroom could especially attract visual learners and even motivate students to read more. This research study covered three different families in the United Kingdom where each family had two children; the children were aged between seven and twelve years old. The study was carried out with primary students who read e-books for two weeks. Maynard collected the experience in a diary and interviewed the children at the beginning of the study and at the end of the study. Because e-books provide them with visual literacy such as text, audio, video, special effects, and gaming it has many benefits. He argues that visual literacy is both more attractive and significant to vocabulary learning.

Correspondingly, A study by Abdul-Ameer (2014) aims to demonstrate progressive results in students' vocabulary learning in the EFL classroom. The study was in Al- Imams' Ali private primary school for girls in Al-Diwaniyah City, Iraq and consisted of forty girls aged eight in the third grade. Each student had a computer so that they could follow the story and interact with it. Forty students were divided into two groups, one experimental group, and one control group. Twenty students participated in the experimental group and twenty students participated in the control group. Both groups had the same teacher that participated. The aim of this study was to investigate if computer and internet- based technology would improve vocabulary learning in the EFL classroom. Findings indicate that digital stories have a

positive effect on students' vocabulary learning. The experimental group outperformed the control group in the test. The experimental group enhanced both vocabulary and listening comprehension. Abdul-Ameer (2014) adds that students can improve their vocabulary in a playful and enjoyable setting when the teacher organizes and selects websites that are suitable for the students.

Additionally, a study in Lahore, Pakistan, by Ali, Bashir, Anjum and Mahmood (2020) consisted of sixty students in the third grade. The study investigated the effect of MALL (Mobile Assisted Language Learning) on vocabulary learning of young ESL learners. Sixty students were divided into two groups, one experimental group, and one control group. Thirty students participated in the experimental group and thirty students participated in the control group. Both groups took a pre-test regarding vocabulary assessment. Afterwards, the controlled group were taught through conventional methods, and the experimental group learnt vocabulary words through MALL. After two weeks, post-tests were then completed, and the results were collected and evaluated. The results indicated a significant difference in the performance of the experimental group compared to the controlled group. The findings indicate that new teaching methods to students through MALL is an important teaching method that improves students' vocabulary.

Finally, a study in Malaysia by Ghalebandi and Noorhidawati (2019) investigated the motivation and pleasure regarding digital books in the EFL classroom among Malaysian bilingual children. In a class of first and second graders, ages seven and eight. Five boys and six girls participated, which means there were twelve children in total who participated. Five were from the first grade, and seven were from the second grade. The teachers selected students who were best suited for this study as they had to read digital books in English, and these children's English literacy level skills were between good and moderate. Many of these children's families are bilingual, and they speak and communicate in English as their second language. The study researched their reading comprehension skills and listening comprehension skills. The authors claim that the students show a positive attitude towards digital books. Ciampa (2012) then went on and studied sixth graders and the effects of reading storybooks online and whether it motivates the students to read more digital texts. Students who read digital stories online receive higher scores in their reading comprehension. Their motivation levels go up as well, and they would like to continue reading in their spare time.

4.2 Disadvantages reading on a screen for building vocabulary knowledge

Although the research reviewed above generally identified positive benefits of using digital technology in the ESL/EFL classrooms in terms of vocabulary building and reading comprehension, several other studies indicate that there may be certain disadvantages to digital reading.

A study by Şahin (2011) in a primary school in Kirsehir city center, Turkey in the EFL classroom during the Spring of 2010-2011 academic year consisted of forty-four students from two different fourth grade classrooms. The students were randomly selected by sampling method and were then compared in the quasi experimental design. One group consisted of nineteen students who were in the experimental group where reading texts were submitted in a page-by-page format. The other group consisted of twenty-five students who were in the control group where the texts were presented in a page scrolling format. The results indicate that it shows no difference between printed books and digital prints regarding students' reading development.

Finally, Chiong, Ree, Takeuchi and Erickson (2012) claim that children become lazier when reading electronic books. This study consisted of thirty-two pairs of parents and their three- to six-year-old children at the New York Hall of Science. The parents and their children were divided into four groups, where half of the group read an e-book first and then a printed book and then switched. The data were collected over several days. After the parents and children read the books, the interviewer assessed the children's comprehension of the story and asked the children different questions. The results indicate that because many electronic books offer multimedia features it distracts children from the real learning purpose and story, instead, it encourages the students to become lazier in reading and it disturbs their reading comprehension.

