

Audio books in school:

The perceived help adolescents gets from using audio books in the school environment.

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Abstract

There are negative effects for people with reading and writing difficulties. This might be frustration when they are forced to read, and embarrassment when they do not manage to keep up with the rest of the class. These feelings can be dampened if educational measures and tools, such as text to speech and audio books are set in at an early state. To gain knowledge about how adolescents in the age 13-19 years with a perceived reading and writing difficulty use audio books in school and how they perceive this use, an online survey were conducted. The result of the study suggests that audio books is used while reading mostly in a context where it is a new, important text and to only listen to audio books is mostly used in a context when they are tired, unfocused or already know what the text is about. The study also found no difference between gender in the usage of audio books which indicates that the use of audio books do not have to be adapted for specific genders.

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1 Introduction

Swedish Agency for Accessible Media, MTM, is a government agency that works to provide people with a reading or writing difficulty literature in an, for them, accessible form. MTM has adopted a comprehensive strategy to ensure that the work of making literature available for children and adolescents with a reading or writing difficulty is conducted structured, targeted, and long-term.

A good ability to read and write is often assumed in our time, but the large amount of information means a constant challenge for people who have a reading or writing difficulty. As few previous studies have been carried out within the area but there is a small basis about how audio books help children and adolescents in their school work and how this aid is used in school.

Based on discussions in focus groups with children aged 9-16 Hampson Lundh (2013) identified the use of audio books as two types of activities, first as a compensatory activity and secondly as an activity in its own. Adolescent attributes audio books as opportunities to overcome their reading or writing difficulty and consume texts that they find it difficult to grasp in print. It seems that an advantage of audio books is that they are anything other than a conventional printed book. Audio books have an intrinsic value and they sometimes require other skills of the reader than printed books do.

In Ingesson's (2007) thesis "Growing up with dyslexia" 75 young people aged 14-25 were interviewed. Part of the study is about how they experienced school with their reading and writing difficulty and how this affected their school work. Young people often described the first six years of school as difficult, marked by feelings of frustration, confusion and humiliation. With time these feelings might

be damped if they come to the realization that dyslexia is just a small part of them (Ingesson, 2007).

The negative effects of reading and writing difficulties can be dampened if educational measures and tools, such as text to speech and audio books are set in at an early state (Kere & Finer, 2008). Audio books in lessons for 11-16 year old teenagers who have been diagnosed with dyslexia have a significantly positive effect on the students' results, motivation and involvement in school. Audio books contribute to a decrease in emotional-behavioral problems according to questionnaires filled in by parents of children with dyslexia (Milani, Lorusso & Molteni, 2009).

2 Purpose and aims

The aim of this study was to examine how adolescents in the age 13-19 years with a perceived reading and writing difficulty use audio books in school and how they perceived this use.

2.1 Research questions

The study was guided by four more specific research questions:

- What technical equipment do adolescents in the age 13-19 years with a perceived reading and writing difficulty use to play audio books in school?
- How do adolescents in the age 13-19 years with a perceived reading and writing difficulty describe their use of audio books in school?
- Do adolescents in the age 13-19 years with a perceived reading and writing difficulty accredit that their schoolwork facilitates from the use of audio books?

- In which ways does adolescents in the age 13-19 years with a perceived reading and writing difficulty experience that they are helped by audio books in their schoolwork?

These research questions are answered in the report by an analysis of a survey carried out on adolescents who go to middle school and high school with a perceived reading and writing difficulty making use of audio books in school.

2.2 Demarcations

An online survey have been used to collect data for this study and no complementing information have been gathered from the participants than the information they wrote in the questionnaire.

3 Theory

This chapter consists of background information about reading and writing difficulties and methods used to support reading in school.

3.1 Reading and writing difficulties

The expression reading and writing difficulties in itself explains what the phenomenon means, namely, to have problems to read effectively, and to write and spell words correctly. These problems can depend on many factors and may involve different degrees of difficulty for the person in question. Today dyslexia is the most common term used to specify a reading and writing difficulty (Ericson, 1999).

The definition of dyslexia according to International Dyslexia Association was declared by their board of directors November 12th, 2002 and is as following:

"Dyslexia is a specific learning disability that is neurobiological in

origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge."

- International Dyslexia Association (2002, November 12). Retrieved September 10, 2016, from <https://dyslexiaida.org/definition-of-dyslexia/>

There can be other factors that lies behind reading and writing difficulties, it can be the result of either eyesight, hearing problems or cognitive disabilities such as ADHD (Ericson, 1999).

