



MASTER'S THESIS

Measuring the use of reading comprehension strategies in L2 reading by Norwegian 7th grade pupils.

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Abstract

This master thesis measures the use of reading comprehension strategies in L2 reading by Norwegian 7th grade pupils. The thesis investigates whether and to what extent the 7th grade pupils make use of reading strategies. It also investigates if there are gender differences in the pupils reported use of reading strategies and whether there is a relationship between self-rated reading ability and reported strategy use.

Research has shown that pupils who use reading strategies perform better on experimental reading tasks (Bråten, I. & Anmarkrud, Ø. 2013) For the pupils to become really good readers, reading comprehension strategies, background knowledge and reading motivation are crucial (Anmarkrud, Ø. & Refsahl, V. 2019). This thesis shows that the pupils are aware of and use reading strategies, but to a different extent depending on the strategy.

The theoretical background includes theories and research on reading strategies and reading. This is knowledge that is beneficial for teachers and teacher students to know about, especially if they are going to help to develop reading skills among the pupils.

The data was collected by using *the survey of reading strategies* (SORS), which is a questionnaire designed to be used among L2 learners of English. The data was collected in two 7th grades from two different schools and the data was analysed using the SPSS.

The findings show that the pupils make use of reading comprehension strategies during reading in L2, but the strategies are used to a different extent. There were several strategies that the pupils reported to be using with a high frequency. The results also showed overall no significant difference between the genders, with a few exceptions where the girls reported higher mean scores. There was also overall no significant difference between the self-rated reading ability and the reported strategy use, with a few exceptions, where the high ability reading group had the highest mean scores.

Samandrag

Denne masteroppgåva målar bruken av lesestrategiar i engelsk lesing blant norske 7.klasse elevar. Oppgåva undersøker om og til kva grad 7.klasseelevane brukar lesestrategiar. Den undersøker også om det er kjønnsforskjellar i elevane sin sjølvrapporterte bruk av lesestrategiar og om det er ein samanheng mellom sjølvrapportert lesenivå og bruk av lesestrategiar.

Forsking har vist at elevar som brukar lesestrategiar gjer det betre på leseoppgåver (Bråten, I. & Anmarkrud, Ø. 2013). For at elevane skal bli veldig gode lesarar er lesestrategiar, bakgrunnskunnskap og lesemotivasjon viktig (Anmarkrud, Ø. & Refsahl, V. 2019). Denne oppgåva viser at elevane er klar over og brukar lesestrategiar, men brukar dei i ulik grad alt etter strategi.

Den teoretiske kapittelet inneheld teoriar og forsking på lesestrategiar og lesing. Dette er kunnskap som er viktig for lærarar og lærarstudentar å kjenne til, spesielt om dei skal bidra til å utvikle leseferdigheiter for elevane.

Datainnsamlinga vart gjort ved å bruke *the survey of reading strategies* (SORS), som er eit spørjeskjema som er designa for å brukast på elevar som har engelsk som andrespråk. Innsamlinga av data vart gjort i to 7.klassar frå to forskjellige skular og SPSS vart brukt for å analysere all innsamla data.

Resultata viser at elevane brukar ulike lesestrategiar mens dei les på engelsk, men strategiane er brukt i veldig ulik grad. Der er fleire strategiar der elevane rapporterer ein høgfrekvent bruk, altså at dei er mykje brukt. Resultat viser også at der er ingen statistisk signifikant forskjell på kjønna, med nokre få unntak der jentene rapporterte høgare gjennomsnittsscore. Der var heller ikkje funnen nokon statistisk signifikant forskjell mellom sjølvrapportert lesenivå og rapportert strategibruk, med nokre få unntak der gruppa som rapporterte høgt lesenivå rapporterte høgare gjennomsnittsscore.

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1.0 Introduction

This master thesis investigates whether and to what extent reading strategies are used in L2 reading in primary schools in Norway. One of the most important tasks for the Norwegian schools is to develop reading skills for the pupils so they can participate in society. Reading skills have become more important in our society, and reading is categorized as a basic skill in the English curriculum. The core curriculum in English states that the reading in the subject should “contribute to reading pleasure and language acquisition” (Kunnskapsdepartementet, 2019). It also states that the pupils should “read and find information in multimedia texts with competing messages and using reading strategies to understand explicit and implicit information” (Kunnskapsdepartementet, 2019). This shows that reading strategies should play a significant role in the teaching of English reading. Reading strategies are also mentioned in the competence aims as knowledge the pupils should have obtained after both grade 7 and grade 10. After grade 7 the pupils should be able to “read and present content from various types of texts, including self-chosen texts” (Kunnskapsdepartementet, 2019). The pupils should also “read and listen to English-language factual texts and literature for children and young people and write and talk about the content” (Kunnskapsdepartementet, 2019). While after grade 10 the pupils should be able to read, discuss and present content from various types of text, they should also be able to read, interpret and reflect on English-language fiction, including young people’s literature (Kunnskapsdepartementet, 2019). After grade 10 the pupils should also be able to read factual texts and assess the reliability of the sources and be able to use sources in a critical and accountable manner (Kunnskapsdepartementet, 2019). The competence aims shows that reading strategies are an important skill for the pupils to know, so that they are able to write, talk, and present the content of the text after reading. The pupils also have to be able to use reading strategies so that they are able to discuss, present, interpret and reflect on their reading, they also have to be able to assess the reliability of sources and be able to use them in a critical way. Being able to assess sources is also an important reading strategy.

1.1 Previous research about reading strategies.

In addition to the curriculum and competence aim, research also states that reading strategies are important (Bråten, I & Anmarkrud, Ø. 2013). At the same time, research shows that the

instruction and use of reading strategies in Norwegian L2 classrooms vary a lot (Breivik, L. 2019).

There is difference between deeper-level reading strategies and surface-level reading strategies. “Students who experienced instructions of deeper-level comprehension strategies in the classroom reportedly used less surface-level strategies and performed better on experimental reading tasks than students who experienced little instruction of deeper-level comprehension strategies” (Bråten, I & Anmarkrud, Ø. 2013). This shows that reading comprehension strategies are important. To become a really good reader, reading comprehension strategies, background knowledge and reading motivation are crucial (Anmarkrud, Ø & Refsahl, V. 2019). In the last 20 years, reading comprehension strategies has gained its importance in textbooks for teachers and pupils, and in the Norwegian curriculum (Anmarkrud, Ø & Refsahl, V. 2019). Norwegian pupils also score below average for OECD when it comes to ranking useful strategies to understand and remember a text (Magnusson, C. & Frønes, T. 2020).

Breivik and Hellekjær found out that among the poorest readers in L1, only 56% were poor readers in their L2 as well among grade 11 pupils. These readers reported some use of reading strategies, like close-reading, re-reading, and scanning (Breivik, L, & Hellekjær, G. 2018). Breivik also conducted a study where she filmed 60 English lessons in 9th and 10th grade. She found out that, critically, 48% of the lessons contained no strategy use or instruction (Breivik, L. 2019). There was also one class were Breivik (2019) observed no strategy instruction or use of reading strategies at all. The focus there was on just reading rather than the reading process (Breivik, L. 2019).

Another big observational study researched 178 Norwegian lessons in 47 different 8th grades, found very little explicit reading strategy instruction, some of the teachers encouraged the pupils to use strategies but very few explained how the pupils should use them (Magnusson, Roe, & Blikstad-Balas in Magnusson, C. & Frønes, T. 2020). A North American study from 1998 also found very little use of reading strategy instruction. “Pressley et al, who observed literacy instruction in 10 4th and 5th grade classrooms, found that direct and explicit instruction in comprehension strategies was virtually non-existent. The teachers, all considered to be excellent reading educators, occasionally mentioned a comprehension strategy, and sometimes modelled the use of strategies, but there was no evidence that teachers instructed

or encouraged students to coordinate the various comprehension strategies in order to understand text” (Pressley et al, in Anmarkrud, Ø. & Bråten, I. 2012).

