



**Degree Project with Specialization in English Studies in
Education**

15 Credits, Basic Level

**Different Methods and Strategies to Aid
Reading for Pupils Affected by ADHD**

*Olika metoder och strategier för att hjälpa elever drabbade av
ADHD*

Zanna Feldt
Erik Mekkelholt

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Examinator: Damon Tutunjian
Handledare: Eric Pudney

Abstract

This study investigates the use of various methods and strategies to help with reading for pupils with ADHD. According to recent studies, 1-2 pupils are affected by ADHD in the classroom (Lenard, Lorch, Milich & Hagans, 2008). The Swedish school has guidelines to follow that says that every pupil has the right to an education that is adapted after their needs. Although pupils with needs are at a higher risk of falling behind their peers (Zentall,1993). Therefore, our reachers question is about finding methods and strategies that can be used for helping pupils with ADHD. The method we used to find strategies and methods for pupils, we used different databases that have scientific articles. All of the scientific articles had different studies and therefore, various strategies and results. Additionally, there are precise results that some methods show a positive outcome, while others are lacking in the result area.

Key terms: *ADHD, reading, methods, strategies, pupils, outcome, results,*

reading comprehension, reading difficulties, ADHD, methods, language learning.

Individual contributions

We hereby certify that all parts of this essay reflect the equal participation of both signatories below:

The parts we refer to are as follows:

- Planning
- Research question selection
- Article searches and decisions pertaining to the outline of the essay
- Presentation of findings, discussion, and conclusion

Authenticated by:

Zanna Feldt

Erik Mekkelholt

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1. Introduction

The ability to read and understand is of high value in society (Skolverket, 2009). There is a massive demand for citizens to be able to follow written words because the written language is one of the primary communications mediums (Skolverket, 2009). The English language is a significant part of our daily lives in diverse situations. It is a way of creating contacts and knowledge of different ways to live (English curriculum, 2018). Reading skills are critical for a thriving society. Furthermore, to be able to read is of massive importance seen from a political perspective. For example, this is shown by the establishment of the National Center for Language, Reading, and Writing Development. The current Minister of Schools and Adult Education, Ibrahim Baylan explained in 2005 that the core aim of the Center is to contribute to better competence of teachers in preschools and compulsory schools and thus to promote a better connection of research and the school system (Skolverket, 2009). In that way, teachers are promoted to motivate and interest pupils to read in both preschools and compulsory schools (Skolverket, 2009).

By acknowledging how essential reading is for pupils and their future, school, and social life we can draw a conclusion that reading is important. The steering documents stipulate that the school must prepare all pupils for lifelong learning (Skolverket, 2018). There is a clear indication that should be emphasis and much effort towards reading in education. Learning to read is not always an easy task; some pupils will struggle for some specific reasons for it. For example, they might suffer from certain difficulties that can prevent their reading development; therefore, these pupils will need extra or individualized pedagogical interventions.

One of the most frequent disorders in pupils is the Attention Deficit Hyperactivity Disorder (ADHD) (Bignell & Cain, 2014). Multiple studies show that, on average, around 3-10% of all pupils are affected by ADHD. Therefore, there are approximately 1 or 2 pupils per class who have ADHD (Leonard. et al. 2008). These pupils with ADHD are more likely to receive lower grades (Zentall, 1993) and are also more likely to drop out of school (Leonard. et al, 2008).

Furthermore, Zentall reports that 80% of 11-year olds who have ADHD are behind with reading, spelling, and writing compared to their peers (Zentall, 1993). Ostoits claims that pupils with ADHD do not necessarily have reading disabilities. Nevertheless, in many cases, pupils with the diagnoses of ADHD experience difficulties reading (Ostoits, 1999). Zentella (1993) states that 9% of pupils with ADHD are characterized by having certain reading disabilities in terms of reading achievement (Zentella, 1993). This is despite in the steering documents stipulating that pupils should be able to develop their abilities to communicate and feel more confident in their language use. All pupils must be given opportunities to discuss, read, and write in the classroom (Skolverket, 2018).