People with a reading and writing difficulty have harder to process speech sounds and processing visual to verbal information and vice versa (Galaburda et al., 2006). Both reading and writing are two complex abilities that people master different well. The limit for when something is referred to as a difficulty is therefore arbitrary and are drawn in different ways depending on the specific context. Therefore, there is

no unambiguous definition of reading and writing difficulties. This means that it can be hard to set an exact number on how many people that have these difficulties. A common assessment is that 5 to 8 percent of the population has a significant difficulty with reading and writing (Peterson & Pennington, 2012). Since reading is a recent cognitive process in human history and only exist in a minority of the languages in the world a percentage of affected people over the world would be misleading (Purves et al., 2008).

3.2 Audio books

The availability and quality of audio books has improved dramatically over the past decade (Johnson, 2003) as publishers of audio books nowadays recruit professional actors and trained orators who reads in a way that captivates listeners with their vivid storytelling.

Many audio books contain both audio and text. This so that the person can read the text and see images on the screen while listening on a smartphone, tablet or computer. Audio books created for practice reading is recorded at least at two speeds, a standard and one or two slower versions so it is easy to follow the text while listening.

Audiobooks have a significant beneficial effect on reading accuracy with children with reading or writing difficulties (Milani et al, 2009). This is probably due to increased training in decoding written words, as the participants had to follow the recordings word-by-word on the written text, and possibly connected with increase in confidence and pleasure with the written text.

3.3 Sustained silent reading

Sustained silent reading can be traced back to the 1950s when teachers regularly used workbooks as their primary means of reading instructions for their students (Esteves & Whit-

ten, 2011). Sustained silent reading is a time during which a class or other group of people reads quietly together. It do not have to be the same book, the students are often allowed to choose their own reading materials and read independently during the time that is set aside for reading. Most teachers also encourage students to continue reading outside of class and permit students to change books if they lose interest in it. Although sustained silent reading programs share certain characteristics, teachers have adjusted the general concept to fit the specific needs of their students and schools (Pilgreen, 2000).

The shift from careful decoding to recognizing the whole word is made through extensive practice. Sustained silent reading is intentionally designed to provide the readers with a practice in this area (Pilgreen, 2000), but it is not intended to serve as the primary component of a reading program for a student that is learning to read. The key components of sustained silent reading are self-selection of text and non-accountability, and a documented benefit of sustained silent reading is increased self-determination when students are able to select their own reading material (Pilgreen, 2000). Readers who feel ownership of what they read tend to continue to read for longer periods of time, pay closer attention to the text, and have a better attitude to reading in general (Rehder, 1980).

3.4 Assisted reading

Assisted reading is used as a compliment to sustained silent reading and consists of reading along while listening to a fluent reader (Kuhn & Stahl, 2003). The assisted reading method is used as a new approach to fluency instruction and as a tool to improve the reading attitude due to the recent growth in the popularity of listening to audio books even for normal readers (Esteves & Whitten, 2011). This is the procedure done when a person listens to an

audio book while reading along the text in a textbook or an e-book.

Assisted reading methods could easily be implemented during either the classroom's sustained silent reading time or independent reading time. Like sustained silent reading, assisted reading is not designed to serve as the primary component of a student's reading program (Esteves & Whitten, 2011). The overall goal of assisted reading with digital audio books is similar to the goal of sustained silent reading in that students are exposed to literature in a relaxed and self-chosen way (Kuhn & Stahl, 2003). However, assisted reading provides support by using a fluent model as an example of effective reading practices, whereas sustained silent reading does not (Esteves & Whitten, 2011).

4 Method

This chapter describes the method used in this study and the implementation of the project presented from preliminary study to the analysis.

4.1 Implementation

Pilot test

In order to ensure that the formulation of the questions in the questionnaire was understandable and that the answerers in the questionnaire answered the research questions of the study a pilot test was conducted (Howitt, 2010). 3 persons participated in the pilot test, these persons all have a reading and writing difficulty but did not fit into the target group of the study since they were all older than the target group. The participants of the study were recruited from a selection of convenience where a number of people was contacted and those who first accepted got to participate in the study. The result from the pilot test showed that the wording of the questions was superfluous and confusing. The questionnaire would, according to all participants in the pilot test, be easier to understand if they contained less background

information. Therefore the questions were reworded and background information was removed in order to simplify the understanding of the questions in the questionnaire.