While Breivik and Hellekjær (2018) researched 11th grade, Breivik (2019) researched 9th and 10th grade, and Bråten and Anmarkrud (2013) also researched 9th grade. While these studies mostly research instruction of reading strategies and the use of deeper level reading strategies, I want to investigate whether 7th grade pupils use reading strategies in their L2 reading. This thesis will use a questionnaire to answer the research questions and not video recordings.

1.2 My Study

I have chosen to focus on reading strategies because this is a topic that interest me. I wrote an assignment on reading strategies for an exam in Norwegian class and I found it very fun and interesting to write. Since I am going to teach both Norwegian and English as a future teacher, a very important assignment for me will be to develop reading comprehension and reading skills for my pupils. An important part of developing reading comprehension will be to give the pupils knowledge about reading strategies to process their reading. This master thesis will give me a lot of knowledge about different reading strategies and how they can be used. The master will also give me knowledge about whether reading strategies are used and to what range they are used in English L2 reading in Norwegian primary school. The knowledge I gain from the master thesis is knowledge that will benefit both my future pupils and co-workers, at the same time it will also benefit other teachers and teacher students since it will give them more knowledge about reading, reading strategies and whether they are used among the 7th grade pupils. This is a very important topic since “research since the 1980s has found that most reading classrooms neglect comprehension strategy instruction, which is worrying, since training of certain comprehension strategies has proven effective for student reading in L1 and L2” (Breivik, L. 2019). The research question for my master thesis is:

- *Whether and to what extent do Norwegian 7th grade pupils make use of reading comprehension strategies during reading in L2?*
- *Are there differences in 7th grade pupils reported use of reading strategies with regard to gender?*
- *What is the relationship between the self-rated reading ability and the reported strategy use?*

Since most of the research I have found in a Norwegian context is about reading strategy instruction, I want to research the use of reading strategies. I want to ask 7th grade pupils whether they use reading strategies by using a questionnaire. I also want to use the same questionnaire to research to what extent and what the range of reading strategies used in L2 reading is, if they are using any strategies at all. I will also check to see if there are gender differences in the use of reading comprehension strategies.

1.3 An outline of the thesis

In chapter 1 I have now presented why reading strategies are important, some previous research about reading strategies and a short presentation of what my research questions are and what I am going to investigate in this thesis.

In chapter 2 I have presented important theory about what reading is, and important theoretical aspects to know for a teacher that is teaching reading, like the difference between intensive reading and extensive reading, the importance of vocabulary knowledge and how our working memory can restrict the reading if the pupils do not have a good enough vocabulary knowledge. I have also presented research on reading strategies both from a Norwegian context and international context.

In chapter 3 I have written about the methods I have selected to use for my master thesis. I present the instruments that I will use to gather data, which is the survey of reading strategies and a background questionnaire I have designed myself. I have also presented how I administered the questionnaire, who the participants were and some ethical considerations. At the end of this chapter I have presented how my data was analysed.

In chapter 4 I have presented the result from my questionnaires in 8 different tables all giving different information. The results chapter is used to present the numbers and I also describe what the different tables show. The chapter is divided into different sections where each section presents the results for a research question.

In chapter 5 I will discuss the results that was presented in the previous chapter in light of the theoretical framework from chapter 2.

In the last chapter, which is chapter 6 I will sum up the master thesis and my findings and try to form some conclusion to my research questions.

2.0 Theory

In the first section of this part I will present some definitions on what reading is. I will also present some research on the importance of reading, differences between L2 and L1 reading, and Norwegian pupils' L2 reading level. In the next sub-chapter I will present some definitions on what reading strategies are, the difference between pre-, post-, and during-reading strategies, different categories of reading strategies and already existing research that has been done on reading strategies mostly in a Norwegian setting, but also an international setting.

2.1 What is reading

Reading is categorized as a basic skill, and it is very important for teachers to focus on from year 1 in the education system and all the way up to year 13. "A small child beginning to understand the connection between letters and sound is reading, so is a researcher assessing the reliability of an article in his or her field of expertise" (Munden, J. 2021, p. 344). Reading is important on all these different levels, and all readers have different reasons for why they read. Reading can be defined as the decoding of written text and efficiently processing the information gained (Hellekjær, G. 2007). "Another commonly used definition of reading comprehension is the process of simultaneously extract and construct meaning through interaction and involvement with written language" (Breivik, L. Olsen, R. Hellekjær, G. 2016).

Reading is also a cognitive skill and a social activity. It can be something we do alone, like reading a book or article, or it something we do with others, like when a teacher or the pupils reads aloud in class, or when a parent read aloud for their children (Munden, J. 2021. p. 344). Like I mentioned above, there are different levels of reading, and the first step to being able to learn how to read is to learn how to decode letters, words, and sentences. When a child has learnt how to decode letters, words, and sentences he or she can start to create an

understanding from a text (Magnusson, C. & Frønes, T. 2020). After a reader has started to create an understanding from a text, good readers will be able to activate prior knowledge about a given topic and use it when given new information from a text.

To get a successful reading process readers also have to be able to “read between the lines”. The reader has to find implicit ideas and hidden layers of the text. If the reading is successful, the readers will have an understanding of what the meaning of the text is. (Magnusson, C. & Frønes, T. 2020). The pupil will then know what the topic and the theme of the text is. To make it easier to “read between the lines” and understand the hidden layers of text, reading strategies will be important. This is because correct use of reading strategies will make it easier for the pupils to understand the text and process it. Good reading comprehension skills will lead to a quick and efficient decoding that happens without the reader being conscious about it (Magnusson, C. & Frønes, T. 2020).

2.1.1 The working memory

The working memory means how much information our brain is able to retain while reading. This is particularly important when reading in L2 since there can be a lot of challenging words that the pupils will not understand. To become a fluent reader, pupils have to read with apparent ease and lack of effort to rapidly breeze through material (Day & Bamford, 1998 in Hellekjær, G. 2007).

“In fact, speed is essential for fluent reading because of the limitations of our working memory where information is retained for about 25 to 30 seconds only. In addition, the amount of information that can be stored is also limited, commonly somewhere between seven to nine “chunks” of information. An analogy for “chunks” here would be that it is easier to remember a twelve-digit telephone number as six pairs of numbers than a single, twelve-digit unit” (Hellekjær, G. 2007).

When pupils read in their L2, which in this case is English, they will have to stop sometimes to look up unfamiliar words. If the reader then stops for more than 30 seconds to look up unfamiliar words, what he or she had been reading will have “dropped out of” the short-term memory (Hellekjær, G. 2007). Having to repeatedly look up unfamiliar words will disturb the reader to the extent that the reader will not remember anything of what he or she has been

reading (Hellekjær, G. 2007). This is why it is important for the pupils to read a lot, so they are able to read with apparent ease and lack of effort. This will help to make the pupils reading comprehension more efficient.

2.1.2 Importance of vocabulary in reading

Like mentioned above, having to look up unfamiliar words can lead to a reader struggling to remember what he or she has been reading. This shows that having a large vocabulary is important for reading comprehension. Hellekjær (2007) says that words are the most crucial component in language and having an adequate vocabulary is the most important ingredient needed for a fluent reading process. Even though words are the most crucial component in language and reading, the pupils also need to learn to guess meaning from context. This means that the pupils need to learn to ignore any unfamiliar words as much as possible and focus on the overall meaning in order to let the reading process continue without interruption (Hellekjær, G. 2007). This shows one of the challenges of reading, we need a large vocabulary to read, at the same time we also need massive amounts of reading to develop the English vocabulary (Hellekjær, G. 2007). Hellekjær (2007) also argues that the only way to achieve such levels of vocabulary is through reading extensively to promote the incidental learning of vocabulary.