4.3 Motivating students to improve their vocabulary

Numerous studies address what might constitute effective teaching strategies and methods to motivate young learners in the ESL/EFL classrooms. For example, Maynard (2010) claims that schools in the United Kingdom have a significant role in encouraging children to read

more, even in their free time. Children and students ages between seven and twelve years old who read more, enjoy it, and become proficient. Teachers who incorporate reading into the ESL classroom encourage students in good reading habits both in the classroom and at home, and this improves their literacy skills. Students are more comfortable sitting in front of a screen surfing the web rather than reading a book. They no longer have enough concentration to fully read through to their conclusion. Therefore, it becomes more popular to read e-books, since digital technology becomes more appealing to students who do not respond well to printed materials. New technology becomes more popular amongst readers and even changes the way students read. Students choose electronic books (e-books) instead of printed books. Students who read on the screen, such as the Kindle and iPad satisfies users as much as a printed book. However, the speed of the reading is slower.

Furthermore, the study by Ghalebani and Noorhidawati (2019) written above, indicates that students gain more motivation to read electronic books. They came to this conclusion by investigating the motivation and pleasure regarding digital books among Malaysian bilingual children in the EFL classroom of first and second graders, ages seven and eight. Students were observed as well as interviewed. Hove and Pedersen (2013) add that e-books offer multimedia such as sounds, pictures, and videos, and because of this it grabs children's attention, which then increases their motivation to read.

Research from an EFL classroom in Macau, China also suggests possible downsides to the digital approach in the EFL classroom. Norte, Negreiros and Correia (2017) investigated five Chinese native students in a primary school in the fifth grade. A mixed methods procedure was implemented such as a combination of qualitative and quantitative data collection. The reason for this combination is that the mixed methods use of both quantitative and qualitative methods provides a better understanding of the research problem (Creswell, 2012). According to Creswell and Clark (2011), they find that descriptive sequential design is the most appropriate method (Quantitative and qualitative data were collected sequentially in two stages, one form of data collection followed/informed the other form.) They believe that this is perhaps the most popular form of mixing methods in educational research, which involves first collecting quantitative data to obtain an overview of the research problem, and then qualitative data to illustrate and explain the overview. For a quantitative method to be more appropriate, students' numerical data were retrieved from a digital platform in the first stage to track their Lexile growth, because Lexile® Framework mainly uses a digital system to

measure progress. Furthermore, the data extracted from the platform allowed numerical statistics to be generated for numerous types of analysis.

Correspondingly, research from China by Sandaran and Kia (2013) in a primary school that consisted of third graders, aged nine investigated the effectiveness of digital stories for listening comprehension. Thirty students were being observed by listening and viewing eight different animations of fairy tales over a period of eight weeks. When the students were being observed, the researchers found that the students displayed high levels of interest, attention, and motivation not only to digital stories but also to fairy tales. After the exercises were completed, the results signified some improvement in the students' comprehension levels. Finally, to ensure that digital stories successfully improve students' listening comprehension, it is noted that pre-teaching vocabulary in the classroom is essential. The findings indicate the potential of digital stories in increasing the level of motivation, interest, and attention in ESL/EFL learning.

Finally, a primary school in Palestine in a class of fifth graders in the EFL classroom analysed the effect of digital storytelling on emerging oral communication skills. The sixty participating students were divided into two groups, one half was divided into the experimental group and the other half in the control group. They were thirty in each group. The data were collected by two tools: a pre-post achievement test and a checklist of oral communication skills. Elenein and Hassan (2019) claim that the students become motivated to learn more and the results from the experimental group prove that there is a positive effect of digital storytelling since it improves the students' oral communication skills and performance.

5. Discussion

The purpose of this study was to investigate the effectiveness of using digital texts in the ESL/EFL classroom, and how digital texts could be used as a teaching tool in the classroom amongst primary students to expand their vocabulary. The results of the studies have shown useful evidence for the ESL and EFL learners' reading comprehension, vocabulary building, and motivation levels. In this study, I found that many researchers claim that there are positive factors regarding the use of digital books in the classroom when it comes to vocabulary building which falls. Thus, my findings are in accordance with these studies.

Students today like the idea of reading digital stories because it provides them with multimedia such as sound, pictures, and video which makes it more interesting to listen to and read than a printed book. Digital stories are beneficial when learning a new language because it presents additional features such as vocabulary, grammar, sentence structures, and linguistic elements. Also, vocabulary learning is enhanced through digital stories because the students are exposed to the lexical elements while both listening and reading digital stories (Leong, Abidin & Saibon, 2019).