Multiple studies address the problem with pupils who fall behind due to their ADHD. These pupils are at risk, therefore, need specific pedagogical adaptations to facilitate their learning processes. (Zentall, 1993). These studies agree that there is a need for different strategies and teaching methods when teaching children who have ADHD or similar difficulties. They list different ways to engage and work with these pupils to increase their learning and give them a chance to achieve the same levels of reading ability as their peers.

Also if the teacher follows the goals and advice from the steering documents teachers can teach pupils based on their knowledge, background, earlier experience, and language (Skolverket, 2018). Another stipulation in the steering documents is that education cannot be structured in the same way for everyone; it has to be adjusted after individual pupil's needs (Skolverket, 2018). The steering documents clearly state that the school is responsible for those pupils who, for different reasons, experience difficulties in attaining the national goals (Skolverket, 2018). That is why we want to inventory pedagogical strategies and methods suitable for stimulating reading development of pupils affected by ADHD.

2. Aim and research questions

The aim of this study is to make an inventory of pedagogical strategies and interventions to facilitate reading ability development in pupils with ADHD. How they are applied and what different results they yield.

Our specific research questions are:

- What methods and strategies can be used to aid reading for pupils affected by ADHD?
- What are the pros and cons of these strategies?

3. Methods

This study is conducted as a research synthesis, therefore by combining several primary research studies focused on the topic and the hypothesis. As in this case, we used qualitative research. The goal is to find common grounds from several studies on the same topic and summarize them. The articles have been collected through online articles from verified educational search bases. To summaries, the synthesis of the research is a process for combining results from many research studies that have a common goal in their hypothesis.

3.1 Search Delimitations

We started our research by using ERIC EBSCOhost to find articles valuable to our aim and question. We began using terms “ADHD in children and method reading comprehension” during the time period 2004-2019 with peer reviewed selected. Here we found 8 articles, after removing those that did not fit our aim and question we ended up with 5 viable articles. The next search we did "ADHD and strategies and reading comprehension" period 2006-2019 and we found 4 out of 13 viable. From there we decided to look at a bit older articles so we used the terms "reading methods and ADHD" period 1990-2019 that gave us 14 results but only 1 viable.

After that we used Reading Methods "OR" Reading Strategy "and ADHD" period 1990-2018 that gave 21 results with 1 viable. And from there we did additionally 2 searches " " Reading methods "OR" reading strategies "and hyperactivity disorder and attention deficit and secondary education" with the period 1990-2018 and 1 of 2 were interesting "hyperactive children and students with disabilities and special education" the period 1990-2019 gave 8 results and we used 1 of those.

By using ERIC database we got sent to SAGE Journals; where the current article was located. From here we found several related articles, then by navigating through these related articles that have certain keywords that matched our first search we could find similar articles. They had “reading comprehension” “ADHD” which made it easy to choose from here. At the end

we found 20, there were a lot more but those did not fit our criteria, from these we used 4 in our text.

The third database we used was ERC, also from EBSCOhost, and therefore worked in the same way as ERIC. The term used is “ADHD in the classroom and reading comprehension” with the period 2011-2019, where we found 1 of 4 compelling.

The fourth database we used was Linguistics and Language Behavioural Abstracts (LLBA). Here we used the same search terms as in ERIC; because of getting similar results that were related to our question. By using the corresponding keywords and search terms we got many results. Then for each page, we went to the articles started to have a different context.

In all searches we used the following terms in different combinations: “Reading methods”, “ADHD”, “Reading Strategies”, “Attention deficit hyperactivity disorder”, “Second language learning”,

3.2 Inclusion Criteria

We selected all the articles that mentioned reading, ADHD, and methods as they are relevant to our question. We also looked at articles that were peer-reviewed and during the time period 1990–2019. After that, we looked closely at the materials that included 9-12-year-olds or similar ages. In addition, learning in second languages was an important factor for inclusion, but we also included learning in foreign languages as they were conducted in countries that had the same or higher English learning. These articles were relevant to our study and our goals. Because it was about strategies and methods to help pupils struggling in language learning.