2.1.3 Extensive reading and intensive reading

Like Hellekjær (2007) argues above, extensive reading is important to promote vocabulary learning. “Important characteristics of an extensive reading approach is that the learner reads a lot, reads for pleasure, and read for overall meaning rather than detail” (Birketveit, A et al. 2018). Extensive reading gives the reader an opportunity to read longer texts for meaning. This also give the readers an opportunity to read material they have selected themselves, which should increase their reading motivation. Birketveit et al (2018) also “argues that young learners are able to make their own way through such texts, developing their own problem-solving approaches, unsupported by the teacher, and that this is not only a valuable life skill, but can improve motivation for reading and for language learning”. Extensive reading also has a strong impact on authentic language input that has proven beneficial in both first and second/foreign language learning. Longer periods of silent reading also build

vocabulary and structural awareness, improve comprehension skills, and promote confidence and motivation (Birketveit, A et al. 2018). A study by Elley and Mangubhai from 1983 found that students who did extensive reading made greater progress in their language skills than those following a more traditional teaching method (Elley & Mangubhai. 1983 in Birketveit, A et al. 2018). This is also supported by Simensen (2007, p. 162) when she says that extensive reading should be given a major place in teaching, and as early as possible. The reading material should also include various types of text. Some examples of texts that could be read are letters, novels, short stories, biographies, travel books, pamphlets, comics, dictionaries, and articles on the internet like newspapers, journals and so on (Simensen, A. 2007. p.162). Even though extensive reading has shown great results in vocabulary and language learning, there is still a very strong tradition that texts in course books be read intensively, with a focus on understanding every word and learning vocabulary (Munden, J. 2021. p. 352). This is something I have seen when in practice and when I have been working in different schools as well.

“Intensive reading means studying a text in detail, so as to distinguish between main ideas and supporting ideas, discover “between the lines” information, and identify style, including type of language used, etc. Its purpose has been described as to arrive at an understanding, not only of what the text means, but how the meaning is produced” (Simensen, A. 2007. p. 149).

Since intensive reading means reading for details, this type of reading is great to use with reading strategies. The pupils in school can then combine reading shorter texts for detail and use reading strategies to help them extract meaning from a text. The combination of intensive reading and strategic reading will help the pupils read “between the lines” and find the deeper meaning in a text they are presented with in school. It will be important for teachers to facilitate for both extensive and intensive reading in the classroom since both types of reading are important for the reading development for the pupils.

2.1.4 Differences in reading comprehension between L1 and L2

Breivik, Olsen and Hellekjær (2016) wrote this article after investigating upper secondary school students L2 proficiency. They wanted to see if L2 proficiency could be explained by the pupils L1 proficiency. Previous research that has been done on this explains that unlike in the first language reading, the second language reading involves two languages. Research

does indicate that there is a structural relation between L1 and L2 reading comprehension (Koda, 2007 in Breivik, L. Olsen, R. & Hellekjær, G. 2016). In Breivik, Olsen and Hellekjær's (2016) study they analysed a nationally distributed reading test. The test was paper based in L1 and a digital test in L2. The participants of the study were first year pupils of Norwegian upper secondary school. Breivik, Olsen and Hellekjær got access to 10,331 upper secondary pupils test scores. The pupils in the study were 16 years old. The researchers wanted to know if there is a relationship between the pupils reading comprehension in English as an L2, and in Norwegian as the L1, they also wanted to pay particular attention to the readers in the lowest quintile (Breivik, L et al. 2016). Not surprisingly, the findings in the study shows that there is a close relation and shared characteristics of reading in the L1 and L2. The researchers sum up their results quite well when saying:

The present study contributes to the existing research on the aspect of the relationship between reading in the L1 and the L2. While Bernhardt's model (2011) indicates that L1 literacy accounts for up to 20% of L2 literacy, we have found an explained variance of 27% to 41% of L1 on L2 reading, depending on the specifications of the model. Our findings revealed that, for all the students, L1 reading was the strongest predictor of their L2 reading proficiency (Breivik, L et al. 2016).

At the same time, there is also a difference among the readers in the lowest quintile. The study "expands the dichotomous notion of good and poor readers by identifying how some of the poor readers in either the L1 or the L2 appears to be markedly better readers in the other language" (Breivik, L et al. 2016). This is also supported by Breivik and Hellekjær (2018) in their study about upper secondary school students who read better in their L2 than their L1. This study also used data from a nationally distributed test, and a survey the outliers, who were the participants, had to answer. The survey had questions about reading interest and reading motivation, reading behaviour, and reading comprehension strategies. The result shows that the outlier group in the study are simultaneously good L2 readers and poor L1 readers (Breivik, L. & Hellekjær, G. 2018). The data from the survey also shows that the outliers in the study were motivated for doing well on the L2 test and interested in being good readers in English and that extramural use of English could potentially be a reason to their good L2 results (Breivik, L. & Hellekjær, G. 2018). Even though these pupils are better readers in their L2 than their L1, they are still statistical outliers. For the majority of the pupils there will still be a strong correlation between the L1 and L2 reading proficiency.

2.1.5 The importance of reading

Reading gives pleasure, it is a source for information, and it is important to participate in society. “The written word has become an important part of our daily lives. We meet it in so many contexts: on text TV, subtitles, emails, SMS messages, signs, advertisement, the internet, newspapers, magazines, posters, books, postcards, and blogs to mention some” (Drew, I. & Sørheim, B. 2016. p. 79). It also provides language input and acts as a foundation for writing and speaking. The more the children read, and the earlier they read, the better (Drew, I. & Sørheim, B. 2016. p. 79). Children should be encouraged to read at least thirty to forty minutes a day but preferably they should read for an hour and up to an hour and a half to become good readers. Reading should also not only be a school activity, but a combination of reading at school and at home (Drew, I. & Sørheim, B. 2016. p. 79). “Reading is a powerful means of developing reading comprehension ability, writing style, vocabulary, grammar and spelling. In addition, evidence shows that it is pleasant, promotes cognitive development, and lowers writing apprehension (Krashen, 2004 in Drew, I. & Sørheim, B. 2016). This shows that reading is very important for the pupils, it also shows that it is impossible for schools to give the pupils enough time to read, this means that their parents are also very important for the children when they are developing their reading comprehension skills.

2.1.6 Norwegian pupils and their L2 reading levels

As mentioned above, reading is a very important skill to be able to participate in society. The pupils have to be able to read in both English and Norwegian. The national tests in Norway are a great way to figure out what level the 5th and 8th grade pupils are on when it comes to reading comprehension.

At the 5th grade level, the reading comprehension skills have increased. The number of pupils who are on the highest level of achievement have increased with almost 2% since last year (UDIR, 2021). There are three different levels of achievement in the national test, where level 1 is the lowest, followed by level 2, and level 3 is the highest. In 2021 there were 29,7% of the pupils on level 3, while level 2 had 45,3% of the pupils. 25% of the pupils were on the lowest level of reading achievement (UDIR, 2021). In the analysis of the reading levels for 8th and 9th grade, there are 5 levels of reading instead of 3. 8.4% is on the lowest level while

18,4% of the pupils are on level 2. This means that 26.8% of the pupils are on the lowest two levels of reading comprehension (UDIR. 2021). This matches the results from 5th grade quite well. On reading level 3, there are 42,6% of the pupils in 2021. At the two highest levels of reading there are 21,0% on level 4, and 10,7% on level 1 (UDIR. 2021). In total there are 31,7% of the pupils on the two highest levels of reading. This number also matches the number from grade 5, but there are a few percent who have become better readers and climbed from level 3 up to level 4 or 5. Even though the number of pupils who are on the highest level of reading have increased with almost 2% since last year, there is still room for improvement when it comes to English reading. Hellekjær, G (2007) says that it is unfortunately not the case that Norwegian pupils leave upper secondary school with the English proficiency needed for higher education. He also explains that when pupils have low scores, these scores could be explained by counterproductive ways of reading were the pupils reads slowly for details and were continuously distracted by unfamiliar words (Hellekjær, G. 2007).