Participants

33 participants in the age 13-19 ($M = 15,30$) with a perceived reading or writing difficulty. There was 19 young females ($M = 14,95$) and 14 young males ($M = 15,07$) in the study. The participants were recruited using Facebook, email and personal contact. The participants answered a questionnaire with questions about how they perceived that their schoolwork facilitates from the use of audio books, in which ways they experience they are helped by audio books in their schoolwork, how they describe their use of audio books in school and what technical equipment they use to play audio books in school. All participants who answered the questionnaire from start to finish were selected for the study. This with the exception that only participants with a perceived reading or writing difficulty of 4 or higher on a scale from 1-10 and who were aged between 13-19 were selected out of the answers of the questionnaire for further analysis.

Data collection

Interviews are often described as varying between the structured and the unstructured interview. In between these is the semi-structured interview which means that it is structured to a point but leaves room for the participant to talk about something that is not in the planned manuscript of the interviewer. Qualitative interviews are often referred to as semi-structured since it is almost impossible to conduct an interview with no preparation at all (Howitt, 2010).

The researcher usually has a sort of list with areas to explore during the interview but the structure is not rigid as it is in a structured interview but flexible and open questions are used

to make the participant explain the reasons for each answer instead of just answer the question (Howitt & Cramer, 2008). The ideal circumstances to use a qualitative interview is when the experiences, thoughts and feelings of an individual are the primary focus in the study (Howitt, 2010).

Focus groups is a collective interview which is directed by the research leader. The method is most commonly used in early stages of research projects to investigate and describe what the important aspects to study are. Focus groups can also be used to validate a result from a study in the eyes of the people that the research is about (Howitt, 2010).

During a interview with a focus group it is important that the researcher do not in any way influence the participants with any personal opinions or in other ways lead the participants during the interview (Howitt, 2010). If there are any differences in perspectives or opinions in the focus group this should highlight so the participants might engage with the nature of the differences.

First of all the survey contains a page with a consent form where the participants of the survey gets information about who is doing the study, why the study is made, what the result will be used to and what information that will be collected in the survey (Dumas & Loring, 2008). After this page the participants answered a few background questions about their age, gender and perceived level of reading and writing difficulty on a scale from 1-10. The questions that followed this treated the subject of how they used and think it has helped them to use audio books in school and is listed below:

- What equipment are you using to play audio books at school?
- How much of the time do you listen to au-

dio books while reading?

- How much of the time do you listen only on audio books?
- Can you give an example of when you are listening to audio books while reading?
- Can you give an example of when you only listen to audio books?
- Do audio books help you in your school work?
 - With the response options:
 - * Yes, a lot
 - * Yes, a bit
 - * No
- In what way do you perceive that audio books helps you with your school work?

The language in the questions was adapted to the group that was tested and an easy language was used since the participants have a perceived reading and writing difficulty (Howitt, 2010).

4.2 Analysis

The result of the form were analyzed using method of analysis from Content Analysis is a collection of qualitative and quantitative methods for collection and analysis of spoken and written communication (Kondracki, Wellman, & Amundson, 2002). The method has been developed to create an objective picture of a specific area through the analysis of conversations within the topic (Kondracki et al., 2002). Content Analysis is commonly used to collect and analyze interview data through interviewing, transcription, coding and analysis. The method can also be used for the collection and analysis of data from surveys with open ended questions. The greatest benefits of collection and analytical techniques from Content Analysis is that these can be used to evaluate a service by analyzing collected

data and compare this with the previous known issues to check whether these have been resolved satisfactorily (Kondracki et al., 2002). A list of the most important contexts were the participants uses audio books that were raised by the study participants in the questionnaire was created. The results were ranked according to how often they are mentioned by respondents in the form. A context may have been raised by the respondents in the survey both as something positive and something negative in the form (Blomquist et al., 2014).

Kondracki et al. (2002) describes the drawbacks of the analytical techniques drawn from Content Analysis to be the coding carried out during the analysis of the data collected can in some cases lead to the intuitions and feelings underlying is missed. It can also, in some cases, be difficult to draw conclusions about the outcome based on the groups outside the specific group that is the participants of the study. This is, however, better in open ended questionnaires like the one used in this study.

When compared with other types of methods, Content Analysis are often an very inexpensive alternative. The costs of the method are dependent on techniques chosen during the study, equipment and personnel costs, and the size of the study, which make cost comparisons valid only on a case-by-case basis. Once the material to be studied has been gathered, it is relatively inexpensive to perform additional analyses to clarify findings or further explore areas of interest with the help of Content Analysis (Kondracki et al., 2002).

5 Results

In total 37 participants answered the questionnaire, 3 of these were excluded from the statistical analysis due to the fact that their answer could not be quantified and 1 were excluded due to large age difference from the

target group. The participants were 19 young women and 14 young men.