3.3 Exclusion Criteria

Articles that we did not use lacked reading comprehension or the age group was incorrect, or the articles were not peer-reviewed. Even some articles did not mention methods, only the

use of medication that pupils with ADHD could use, and we looked for methods that did not contain medication. We did not include opinionated articles; there were many articles about teachers' opinions on the issue that would be interesting but did not fit our study. Furthermore we did exclude articles that did conduct experiments with drugs or medicine, which we did not find ethical for our research

Table 1. Inclusion and Exclusion Criteria

Area of interest	total number of references	number of references used
Methods/ strategies pupils with ADHD	14	9
Pros and cons for the strategies	9	9

4. Results

In this section, we present different methods and strategies for pupils with ADHD from various scientific articles. Each headline will include an overview of a study from a scientific article and the result from that study. The following structure is foreign language learning, story mapping, TTS technology and last TWA.

4.1 Foreign Language Learning

Liontou (2019) conducted a one-year study that included two face-to-face lessons per week and also computer-based activities. Participants in the study were ten foreign language learners aged 9 to 12 years, and all diagnose ADHD. The study investigated whether students' reading skills would develop in a Technology-Enhanced Learning Environment (TELE) (Liontou, 2019)

Pupils with ADHD may tend to skip letters, words or even entire sentences that cause students to misunderstand or fail to understand the main plot of a (the??)Text. Since the pupils are visual learners, Liontou provides the participants with relevant visual props that would benefit their reading comprehension. The props he gave to the pupils were different colors and sizes of the front that could capture the pupil's attention and help them shape and process the information through visualization (Liontou, 2019).

Furthermore, by using computers it could lead to numerous ways to help pupils with visual props and tools. The first tool is to split the screen into two, one side of the screen has a small part of the text and the other part of the screen has a mind-map. The mind-map is for organizing important information in a visually accessible way (Liontou, 2019). Which could prevent pupils from missing key points or main ideas that they might miss if the text is too long (Liontou, 2019). Another tool they could use was a clock that counts down the time to complete tasks and therefore, helps pupils monitor time. When the pupils have completed a task or assignment and they would like to submit it on the computer, there would be an alert

that could say. Have you crossed-checked your answer; therefore it can reduce careless mistakes (Liontou, 2019)

Further positive outcomes is that online activities offer pupils chances to correct and resubmit their tasks without being penalized by their mistakes (Liontou, 2019). To reduce fear of mistakes, there were videos how to answer different types of reading comprehension questions that could help them in their learning process. Other key positive features is the ability for the pupils to record their reading in software instead of having to read out loud. Therefore avoiding to the pressure of reading in front of their peers and they could turn in the audio when they were satisfied with the results (Liontou, 2019).

The results from questioning the pupils about the study gave the results that 50% agreed and 40% strongly agreed that learning English online was exciting (Liontou, 2019).

Results regarding if the pupils understood everything during online classes were mixed (Liontou, 2019). Around 80% of the pupils found it easier to obtain meaning of words in their text online, due to the visual props. Almost every pupil agreed or strongly agreed that they preferred reading comprehension on computers and it was more enjoyable with support of visual props. Tough some students found it harder to go back and forth in the text to find information.

4.2 Story Mapping

A study by Chavez, Martinez, Pienta (2015) aims to investigate the effect of story mapping on reading comprehension with six eight-year-old third-grade pupils with ADHD for five weeks. Before and after the study, tests were done to assess the pupils reading grades to see if there were any changes. The teacher and researcher conducted two experiments to compare achievement measurement before and during the use of story mapping to determine growth (Chavez et al. 2015). Half of the pupils in this study scored below grade level in reading comprehension from a test called Accelerated Reader program where the pupils get a score after reading a book. The program helps the teacher and parents to monitor the level of the book and what score the children got on their comprehension test. Therefore, the teacher

introduced story mapping with books from McMillan and McGraw, and each week they had a different story (Chavez et al. 2015).

The authors write about a framework called START (Students and teachers who actively read texts). START's structure helps the pupils to learn specific strategies through teacher modelling and scaffolding; the goal is for the pupils to be able to use them on their own in the future (Chavez et al. 2015). The highlight of the frame is the recording sheet that helps pupils stay focused and be able to organize the text while they read. The recording sheets will make it easier for the pupils to stay engaged in the texts and use of the sheets increases the pupil's metacognitive for using comprehension strategies. However, the teacher can not only teach the pupil's comprehension strategies and the use of the sheets; the pupils must be actively engaged during the reading process to improve understanding of the text (Chavez et al. 2015). To make pupils even more active, teachers can provide students with structured reading activities with the help of graphic organizers. The graphic organizer helps pupils develop a schema and to organize the information. The schema helps to facilitate information to maintain, and comprehension increases, it also helps pupils to see the connections between the information or concept in the text. Furthermore, it provides a visual framework for the information. By completing the graphic organizers, pupils are more familiar with common events and will, therefore, approach the texts with strategies, such as having a plan for the text (Chavez et al. 2015).