2.1.7 Characteristics of good L2 readers

There are a few things that characterizes good readers from not so good readers. It is important for the teacher to be aware of what characteristics they should focus on when developing reading skills for the pupils. The characteristics of good L2 readers have been compared with the characteristics of weaker L2 readers, On the basis of this, the assumption is that good readers have these characterisations (Simensen, A. 2007. p. 163). “Good readers:

- Are conscious of the purpose of reading a specific text.
- Try to get an idea of how the text is organized.
- Use phrases and other stretches of language, and not single words, as decoding units.
- Are able to distinguish more important from less important information in a text.
- Use all kind of knowledge to understand as much as possible of a text and keep in mind what previous parts of the text are about, but at the same time try to predict what the new parts will be about” (Simensen, A. 2007. p. 163).

2.2 Reading Strategies

In this section I am going to present what reading strategies are and why they are important. I

will also present different categorizations of reading strategies. In this section I am also going to present some research that has been done both here in Scandinavia and in an international context. I will also present some research and results from studies that have used the same questionnaire as I am going to use.

2.2.1 What are reading strategies and why are they important?

A reading strategy can be described as a systematic way of making sense of a text (Munden, J. 2021). Some examples of reading strategies can for instance be trying to get back on track when loosing concentration, underlining or circling important information, adjusting reading speed, using context clues and guessing the meaning of unknown words and phrases (Mokhtari, K. & Sheorey, R. 2002). “We can also define reading strategies as forms of procedural knowledge that readers voluntarily use to acquire, organize, and transform information, as well as to reflect on and guide their own text comprehension” (Anmarkrud, Ø. & Bråten, I. 2012). There are a large number of reading strategies described in research literature, and one study alone identified more than 100 different strategies (Pressley and Afflerbach, 1995 in Anmarkrud, Ø. & Bråten, I. 2012). Reading strategies differ from reading skills which can be categorized as automatic actions, while strategies are intentional control and awareness while reading. This means that the reader chooses to use strategies to find and acquire knowledge, organize and elaborate information gained from a text and to monitor and control their own understanding (Magnusson, C. & Frønes, T. 2020). Magnusson and Frønes (2020) argue that it is important to give the pupils explicit strategy instruction in how to use reading strategies when reading, when they should use the strategies and why they are important. Results from both empirical research and the covariation between reading strategies and reading skills as we can see in the PISA 2018, gives us a reason to believe that it is important for pupils to get explicit and systematic instruction and training in using a wide repertoire of reading strategies the pupils can use when facing new and challenging texts (Magnusson, C. & Frønes, T. 2020). Bråten, I and Anmarkrud, Ø (2013) have done research that shows the importance of reading strategies. The participant of the study were 104 9th grade pupils who were between 14 and 15 years old. The pupils were divided into two groups. The first group consisted of 58 pupils from two different classes where the teacher used a relatively large proportion of instructional time (29%) to teach reading strategies, in particular deeper-level strategies. The second group consisted of 46 pupils from two classes where the

teacher was observed to use a relatively small proportion (8.5%) of the instructional time to teach reading comprehension strategies. There was also no difference between the pupils in the two groups in respect to achievement (grades) in the domain where they were given the experimental reading task. The result of the study shows that pupils in the high strategies instruction group reportedly used surface level strategies less during reading than students in the low strategies instruction group. At the same time, the pupils who got much instruction of deeper-level reading comprehension strategies performed better on experimental reading task than the pupils who experienced little instruction in deeper-level comprehension strategies. The pupils in the high strategies instruction group were found to outperform the pupils in the low strategies instruction group on the comprehension measure. Bråten and Anmarkrud did not find any statistically significant difference between the high strategies instruction groups on the topic knowledge measure (Bråten, I. & Anmarkrud, Ø. 2013). This shows that reading strategies are important and that they make a difference on the comprehension measure. This means that it should be an important part of teaching and reading both in the pupils L1 and L2. This is supported by Anmarkrud, Ø and Bråten, I (2013) when they are saying that carefully crafted comprehension strategies interventions and comprehension strategies instruction naturally occurring in the classroom may actually make a difference when students strive to comprehend expository text.

2.2.2 Different categorization of reading strategies

Reading strategies can be categorized in different ways. I am going to mention a few of these categorizations here and explain what they mean. For instance, I mentioned in the, Bråten and Anmarkrud's (2013) study that pupils who experienced deeper-level comprehension strategy instruction performed better on experimental reading tasks than the pupils who used surface-level strategies. Surface-level strategies and deeper-level strategies are both an example of categories we can use when we are talking about reading strategies. Surface-level comprehension strategies consists of another sub-category of reading strategies, which is memorisation strategies. Deeper-level comprehension strategies also consists of other sub-categories. These sub-categories are elaboration, monitoring, and organisation strategies. The surface level memorisation strategies are used by readers to select and rehearse information without transforming or moving beyond what is given in the text itself. Examples of memorisation strategies can be highlighting or repeating sentences to help remember them

(Anmarkrud, Ø. & Bråten, I. 2013). Elaboration, monitoring and organisation comprehension strategies are meant give a deeper-level of understanding of a text than the surface-level strategies. Organisation strategies are meant to give a deeper understanding by helping the reader to relate, group, or order information and ideas given in the text. Good examples of organisation strategies are for instance summarising, outlining, or diagramming text information (Anmarkrud, Ø. & Bråten, I. 2013). “Elaboration strategies are used to make a text more meaningful by building connections between information given in the text and information located in other source (e.g. associating with relevant prior knowledge or linking content to the content of the other available reading material)” (Anmarkrud, Ø. & Bråten, I. 2013). The last sub-category of the deeper-level strategies are monitoring strategies. Monitoring strategies are used to monitor, assess, or regulate the readers comprehension. Readers use these strategies to make sure they have understood the text, examples of strategies can be comprehension confirmation, problem detection, and problem solving (Anmarkrud, Ø. & Bråten, I. 2013). Bråten and Anmarkrud (2013) also argues that the deeper-level comprehension strategies are particularly important for good reading comprehension. This is one way that is used to categorise reading strategies. These categories are very common to use, but there are other ways to categorize reading comprehension strategies.

Mokhtari, K and Sheorey, R (2002) has developed a questionnaire called *Metacognitive Awareness of Reading Strategies Inventory* (MARSIS) which is supposed to measure students’ metacognitive awareness of reading strategies. The MARSIS was designed to be used among native English readers, so they developed another questionnaire that they called *Survey of Reading Strategies* (SORS). The SORS was designed to measure adolescent and adult English as a second language students’ metacognitive awareness and perceived use of reading strategies. The SORS is the survey I am going to use as my instrument for data collection. I am going to use it among 7th grade pupils to collect data on their use of reading comprehension strategies. This questionnaire has three categories for reading strategies. These categories are called *global reading strategies* (GLOB), *problem solving strategies* (PROB), and *support strategies* (SUP). The global reading strategies are strategies that are intentionally and carefully planned by the reader to monitor or manage their reading. Examples of comprehension strategies in this category are previewing the text, using typographical aids such as tables and figures, and having a purpose in mind when reading (Mokhtari, K. & Sheorey, R. 2002). The problem-solving strategies are “the action and procedures that readers

use while working directly with the text (Mokhtari, K. & Sheorey, R. 2002). These are localized, focused techniques used when problems develop in understanding textual information” (Mokhtari, K. & Sheorey, R. 2002). Examples of problem-solving strategies are adjusting the speed while reading, guessing the meaning of unknown words, and rereading the text to improve comprehension. The last reading strategy category is support strategies. “These are basic support mechanisms intended to aid the reader in comprehending the text” (Mokhtari, K. & Sheorey, R. 2002). Examples of comprehension strategies in this category are using a dictionary, taking notes, underlining or highlighting important information (Mokhtari, K. & Sheorey, R. 2002).