Furthermore, e-books are more appealing to children as many are visual learners. Children who are hesitant readers turn to electronic books instead of printed books and they even become encouraged to read more as e-books provide them with visual media such as animation, sounds and, a narrator. This is beneficial as it provides them with the area of interactivity. Not only does it improve the children's literacy, but it also amuses and motivates them to read more (Maynard, 2010). Maynard claims that because of this, e-books may have the power to overthrow printed books. The interactivity of e-books is frequently evolving and so is the market for e-books and e-readers. The fraction of the population, which has embraced e-books has increased significantly, where Amazon e-books began outselling hardback equivalents in 2019. The Kindle device and the iPad have become more popular for students to read than a printed book. There are predictions by Maynard (2010) that traditional printed books will soon be taken over by digital technology. However, it should be taken into consideration that this research study demonstrated that additional research may need to be investigated regarding e-books and educational e-books.

Despite the advantages mentioned, studies have also presented that digital books may not be suitable for all students. Norte, Negreiros and Correia (2017) demonstrate that although the students appear to need someone to help them simplify the process, guide, and encourage them to read, they typically are not reluctant to reading. External motivation strategies are considered helpful, and through the same interventions between teachers and all students in one group, such as constant reminders to read, mandatory reading of a certain number of books every month, public praise of students, and reward points for learning. Their achievements have made meaningful progress. Using various teaching methods, to attract and motivate children to read, provide various supports to continuously provide support, promote the reading process and monitor students' reading activities, and discuss these findings related to the importance of teacher intervention.

An indication of the increase and usage of digital technology in schools in different countries, including Sweden, is that it has become prevalent for children and students to read digital texts on a computer, iPad, Chromebook, etc. Schoolwork and projects are completed with the assistance of technology. Numerous students globally send in their schoolwork through digital platforms such as Canvas, Google Classroom, PING PONG, etc.

In the curriculum, Skolverket (2011) states that it is important for children to gain confidence when communicating in the English language in different situations and for different purposes. I believe that if schools gain a broader knowledge in technology, they will be able to incorporate digital learning better, it will make it easier for students that do not feel comfortable, which surely leads to more inclusive education for students. Hence, the findings support the recommendation in the Skolverket curriculum i.e., that schools should develop different ways of teaching reading strategies and support digital competence.

This research study presents many benefits of reading on the screen. The advantages are greater than the disadvantages for the young ESL and EFL learners both in schools and in their spare time. Through this research and the findings on this topic, it has been concluded that using digital tools in the classroom can assist in helping students to gain confidence, motivation and help them with their vocabulary development. Reading digital texts online can be both effective and beneficial to students' reading comprehension and motivation levels when the teacher has the appropriate technical knowledge and competence, as well as trust in the students.

Concerning the research question of reading on a screen and how digital tools benefit students' vocabulary development, I found that it was not a yes or no answer with regard to every student because each student is different and learns in a different way. Many students choose to read printed books and others do not. In my upcoming career as a teacher, I must get to know every student and create a good relationship with them so that I know in what way I can help them to gain more confidence in the English language and increase their interest in reading more books. It is also essential to create a positive environment in the classroom concerning digital tools.

6. Conclusion

The findings indicate that the use of digital tools in the classroom improves the students' vocabulary. Research on the impact of digitalization on Swedish schools is still insufficient. Digital books have a positive impact on vocabulary learning and motivate the students to read more books both in the classroom and outside of it, which helps them to learn English.

As mentioned in the introduction, Skolverket (2011) has encouraged the use of digital tools in schools, and teachers should try to incorporate digital texts and stories as much as possible in their classrooms. It has also been claimed by many researchers that digital tools are beneficial for students in ESL and EFL classrooms.

Because technology is used in many schools, this research can be further investigated as technology is emerging, and new ideas can develop. The next step in the research is to investigate classrooms in Sweden, and the impact digital tools have on students and teachers. Moreover, it is necessary to further investigate research content for various learning developments such as listening comprehension, etc.

It could be predicted that soon, almost everyone will be able to have access to the best educational tools for free online. Schools will focus on personalized learning, which means that students will not learn with everybody else in the classroom. Instead, technology will be adjusted to every student's needs. Classrooms will become more interactive, and teachers will spend less time lecturing. Teachers will spend more time mentoring students: in other words, creating a virtual classroom.

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