In this study, data regarding perceived disability, amount of time spent listening to audio books and reading at the same time, as well as time spent only listening to audio books was collected. From the statistics one can derive that there was a small difference between the genders regarding perceived divisibility ($M = 6.37$, $SD = 1.89$ vs $M = 7.00$, $SD = 1.71$), this difference were, however, non-significant. There was no significant difference between gender on time spent only listening to audio books ($M = 1.79$, $SD = 1.23$ vs $M = 2.00$, $SD = 1.36$). Neither was there any significant gender differences on time spent listening to audio books while reading ($M = 2.32$, $SD = 1.21$ vs $M = 2.00$, $SD = 1.36$).

What technical equipment do adolescents in the age 13-19 years with a perceived reading and writing difficulty use to play audio books in school?

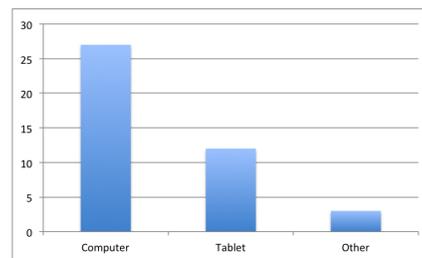


Figure 1: Technical equipment

As seen in *Figure 1* the most common used technical equipment to play audio books is computers, some of the participants also used tablets. Under the option "Other" the participants were asked to specify what they meant with this and all participants who marked other in the questionnaire wrote about a specific program installed on their computers or tablets to play audio books with.

How do adolescents in the age 13-19 years with a perceived reading and writing difficulty describe their use of audio books in school?

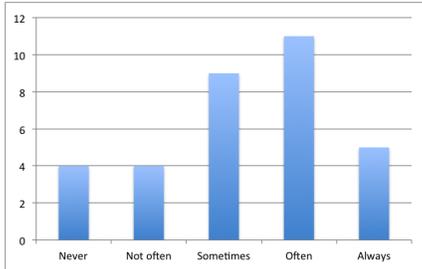


Figure 2: Read and listen

In *Figure 2* above it is displayed how often participants read along the text while listening to the audio books. *Figure 2* summarizes how often the participants reads along the texts while they listen to a audio book. The comments about how and when this was done was categorized in themes that is presented in *Table 1* below.

Themes	Amount
Important to remember	12
In school	9
Never	8
To understand	8
A lot to read	6
Always	5
Have energy	3

Table 1: Reads and listens

As shown in *Table 1* above the most common context to use audio books while reading along the text is when the participants reads something that is important to remember, when they are at school, to understand what they read correctly from the beginning or they do not read while they listen at any time.

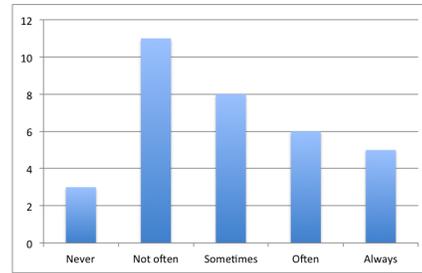


Figure 3: Only listen

In *Figure 3* above it is displayed how often the participants only listens to the audio books without reading along in the text. *Figure 3* summarizes how often the participants do not reads along the texts and instead just listens to the audio book. The comments about how and when this was done was categorized in themes and clusters and is presented in *Table 2* below.

Themes	Amount
To tired	8
Rehearse	7
For fun	6
Travelling	5
Always	5
At home	4
Relaxes	3
Never	1

Table 2: Only listens

As shown in *Table 2* above the most common context in which the participants only listens to audio books is when the participants are to tired to read and when they rehearse or read for fun.

There is no significant difference between gender and perceived reading and writing difficulty $U = 141.50, z = .32, p > .05, r = .06$. Also there as no significant difference between gender and the usages of reading while listening $U = 118.50, z = -.55, p > .05, r = -.10$ or just listening to audio books $U = 141.50, z = .32, p > .05, r = .06$.

Do adolescents in the age 13-19 years with a perceived reading and writing difficulty accredit that their schoolwork facilitates from the use of audio books?

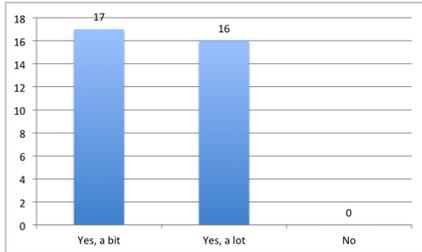


Figure 4: Perceived help

As shown in *Figure 4* above all participants perceive that their schoolwork facilitates from the use of audio books.