I have now presented two different ways to categorize reading comprehension strategies. These two ways are vastly different, but at the same time there are some similarities. Support strategies and memorisation strategies have a similarity, both categories have comprehension strategies that will aid the reader in comprehending a text by rehearsing information. Both categories have highlighting important information as a similar strategy. Support strategies also have similarities with other of Anmarkrud and Bråten’s categories. Examples of support strategies are taking notes, and paraphrase ideas to better understand a text, these strategies have similarities with organisation strategies that are used to group and order information by for instance summarizing information. Global reading strategies are, like I mentioned above, strategies the reader uses to monitor and manage their reading. This is very similar to the monitoring strategies category that Anmarkrud and Bråten used. At the same time global reading strategies have some similarities with elaboration strategies. Global reading strategies have a strategy about critically analyse and evaluate the information presented in a text (Mokhtari, K. & Sheorey, R. 2002). This matches the elaboration strategies that are used to build connection between information in a text. The last category, which is the problem-solving category have most similarities with the memorisation category since this is comprehension strategies that the reader uses while working directly in the text. An example of comprehension strategies that matches both problem-solving and monitoring strategies are re-reading sentences to remember or increase information. The reading strategy categorisation I am going to use for my master is Mokhtari and Sheorey’s categories. This is because, like I mentioned above, I am going to use their questionnaire as my instrument for data collection. But since a lot of the Norwegian researchers uses Bråten and Anmarkrud’s categories in their research and I am going to use their research as a reference. Which is why I have explained the meaning of memorisation, elaboration, organisation, and monitoring comprehension

strategies.

Another way to categorize reading comprehension strategies are by categorizing them after when in the reading process they are used. Pre, during, and post reading strategies have different reading strategies that is supposed to help the reader make the most out of the reading process. Pre-reading strategies are strategies the pupils can make use of before reading. Examples of pre-reading strategies are for instance taking an overall view of a text too see what it is about before reading, reviewing the text by noting its characteristics, and trying to guess what the content of a text is before reading (Mokhtari, K. & Sheorey, R. 2002). During reading strategies are comprehension strategies the reader can use while reading to help their comprehension while reading. Examples of during reading strategies are guessing the meaning of unknown words and phrases while reading, stopping from time to time so that the reader can think about what he or she is reading, and adjusting the reading speed according to what the reader is reading (Mokhtari, K. & Sheorey, R. 2002). Post reading strategies are comprehension strategies that are used after reading. Some of the post reading strategies from the SORS survey are critically analysing and evaluating information presented in the text, and paraphrase or restate ideas in the readers own words after reading Mokhtari, K. & Sheorey, R. 2002). Like I have shown in this chapter there are a lot of different ways to categorize reading strategies, but the main way of categorization I am going to use in this master thesis is the categories used in *the Survey of Reading Strategies (SORS)*. Those categories were support strategies, global strategies, and the problem-solving strategies.

2.2.3 Gender differences in using reading strategies

Since I am going to look for gender differences in my study it will be useful to look at whether there are differences found in other studies. I am going to compare my study with particularly two other studies, which is the study by Sheorey and Mokhtari (2001) and Lindholm and Tengberg (2019). The first study found no significant difference between the male and the females among the ESL students, there was no significant difference in the overall means for male and female students either (Sheorey, R. & Mokhtari, K. 2001). The only exception was one strategy where they found a significant difference. The was strategy number 10 in the SORS (underline or circle information in the text) and the female students reported to use the strategy more than the male students. We should still note that for 16 out

of 28 strategies in the SORS, the female students reported higher mean scores than the males for the ESL students (Sheorey, R. & Mokhtari, K. 2001).

For the US students the females had higher mean score for 21 out of 28 strategies compared to the males and 8 of those strategies showed a statistically significant difference. The overall mean for the male and female students also showed a significant difference (male $M = 2.97$ and female $M = 3.19$; $p = 0.030$) (Sheorey, R. & Mokhtari, K. 2001).

In the Lindholm and Tengberg (2019) study they found no statistically significant difference in the overall strategy use between the boys and girls. They almost had identical means as well (boys $M = 3.04$ and girls $M = 3.01$). The researchers found no statistically significant difference between the genders for the individual strategies either except for 3 strategies (Lindholm, A. & Tengberg, M. 2019). The three exceptions were “trying to stay focused on reading”, “reading aloud when text becomes hard” and “asking oneself questions”. The research also shows that both the boys and the girls use global and support strategies with moderate frequency, while the problem-solving strategies are used with high frequency (Lindholm, A. & Tengberg, M. 2019).

The strategies are a bit different in these studies than they will be in mine, the reason for this is that Lindholm and Tengberg (2019) are using the MARSII questionnaire. This questionnaire is a bit different to the SORS even though the SORS is based on the MARSII. The SORS in the Sheorey and Mokhtari (2001) is also a little bit different from the SORS that I have used. The SORS in their study only contained 28 questions while I have used a different variant that contain 30 questions.

2.2.4 Norwegian research on reading strategies

I have chosen to have a sub-chapter on Norwegian research on reading strategies. This is because this research has been done in the same context as my research will be done and can be a good reference to compare my results with. Even though these studies have used different methods than I am going to use, I can get some expectations to what the results of my study will be by looking at the results from these studies.

Breivik, L. (2019). This study is a large-scale video study. Breivik and her research team

collected video recordings from seven lower secondary schools. The seven schools were sampled to the study because of the variance in levels of student achievement from the national reading test from 8th to 9th grade. There were also demographic and geographic variation between the school districts as well as a difference in socioeconomic status. The design of the study relied on two cameras that were wall mounted. One in the back of the classroom to film the teacher and one camera in the front. There were also two microphones in the classroom, one on the teacher and one for all the pupils. This setup provided reasonably good video-recordings of whole class discourse and student interaction. Breivik and her research assistants videotaped each classroom 4-6 lessons, totalling in 60 English lessons across all schools. The video recorded lessons identified reading practises, including what was read, how much time they spent reading and reading strategies. The video recorded lessons also observed whether teachers instructed new strategies. The result of the study shows that text-based reading instruction occurred in all classrooms and a variety of texts were read. Most texts (56%) were narratives (short stories, poems, lyrics, plays, novels). The rest of the reading (44%) covered a variety of authentic informational texts like historical documents, animations, webpages, maps, and graphs. Non-authentic reading like textbooks were also a part of the 44%. The result of the reading strategy observation showed that critically, 48% of the segments contained no strategy use or instruction on strategy use. In addition to that, none of the segments contained explicit and detailed strategy instruction. Scaffolded reading strategy practises were identified in 27 English lessons. In these 27 lessons, a total of nine reading strategies were observed in the video recordings. Four strategies were used in most classrooms. Those strategies were predicting, prior knowledge, graphic organising, and summarising. Fewer of the classrooms used these five strategies: note taking, glossary, text location, skimming/ scanning, and visualising. There was also one classroom in the study where Breivik observed no teaching or use of strategies for comprehending at all. In this class the focus was on the activity (just reading) rather than the reading process. The six other classrooms can be divided into two groups: high frequency instruction in two classes and low frequency instruction in four classes. Despite the difference in frequency, each of the remaining six classes used a repertoire of four to five strategies. Breivik also mentioned in her study that research since the 1980s has found that most reading classrooms neglect comprehension strategy instruction, which is worrying. It is worrying especially since comprehension strategies has proven effective for student reading comprehension in both L1 and L2.