Pupils who are unfamiliar with text structures have disadvantages because text structures are important in promoting comprehension. When the pupils use the knowledge of text structures and the graphic organizers, they collect the information in their short-term memory. However, when they can connect the information with their own experience and knowledge, they can store it in their long-term memory (Chavez et al. 2015). The graphic organizer makes the text structures more familiar for the pupils, making the material more meaningful and accessible. When the text feels more meaningful, pupils can easily determine what is important in the text and therefore increase their comprehension (Chavez et al. 2015).

The graphic organizer can be used in different ways, one of the ways is to use story mapping. Story mapping gives pupils a visual display where critical information about text can be seen.

Story mapping can be used before, during, and after reading, plus it could help pupils with reading comprehension; in addition, it also encourages students to think logically (Chavez et al. 2015). The main use of the map is to help pupils sort the information and identify different story elements such as characters, time, problems, goals, actions, and results. Middle-aged pupils are more focused on in-depth information such as problems and how to solve problems when using story mapping (Chavez et al. 2015).

Pupils benefit from direct and coherent instructions when learning to comprehend a text. Although, pupils must be actively engaged in reading, and primarily by teaching for comprehension to occur (Chavez et al. 2015). The teacher, therefore, began to read the text to the pupils. Afterward, the pupils could listen to the text on a CD and highlight the text. After the pupils had the chance to listen to the text, they read it aloud while the teacher asked them about the elements of the story (Chavez et al. 2015).

The teacher and researcher guided the students if they had made any mistakes about the elements of the story. When the story mapping for a specific week's story was complete, the pupils would sit in pairs and repeat the story for each other. Besides that, they asked each other about their story map. Meanwhile, the pupils were working; the teacher would investigate and listen to the assignment and give them grades. Every Friday, pupils would look at their story map before taking a new Accelerated Reader program test and a comprehension test from the book to compare with the first test (Chavez et al. 2015).

The results from the STAR test revealed that there was no significant difference from before using story mapping compared to after using story mapping for a while. However, the students who participated in the study showed higher performance than the 54% who did not participate (Chavez et al. 2015). The other test used was Mcmillan and McGraw Hill, which showed an increase of 16% in comprehension test. The pupils who participated in the study scores averaged 84% higher than their peers who did not participate (Chavez et al. 2015). In the AR test (Accelerated Reader program), students increased by 20% in reading comprehension. In addition, they received higher scores than 86% of students who did not participate in the study (Chavez et al. 2015). A bonus was also that the students showed great excitement about being part of the study and participating in the learning. Therefore, up to

82% were positive by using story mapping, they receive a small increase in comprehension points, a higher level of work tasks, and increased positive behaviour (Chavez et al. 2015).

4.3 TTS Technology

A study by Gruner, Hedeniu, Östberg (2018) had participants from grades 3-9 and all participants had ADHD or similar difficulties. The main idea of the study is to investigate the effects of reading comprehension using Text to Speech (TTS) Technology (Gruner, et al. 2018). TTS is a software that reads and illuminates the text while someone reads it on the computer screen. In this study, they used TorTalk and all pupils used the same Swedish voice Alva, therefore they all had the same conditions (Gruner, et al. 2018). Besides, the text that the pupils read was a text from the Logo Test, which is usually used to assess reading difficulties (Gruner, et al. 2018).

The pupils were divided into two main groups, the first group being pupils from class 3-6 and the second from class 7-9. These groups were then given different texts that they would read and answer questions. Therefore, to get a specific score on their reading comprehension, the text was read on a computer while using TTS Technology (TorTalk). Therefore, the researcher and teachers could see if the participants improved their scores while using TTS compared to when they read the text without TTS (Gruner, et al. 2018).