In which ways does adolescents in the age 13-19 years with a perceived reading and writing difficulty experience that they are helped by audio books in their schoolwork?

Themes	Amount
Less effort	12
Do not fall behind	10
Remembers better	9
Understands better	7

Table 3: How do audio books help

According to the answers from the questionnaire adolescents with a perceived reading and writing difficulty experience that they are helped by audio books in their schoolwork so that they do not have to put in so much effort in reading, do not fall behind and remember the texts better.

6 Discussion

In this chapter, the result that emerged from the study discussed the advantages and disadvan-

tages of the method are treated as well as analysis and the selection of participants in the study.

6.1 Result

The data collected in this study shows that the most commonly used technical equipment used to play audio books were computers. In conjunction with the statistical analysis one can derive that there is no statistical significance among the different genders. Also there is no significant correlation between ones self estimated disability and usage of audio equipment. This indicates that teaching aids do not have to be adapted for specific genders.

Participants who reads and listens at the same time do this often when it is important to remember or while they are in school. The participants who only listens to audio books do this often when they are to tired to read or when they rehearse something that they have already read. This suggests that audio books is used while reading mostly in a context where it is a new, important text and to only listen to audio books is mostly used in a context when they are tired, unfocused or already know what the text is about.

All participants of the study accredited that their schoolwork facilitated from the use of audio books. If you do not accredit that you are helped by using audio books in school you probably wont use audio books and it is possible that you do not choose to be a part of a study about the usage of audio books. So this result might be misleading and incorrect in the whole popularity.

The data collected in the study showed that the participants experienced that their schoolwork was helped since they did not have to put in as much effort to read a text as they would without audio books and do not fall as much behind their classmates. This result indicates that Ingesson (2007) is correct in her

conclusion and that the first years in school is more difficult for people with dyslexia. When they accept the help of the audio books their frustration and effort reduces.

The notion made by Milani et al. (2009) that audio books contribute to a decrease in emotional-behavioral problems for children with dyslexia is strengthened by the answers in the form where reduced levels of stress is emphasized as one of the most important advantage of the use of audio books.

6.2 Method discussion

An online questionnaire was used instead of interviews face-to-face since this method has the big advantage of being economical in terms of time and money (Howitt, 2010). There is no traveling through the country to perform the interviews and there is easier to get participants to answer the questionnaire if they can do it at their own phase.

Since there was such a low number of participants that used tablets to play audio books no statistical analyses were conducted.

6.3 Participants

The participants was requited trough Facebook and email and no validation was made to ensure that the participants suffered from a reading or writing difficulty. To account for this people with a perceived reading or writing difficulty was asked to answer the questionnaire and a first questions was to grade how much you perceived your reading or writing difficulty to be on a scale from 1 to 10. Participants who answered 3 or lower was taken out of the study. Another demand that was made was that they had to use audio books in their schoolwork.

There was 19 young women and 14 young men that answered the questionnaire which is not representative of the overall distribution of

gender in people with a reading or writing difficulty. It is possible that this affected the result in the study.

6.4 Analysis

As Kondracki et al., (2002) discusses, a disadvantage of analytical techniques drawn from Content Analysis is that the coding carried out during the analysis of the data collected in some cases can lead to the intuitions and underlying feelings with the participants are ignored or missed. It can also, in some cases, be difficult to draw conclusions about the outcome based on the groups that go over the specific tested group. Since this study aims to tell what adolescents with a perceived reading or writing difficulty thinks about using audio books this will not be a problem in this case. Thematic analysis has the benefit of being as flexible as it is but this is also the methods biggest flaw.

7 Conclusion

Adolescents with a reading or writing difficulty uses mostly a computer or sometimes a tablet to listen to their audio books while doing schoolwork. There is no significant difference between the choice of reading while listening or to only listen based on gender. There is also no correlation between perceived reading or writing difficulty and the time spent to red while listening or the time spent only listening to audio books.

The most common context to use audio books while reading along the text is when the participants reads something that is important to remember, when they are at school, to understand what they read correctly from the beginning or they do not read while they listen at any time.

Further more the most common context in which the participants only listens to audio books is when they are to tired to read, when

they rehearse or when they read for fun. The answers of the questionnaire also showed that the participants experience that audio books help them so that they do not have to put in so much effort in reading, do not fall behind and remember the texts better.

8 Future studies

Future research with interviews to supplement the data collected in this study might show a deeper understanding in why and how adolescents perceived that they get helped by using audio books in their school work.

Another future study can be made to investigate a larger sample of the target group to see if there is someone who is not helped by using audio books in school.

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