Anmarkrud, Ø. & Bråten, I. (2012). This study's main purpose was to provide an in depth and detailed description of the instruction of comprehension strategies that naturally occurred in a selection of Norwegian ninth-grade language arts classrooms, while students read expository texts. The participants in the study were four 9th grades in four different schools and their teachers. All four teacher participants were female and had between 5 to 25 years of experience as teachers. The reason for choosing language arts lessons is because Anmarkrud and Bråten meant that they should expect to see considerable reading in the classrooms. The participating teachers were Hannah, who had 25 years' experience as a teacher, Leila who had also been a full-time teacher for 24 years, Nina who had been a full-time teacher for five years and finally, Monica who had been a full-time teacher for 12 years. Hannah had 17 boys and 15 girls in her class in a rural school, Leila had 12 boys and 13 girls and was working at a large suburban school. Nina had 12 boys and 14 girls in her class in a large suburban school and finally, Monica had 15 boys and 13 girls in her class in a large urban school. In all four classrooms expository texts were the main topic during the observational period. During the observational period, the pupils in the four classes were studying different types of expository texts. A few examples of the expository texts they studied were popular science texts, newspaper articles, letters to the editor and articles from statistics Norway. The data source for this study is video recordings from the four classrooms. In addition to the video recordings, Anmarkrud and Bråten also interviewed the four teachers to supplement the information gathered through classroom observations. All of the language arts lessons were video filmed during a period of three weeks in each classroom using three cameras. One of the cameras was a remotely controlled camera set to follow the teacher all of the time. The two others were fixed cameras to capture the whole class or groups of pupils. There were also two microphones, one that was carried by the teacher and one ceiling-mounted camera to capture the whole class discussion. The authors had two interviews with each of the teachers, one before the observational period and one after. The first interview was relatively short (25 minutes). This interview provided three pieces of information. First it provided biographical information about the four teachers, then it provided information about the classes and the pupils. Lastly the first interview provided information about the texts and topics that would be addressed in the observational period. The second interview was conducted after the observational period and lasted between 75 to 90 minutes. This interview concerned the teacher's declarative knowledge about reading, reading comprehension and reading comprehension strategies, as well as their knowledge about comprehension instruction and in particular comprehension strategies instruction. The results of the second interview showed

that all four teachers expressed the view that comprehension strategies were the same as study techniques and were all able to mention a few strategies. Even though all teachers knew what reading comprehension strategies were, they still lacked specialised knowledge about reading and reading instruction. They particularly lacked knowledge about the teaching of reading comprehension in the classroom. That the teachers lack knowledge about the teaching of reading comprehension is also shown in the results of the video recordings. 80,3% of the video data from the 16 lessons were coded as “no instruction of comprehension strategies”, but there were differences in the amount of strategy instruction that occurred in the four classrooms. Nina carried out more than half of the (52,8%) of the instruction of comprehension strategies that were observed in the video recordings. Hanna’s classroom was also the only classroom where they found explicit instruction for about 10 minutes, which was 22,2% of her total instruction. For the other teachers, the largest part of their teaching of comprehension strategies was implicit. The range of comprehension strategies taught in this content was also very narrow, with a large majority of strategies observed was instruction of elaboration strategies. Memorization, organization, and monitoring instruction occurred much less. Finally Anmarkrud and Bråten says that it is not unique to Norwegian lower secondary school teachers to not base their classroom practise on research-based knowledge. That is why it is important for teacher students to get a wide range of theoretical insight when they are in teacher training and education.

2.2.5 Research using the MARSI/SORS questionnaire

I am now going to present some research that has used the same questionnaire that I am going to use in my study. I have decided to use the SORS questionnaire, which is based on the MARSI. The MARSI is a survey that is best used on pupils that are native speakers of English while the SORS is best used among English as a second language learners. The reason for presenting research that has used the same questionnaire is because it gives me a good opportunity to compare the results I am going to get to the results from these studies. One of the studies is also a Swedish study, which gives a very good comparison since the Norwegian and Swedish school is similar. The other study is an American study from the creators of the MARSI and SORS questionnaire.

Lindholm, A. & Tengberg, M. (2019). This study examines the reading development of L2

middle school pupils and its relation to self-report strategy use among Swedish 5th graders. This study is a two-year longitudinal study where reading comprehension was measured on three occasions between 2015 and 2017. The students also filled out a questionnaire on language background and reading habits, and they completed the metacognitive awareness of reading strategies inventory (MARSİ). The study had 62 participants in grade 5, which means they were 10-11 years old at the beginning of the study. They were 34 boys and 28 girls in the study. The instruments in the study were the diagnostic literacy test (DLS) and the previously mentioned MARSİ. The diagnostic literacy comprehension test consists of four texts divided into two sections. The reading in the diagnostic literacy test covers two different reading processes, which is accessing and retrieving information, and integrate and interpret texts. The MARSİ is a self-report questionnaire used to assess adolescent and adult readers reported use of reading comprehension strategies. The MARSİ is often used in studies like this since it makes comparison between studies possible. During the data collection the DLS reading comprehension test was administered three times, one at the beginning of grade 5, one at the end of grade 5 and finally at the end of grade 6. The MARSİ questionnaire was translated into Swedish and administered at the end of grade 6. The results show that the students reading levels developed significantly over the last years of middle school. The results from the MARSİ showed that there is no statistically significant difference in boy's and girl's overall strategy use. The analyses also showed that the use of global and support strategies are used with moderate frequency, while problem solving strategies are used with high frequency. There were three strategies with some difference among boys and girls. The problem-solving strategy "trying to stay focused on reading" and the support strategy "reading aloud when the text becomes hard" girls report more frequent use than the boys, in contrast the boys used the support strategy "asking oneself questions" more frequent than girls do. When it comes to the relationship between reading strategies and reading comprehension, the study firstly showed that problem-solving strategies were used far more than the other two categories. The study also found that the mean values of reported strategy use increase with increased reading achievement for both global and problem-solving strategies. For support strategies the same pattern is found between low and middle achievers, but not between middle and high achievers. In general, the study shows that the more able readers tend to report more frequent use of comprehension strategies, and in particular global strategies.

Sheorey, R. & Mokhtari, K. (2001). In this study the authors examined whether there is a difference between ESL and US students and their perceived use of reading comprehension

strategies while reading academic material. They also wanted to figure out whether there was a relationship between reported strategy use and self-rated reading ability. The participants in the study were 152 non-native speakers of English studying in the United States and 150 native speakers from the USA. All participants were full time students at two Midwestern universities in the United States. The ESL students had taken *the Test of English as a foreign language* (TOEFL), with a score of 500 or better to get admission to the University. The result of the TOEFL ranged from 503 to 643 with an average at 544,94. The students from the United States self-reported their own reading levels. They gave themselves an average rating of 4.30 which can be categorized as a reading level between “above average” and “very good”. The instrument used in this study was *the Survey of Reading Strategies* (SORS). They used this instrument since it is designed to specifically discover the reading strategies purportedly used by readers of English. When the data was collected the SORS was administered at the beginning of individual class periods with the help of a classroom instructor. The participants were divided into two group based on their response to the self-rating reading level. The one group consisted of the high reading ability group and the other was a low reading ability group. The result of the study shows that the means of individual strategy items ranged from a high of 3.98 to a low of a 2.67 for ESL students. For the US students the means of individual strategy items ranged from 4.04 to 2.03 at the lowest. For the ESL students, 10 of the 28 strategies fell in the high usage group (mean of 3.5 or above). The remaining 18 strategies fell in the medium usage group (means of 2.5 to 3.49). None of the strategies were reported to be used with low frequency (mean value below 2.5). For the US students, eight strategies fell into the high usage category. 18 strategies fell into the medium usage group and the remaining two fell in the low usage group. Both the ESL students and the US students showed a clear preference for cognitive strategies, followed by metacognitive strategies and support strategies. When the researchers compared the high reading ability students with the low ability reading students withing the US and ESL group, they found a statistically significant difference for a number of individual reading comprehension strategies between the two groups. Among the ESL students they found higher means of usage among 25 of 28 strategies in the SORS in favour of the high ability readers. For the US group the high ability reading group had higher means for each of the 28 strategies as well as for all the three strategy categories. The reading strategies in this survey are generally invoked more frequently by students whose rated reading ability was high compared to those who self-rated themselves as having a low reading ability.