The results from the use of TTS showed a significant increase in reading comprehension in both groups as a whole, but when looking at the results it was clear that the younger group increased their reading much more than the older group (Gruner, et al. 2018). The results further explain that the use of TTS increases the reading speed and can increase both the reading speed and reading comprehension for most children with RD (reading disorder) (Gruner, et al. 2018). However, there are additional studies required to confirm these claims as there are more factors affecting the children, symptoms of inattention, and hyperactivity. The pupils' grade level is also critical factors for the kind of results you get from using TTS; therefore, these factors should be considered when using the TTS technology in different areas such as school or further studies (Gruner, et al. 2018).

4.4 Think Before Reading, Think While Reading, Think After Reading (TWA)

A study done by Hedin, Mason and Gaffney (2011) about TWA, think before you read, think while you read, think after reading with two boys, one in fourth and one in fifth grade with ADHD and other similar disabilities. The boys have individual plans for reading education because they were at risk with their academic learning. The boys were given 10 one to one lessons where they would read information texts as a scientific passage; these sections contain facts about life, earth, and physical sciences. The reason they chose to use information text was that both boys struggled with this type of text (Hedin et al, 2011).

Prior to the study, Hedin et al. (2011) did a collection of the boys' comprehension performance, then they began to explain what TWA stands for and all the steps in it. TWA is divided into three stages; the first step is T in TWA, which stands for thinking before you read. During this step, students will try to identify what the author's purpose is to write the text. The pupils then write what they want to know and what they want to learn from the text (Hedin et al., 2011). The next step is W in TWA, and it stands for thinking while reading, which means that pupils will read the text and think about what they have learned from the text and then link it to their knowledge they had previously. At this point, pupils can adjust their reading speed and reread the text (Hedin et al., 2011). The last step is A in TWA, and it stands for think after reading where pupils will highlight with different markers where the main ideas are in the paragraph, sorting details and irrelevant information. Once the pupils have highlighted the text, the pupils will summarize the highlighted areas and then re-establish what they have learned. SRSD stands for self-regulated strategy development that helps pupils with how and when to use self-regulated strategies (Hedin et al. 2011).

In SRSD, there are six steps of instruction, developing prior knowledge, discussing the strategy, modelling the strategy, memorizing the strategy, supporting guided practice in strategy use, independent practice in strategy use (Hedin et al. 2011). All steps are associated with the pupils' strategic acquisitions, the stages themselves help the teacher understand what the student's background knowledge is. Then the teacher explains all the steps in the strategy and why it helps to improve the pupils' reading (Hedin et al. 2011).

For 14 weeks with 30-minute lessons, pupils used the TWA method before, during, and after reading a book. The teacher would ask questions that would lead to a discussion so that they could discuss the questions they have. Any questions the pupils had the boys would write them down so they could look at them after reading the text. Examples of what they wanted to know about the text were: who, what, why and how (Hedin et al. 2011).

If the teacher wanted to know what the pupils prior knowledge is it can be linked to the new knowledge. To help pupils become more involved in discussions, various questions were asked about the text so that the pupil's comprehension would increase. The pupils made positive self-statements with the help of the teacher who checked that all TWA steps were achieved at the end of the lessons, the pupils would be given a sticker for their hard work (Hedin et al. 2011). When the pupils have read the text, they would look at the selected parts together to write a short summary in their own words. The next step is to read what they have written for each other, and the teacher gives them feedback on the story, including the use of TWA (Hedin et al. 2011). After that, support from the teacher slowly disappeared so that the pupils could be more independent. That drives pupils to perform TWA mostly by themselves, and at the end of the study, they were able to do it on their own, with little feedback on their presentation from the teacher (Hedin et al. 2011).

The results from TWA showed a personal gain for comprehension for both pupils who participated in the study. Both students reflected and told the researchers that TWA helped them become better readers. They also reflected on their reading speed and the importance of good reading as being aware of the author's purpose. The boys said that if they had any questions, they could find the answer when they reread it and could link it to their own knowledge. In addition, they were more aware of how quickly they read the text (Hedin et al. 2011). For a more scientific view, TWA and similar self-monitoring strategies improve readers with disabilities (Hedin et al. 2011). The study concluded that the results suggest that the ongoing practice of TWA may benefit pupils with ADHD (Hedin et al. 2011).