2.2.6 Research questions and predictions

Like I mentioned in the introduction chapter I am going to research the use of reading comprehension strategies in two 7th grades. The research questions for my study are:

- *Whether and to what extent do Norwegian 7th grade pupils make use of reading comprehension strategies during reading in L2?*
- *Are there differences in 7th grade pupils reported use of reading strategies with regard to gender?*
- *What is the relationship between the self-rated reading ability and the reported strategy use?*

In regard to the research questions I think it will be naturally to look at the Lindholm, A and Tengberg, M (2019) study and the Sheorey and Mokhtari (2001) study since these studies are very similar to mine. The result of their study shows, like I mentioned above, that the problem-solving strategies are used with high frequency. This means that strategies like trying to stay focused on reading, reading slowly and carefully, paying close attention to reading and re-reading for better understanding are some of the strategies that are likely to be the most frequent used. I think my study will show that the 7th grade pupils use reading comprehension strategies while reading in L2, at least to some extent. Breivik's (2019) study showed that four reading comprehension strategies were used in most classrooms, while fewer of the classrooms had used five other strategies as well. At the same time there was one classroom in the study that showed no use of reading comprehension strategies at all. Even though Breivik's study showed very few strategies used and even no strategies used in one class, I still expect that my study will find, to some extent, usage of reading strategies while reading in L2. The questionnaire I will use for my data collection will also show the range of strategies used in the two classes. For the second research question I expect that there will be no significant difference between boys and girls. This is because both the study by Lindholm and Tengberg (2019) and the study by Sheorey and Mokhtari (2001) found the same. For the last research question about self-rated reading ability and reported strategy use I expect that I will get statistically significant numbers for a few of the reading strategies, but that most of the results will probably show no significant difference. At the same time I also expect that the high reading ability group would have higher mean scores than the low ability reading group even if the results are not statistically significant.

3.0 Method

In this chapter I will present the methods I will use for collecting my data. I will present *the Survey of Reading Strategies (SORS)* questionnaire in more detail. I will explain why I selected this questionnaire for my study instead of other options. I have also made my own questionnaire, which I will present in more detail in this chapter as well. I will also give some ethical considerations and discuss the different strengths and potential shortcomings.

3.1 Participants

The participants in this study are two 7th grade classes. In total there were 38 participants from the two classes. There were 16 boys and 22 girls that responded to the questionnaire in total. The two classes are from two different schools in the north-western part of Norway. I contacted the teachers for the two classes and asked if I could use one of their lessons to conduct my questionnaire. All teachers from both schools were positive to lend me some time and help me finish my thesis by getting the two 7th grades to answer my questionnaire. The 7th grade in one of the schools was divided into two classes, but they were all in one class when I implemented the questionnaire. The questionnaire was voluntary for the pupils, and I was in both classes myself to hand it out, give the necessary information to the classes, and collect it when the pupils were finished. I also walked around and explained the questions in more detail to some of the pupils who needed some extra help. The questionnaire was anonymous, so none of the pupils wrote their name or gave any other information that could identify specific pupils. I was also in contact with the NSD who said it was not necessary to apply to them as long as all the participants participated anonymous. The reason why I selected to focus on 7th grade is because, to the best of my knowledge, most of the research done on reading strategies in Norway has been done on secondary and upper-secondary pupils, and on students in universities. The only other research I could find was the Swedish study by Lindholm and Tengberg (2019). Since most of the research has been done on older pupils, I wanted to focus on primary school level and chose 7th grade as my participants. Another reason for choosing 7th grade as my participants is because it is the end of one key stage which might be relevant when considering achievement in curriculum aims.

3.2 Advantages and disadvantages by using a questionnaire

Since I am using a questionnaire as my data collecting instrument, it will be necessary to look at some of the advantages and disadvantages about using it. Firstly, a questionnaire can be defined as “any written instrument that presents respondents with a series of questions or statements to which they are to react either by writing out their answer or selecting from already existing answers” (Dornyei, Z. & Taguchi, T. 2009. p. 4). *The Survey of Reading Strategies* (SORS) is a kind of questionnaire where the pupils select an answer among existing answers. Questionnaires can also be used to gather three different types of information about the respondents, *factual*, *behavioural*, and *attitudinal*. Behavioural questions are used to find out what the respondents are doing or have done, examples can for instance be questions about people’s actions, lifestyles, habits, and personal history (Dornyei, Z. & Taguchi, T. 2009. p. 5). Dornyei and Taguchi (2009. p. 5) also says that perhaps the most well-known behavioural questions in L2 studies are inventories that ask language learners about the frequency of the use of a particular learning strategy. This also matches my use of the SORS and its behavioural questions. There are several advantages to using a questionnaire for gathering data. The three main reason for choosing a questionnaire are their efficiency in terms of researcher’s time, researcher’s effort and lastly, financial resources. When administering a questionnaire or a survey to a group of pupils, like I have done, I could be able to collect information in very short amount of time. In addition the personal investments required would be a fraction of what would be needed to interview the same number of people (Dornyei, Z. & Taguchi, T. 2009. p. 6.) Another advantage for using a questionnaire, is that processing the data can be relatively straightforward and fast, especially if the questionnaire is well constructed. In addition a questionnaire can tap into attitudes that the respondents are not completely aware of. It can also reduce the bias of the interviewer and then increase the reliability of the results (Dornyei, Z. & Taguchi, T. 2009. p. 6).

Even though a questionnaire has a lot of advantages there are also certain disadvantages that it is important to be aware of when using and selecting the questionnaire as a data collecting tool. I will now present the most important disadvantages for using a questionnaire and I will present what I did to try and make up for those disadvantages. The first disadvantage to be aware of is that the questionnaire needs to be sufficiently simple and straightforward to be understood by everybody. This is because the respondents are usually unwilling to spend a lot of time responding to the questionnaire (Dornyei, Z. & Taguchi, T. 2009. p. 7). What I did to make up for this disadvantage, was to translate the questionnaire. A questionnaire in

Norwegian is a lot easier and straightforward to understand than a questionnaire in English. The questionnaire consists of 30 questions, but they were all needed to represent as many useful reading strategies as possible. I also spent some time to explain each question in the questionnaire to make sure that every pupil understood the questions and the meaning of the questionnaire. Another problem is unmotivated or unreliable respondents who are not very thorough when answering the questionnaire. This is especially true since answering to a questionnaire is an activity that the respondents does not benefit from in any way. They only do it to help the researcher. The quality of the results may vary a lot depending on the individual care they choose to give (Dornyei, Z. & Taguchi, T. 2009. p. 7). This is a challenging problem to face, and there are probably pupils who were not very motivated to do a thorough job when answering the questionnaire. To make up for this disadvantage I tried to motivate the pupils as well as I could. I told them why I was there and why I needed their help. Most of the pupils seemed to understand how important it was, and I hope that it motivated them to do thorough job when responding to the questionnaire. The next disadvantage has to do with literacy problems. If the respondents have literacy problems this may cause a problem when responding to the questionnaire. The problem is more serious if the questionnaire is administered in a language that the respondents are learning. This means that for learners of L2 with literacy problems, filling in a questionnaire can appear overwhelming (Dornyei, Z. & Taguchi, T. 2009. p. 7). Like I mentioned above, I chose to translate the questionnaire. I had several reasons to why I chose to do so. L2 literacy problems was one of them. I translated the questionnaire to make it more easily understood, easier to comprehend, and to make sure that pupils with L2 literacy problems would not feel overwhelmed. Translating the questionnaire would also make it easier to read and comprehend for pupils with other learning disabilities, like for instance dyslexia. The fourth disadvantage is that the researcher has little or no opportunity to correct the respondents' mistakes. Questionnaires or surveys usually focus on information that the responder knows best. This makes it difficult for the researcher to double-check the validity of the answers. It is fairly common that the respondents simply misunderstand something or do not know the exact response to a question, yet answer it without indicating their lack of knowledge (Dornyei, Z. & Taguchi, T. 2009. p. 7). This problem is difficult to do something about, considering my questionnaire is a self-report survey. What I did do was to try and explain all the difficult questions to the class to try and avoid misunderstanding while responding. It is hard to know whether it worked since I do not really have any way, like mentioned above, to double-check the validity of the answers. At the same time, the SORS have been piloted and validated in