To summaries, the researchers above clearly state a different point of view on which method is best to use for reading comprehension. Chavez et al. (2015) and Gruner et al. (2018) both

have the method for pupils to listen to the text, Chavez et al: used the teacher and a CD but Guner et al: used TorTalk. There is another study that also uses methods on the computer, and that is the study done by Lontou (2019). They do not agree on how to use computer-based lessons, but they do have some similarities. They both use the tool to change the text to the pupil's advantage, Lontou changes how the text looks, and Guner et al: change how pupils can listen to it. Something that all studies have in common is that they all have the method of asking questions about the text or book that pupils read. Hedin et al (2011) is the only study that does not work with a computer and is more focused on the text. There are also some indications that there are benefits to the pupils' commitment to the task that leads to better learning. (Hedin et al. 2011).

5. Discussion

Both Leigh (2015) and Zentall (1993) emphasize the large number of pupils affected by the ADHD classroom. This number varies from paper to paper, but they all have a common ground that at least one to two pupils are affected (Leigh, 2015; Zentall, 1993). Furthermore, there are claims that there may be a greater number of pupils that have similar difficulties that may lead to struggles in school and learning. We have found compelling studies that determine that pupils affected by ADHD can struggle without the right adjustments. By looking at the number of pupils affected by ADHD, we see a serious problem in our society. Therefore, taking that by account, we see that there is a requirement for teachers to be able to handle these pupils and to be able to provide sustainable methods and strategies. There is also a clear indication in different ways of teaching and teachers being aware of students with ADHD, which increases learning outcomes and understanding (Leigh, 2015). Besides, we saw that many teachers who lack the expertise or experience of ADHD see poor results for their pupils with difficulties. (Leigh, 2015). Therefore, we will divide the various studies and methods that showed a positive implementation of the reading and which can be recommended. The main takeaway from these studies is that most of them show significant improvements but some pupils may not improve, there is also a lack of quantity and follow-up from the studies and this must be continued. Also every students learns from different ways which means that not all the methods or strategies will be usefully on all students.

All the studies we have presented does have some connections to the curriculum; some have more than others. Foreign language learning has its relation to Skolverket (2018) by allowing pupils to use different tools to learn, understand, and to create and communicate. Pupils should also be able to understand important words and contexts in both spoken and written texts using strategies, such as adapting the reading to a form and content for communication (Skolverket 2018). Liantou (2019) writes that pupils with ADHD may tend to skip letters, words, or even entire sentences that cause pupils to misunderstand or also fail to understand the main plot of the text. If the pupils make these mistakes they would not be able to understand significant words or contexts; therefore, pupils are allowed to use the method that changes the color and size of the text font (Liantou, 2019).

Story mapping is linked to the curriculum (2018) by letting students find strategies that they can use when their skills are insufficient to support communication and solve language problems. Therefore, Skolverket (2018) has a solution, which the teachers should let the students use content and skills that are or can relate to their own experiences, living conditions, and interests. The teacher should also let the students use different tools to learn, understand, create, and communicate (Skolverket, 2018). Story mapping lets the teacher link the pupil's prior knowledge to the new knowledge and even the pupils do so in the end. With the help of the teacher by linking the knowledge, the text becomes much easier for the pupils (Chavez et al. 2015). The pupils did also have many different strategies to use so they could understand the text, such as schedules, graphic organizers, and story maps (Chavez et al. 2015). Furthermore, by increasing the positive behaviour towards the task, it can promote pupils learning and lifelong desire to learn and develop. (Skolverket, 2018).

TTS Technology had few connections to the syllabus compared to the others, as it mostly works with digital tools, Skolverket (2018), by using digital tools, teachers can improve student learning. Therefore, students can gain a further understanding of digitalization that they can use in the future (Skolverket, 2018). The whole study is about working with computers in addition to TorTalk. Pupils get the chance to learn how to use different tools on the computer so they can learn better; they can change the speed at which the text is read and how it (Gruner et al. 2018) reads. However, the pupils could not do it during the study because they wanted to provide the same tools, so there would be no disadvantages. Which then brings the question if the students could more reliably change the speed would there be a different outcome, and is the speed the texts read at detrimental to the pupils learning? Also would there be a positive affect by letting the students pick the voice that suited them compared to everyone having the same. Furthermore, the study also showed that younger pupils were more affected and had better long-term learning (Gruner et al. 2018). Which would indicate that this type of method would be best used at an early age. One way to address this might be to implement this method at an earlier age, especially when looking at how schools mostly use computers and iPads to learn. Because In foreign language learning, pupils have access to computers and similar digital instruments; therefore, they should or will be familiar with how to use these to have a clear and functional learning.

As a final thought we do believe there could be problems for pupils who struggle with listening to text on PC and may not be positively affected and we would recommend other methods to increase their reading comprehension. In addition, it can lead to negative feelings about reading and their enjoyment of reading can suffer.

TWA has the clearest connections to the curriculum, four different stages that worked in the study. The National Agency for Education (2018) mentions that pupils should have the opportunity to use different tools to learn, understand, and be able to create and communicate (Skolverket, 2018). The curriculum states that pupils should be able to understand important words and contexts in both spoken and written texts using strategies, such as adapting the reading to a form and content for communication. Therefore, pupils should also use different strategies when their skills are insufficient to support communication and to solve problems with the language. However, Skolverket (2018) has a solution, the teachers should let the pupils use content and skills that are or can relate to their own experiences, living conditions, and interests (Skolverket, 2018). TWA provides pupils with strategies so that they can communicate, learn new words so that they can understand the text. In TWA, there are many different questions that pupils need to answer. In some of the questions, pupils must write about what they already know or have experienced (Hedin et al., 2011). In this way, it clearly works in the pupils ZPD, where they are given positions to complete their tasks with scaffolding to complete their tasks in a differentiated learning environment. (Gibbons, 2002).

In TWA, the teacher slowly gives pupils freedom that can lead to failure for the students as they may still have trouble linking their own experience and knowledge to what they are reading. It may require more scaffolding to be expected, especially with weak pupils. As they start to find answers to the questions when they read, they may have trouble to understand the main plot of the text and get lost. Beyond that story mapping can be problematic by having too many tools that can be complicated and confusing.

When we look at the studies in a core, we can see that they are viable in a Swedish second language classroom, but are also good for learning first language as they look at reading comprehension as a whole and provide support and structures for working with them. Taking into account some of the studies applied to younger pupils with the mother tongue, which

means that for second language learners, there must be more support or used when the pupils are adequate of age. Still, it could also be adjusted, and the texts or tasks they were working with could be made more straightforward and more advanced longer they go.

6. Conclusion

To summarize our discussion and the results of the studies, we have found different ways to help students with ADHD, many methods and strategies that both teachers and pupils can use. Almost every method requires a lot of time for the teacher to plan which can be problematic we feel. Further issues are that some studies have a low amount of pupils involved in them that can give somewhat skewed results compared if they had a bigger

sample group. There are some that we feel are easier to do like TTS and TWA compared to Story mapping and foreign language learning which we undoubtedly see that they require a lot more from the teachers to plan and prepare. That might not be bad but it does put a restraint on teachers that might already have a lot of stress due to the large classes we have in our society today. Therefore, there we would argue that TTS and TWA could be more accessible for teachers to use in the classroom as scaffolding.

For future research, we would like to investigate how these methods are used, and if there are other methods that teachers use that we did not find or discuss. Also, try these methods and see what kind of results we can gather compared to the results we got from the articles. For us to engage in these methods we argue that we would need a lot of time. More time than we are given at our VFU schools, and we reckon that we would need help from supervisors or special education teachers because they are proficient in the subject. Therefore, that would be a great continuation of our study, and I would give us a better understanding of the process and learning from these strategies. We would assume the research is achievable by contacting schools and pupils that might want to participate, it would be a positive outcome for both parts. We get to practice and learn, likewise, the students might improve and start to enjoy their learning a lot more, and that can relate to more fun and engaging learning experience. Furthermore, we think it is important for teachers to be able to help and guide students that struggle in different ways, and by further conducting these experiments we can help and give our findings to the learning society.

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