several large-scale studies, which should indicate the results from my study should be valid. The final issue or disadvantage with questionnaires is that the respondent does not always provide true answers about themselves. The answers from a questionnaire represent what the respondents report to feel or believe instead of what the respondents actually feel or believe. The reason for this is that questionnaires are often transparent, which means that the respondent can have a fairly good guess about what the desirable, acceptable, or expected response should be. Some respondents will then answer the desirable, acceptable, or expected response, even if it is not true (Dornyei, Z. & Taguchi, T. 2009. p. 8). This is especially important to keep in mind when working with children, since they could try to please the adult researcher by answering how they think he or she would like them to answer, especially if the researcher has a relationship with the respondents in any way. To try and make up for this disadvantage I was very clear on the fact that there were no right or wrong answers when answering the questionnaires. I told the respondents this while I presented the questionnaire and I had it written down at the top of the paper to try and make sure every respondent would understand this. I also told them that there would be no point in looking at the answers to the person sitting next to them since the response they give have to be what they actually believe and feel, and not what anyone else feels or believes.

3.3 The survey of reading strategies.

The instrument I have selected for my data collection is, like mentioned before, *the Survey of Reading Strategies (SORS)*. “The SORS is an instrument that is intended to measure adolescent and adult English as a second language (ESL) students’ metacognitive awareness and perceived use of reading strategies” (Mokhtari, K. & Sheorey, R. 2002). The SORS instrument is based on the *Metacognitive Awareness of Reading Strategies Inventory (MARS)* which was originally developed as a tool for measuring native English speaking students’ awareness and use of reading strategies while reading academic or school related materials (Sheorey, R. & Mokhtari, K. 2001). Since the MARS was originally designed to be used among native speakers of English, it was inappropriate to use among non-native speakers of English. This is the reason for adapting the MARS and creating the SORS, so that it could be used among an English as a second language population (Mokhtari, K. & Sheorey, R. 2002). To create the SORS, the researchers made three basic, but important revisions. Firstly, they refined the wording of several items to make them easier

comprehensible for ESL students. Secondly, they added two key strategies that are not used by L1 readers, but often used by L2 readers. These two strategies were strategy number 29 and 30 in the questionnaire. These strategies were: translating from one language to another and thinking in the native and target language while reading (Mokhtari, K. & Sheorey, R. 2002). Finally, they removed two items from the MARSIS. The two strategies removed were: Summarizing information read and discussing what one reads with other. They removed these two strategies because they do not specifically constitute reading strategies as convinced in the current research literature on metacognition and reading comprehension (Mokhtari, K. & Sheorey, R. 2002). The SORS, like the MARSIS is intended to measure the type and frequency of reading strategies that adolescent and adult L2 readers of English use while reading academic materials in English. The SORS consists of 30 questions that uses a 5-point Likert scale ranging from 1 (never or almost never do this) to 5 (always or almost always do this). The students were asked to read each statement and circle the number that they felt indicated the frequency they used a reading strategy. The higher the number, the more frequent use of the comprehension strategy (Mokhtari, K. & Sheorey, R. 2002). I also chose to translate the SORS. I did this because the participants of my study were very young, considering they were only in 7th grade. I did this because administering a questionnaire in English would mean that some of the pupils in the class would struggle to understand and respond to a questionnaire in English, especially for those pupils struggling with L2 reading and writing. Lindholm & Tengberg (2019) also translated the MARSIS to assure the students would understand the 30 questions when they conducted their research in a 6th grade in Sweden. This also supports my choice to translate the questionnaire. You can see the translated questionnaire in appendix 1 and the original in appendix 2.

3.4 Why I chose the SORS instead of the MARSIS-R.

Like I mentioned above, I chose to use the SORS instead of the MARSIS because the SORS is made for ESL pupils. Since the wording was made easier and there were added two key strategies that were not used by L1 readers I chose to use the SORS. I was also aware of another version of the MARSIS, which is the revised MARSIS, also known as MARSIS-R. Some of the changes that was made to the MARSIS was an enhancement in the readability and comprehensibility of the strategy statements so that the instrument can be completed by pupils as young as fourth grade (Mokhtari, K et al. 2018). The researchers also changed the 5-point

Likert-scale. It now ranged from “I have never heard of this strategy before” to “I know this strategy quite well and I often use it when I read” (Mokhtari, K et al. 2018). The strategies in the revised was also reduced to only 15 strategies. I still decided to use the SORS as my questionnaire instead of the MARSI-R. I considered the MARSI-R to be a good tool for me as well since it was made easier and more comprehensible. The most important reason for choosing to use the SORS was the fact that it was actually designed for English as a second language users and contained question number 29 and 30, which the MARSI-R did not have. Question or strategy number 29 and 30 were: translating from one language to another and thinking in the native and target language while reading. My chose of using the SORS was also validated by the researchers when they claimed that there is practical value in using the SORS when assessing students with lower levels of English proficiency (Mokhtari, K. & Sheorey, R. 2002).

3.5 The background questionnaire.

In addition to the SORS, I also made a background questionnaire with some simple questions. The reason for doing this is because it can be a good extra source of knowledge about the pupils and why they responded the way they did on the SORS questionnaire. Firstly, the background questionnaire asked about the gender of the pupils, they could choose between boy, girl and other. In total there were also 16 boys and 22 girls that responded to this questionnaire as well, making it a total of 38 pupils. In addition to the question about gender, there were also four other questions in the background questionnaire. These questions were designed by me with inspiration from different researchers and articles about reading and reading strategies. All questions were in Norwegian to assure that the pupils would understand the questions. The version below is a translated version and the original questionnaire used in the schools can be seen in appendix 3. The questionnaire looked like this:

Claim	Disagree	Slightly disagree	Either disagree or agree	Slightly agree	Agree
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1. I like English and think it is important to be good at English.					
2. I read English text in my spare time. (Newspapers, blogs, gaming, books, reading for information, etc.).					
3. I have a good vocabulary in English.					
4. I consider myself as a good reader of English.					

The design is straightforward and easy to understand, and it is influenced by the design of the SORS. While the SORS had a 5-point Likert scale, this questionnaire has a disagree or agree Likert scale and the pupils could mark whether they would disagree, neither agree nor disagree, or agree to the claims. The first claim is: I like English and think it is important to be good in English. I chose to include this question because if pupils think it is important to be good at English it will increase their chances of being good readers of English as well. The second claim is: I read English texts in my spare time. I also included some examples of texts that could be likely for them to read, like newspapers, books, reading while gaming, and reading for information. Question two is inspired by the importance of extensive reading. “Important characteristics of an extensive reading approach are that the learner reads a lot, reads for pleasure, and read for overall meaning rather than detail” (Birketveit, A et al. 2018). Young learners who are able to make their own way through such texts, develop their own problem-solving approaches, unsupported by the teacher. This is not only a valuable life skill but can improve motivation for reading and for language learning (Birketveit, A et al. 2018). This shows how important extensive reading is for the development of skilled readers, and that is why I chose to include claim number two. Claim number three is: I have a good vocabulary in English. This claim is inspired by the sub-chapter on vocabulary that I wrote in the theory section. Hellekjær (2007) says that words are the most crucial component in language and having an adequate vocabulary is the most important ingredient needed for a fluent reading process. Having an adequate vocabulary is so important because our working memory can retain information for about 25 to 30 seconds only. This means that if the pupils have to look up unfamiliar words and uses more than 30 seconds in it, what he or she had been reading would have dropped out of the short-term memory (Hellekjær, G. 2007). This is why vocabulary is so important and it is the reason I have included it as my third claim. The

fourth and last claim is: I consider myself as a good reader of English. This question is inspired by the revised MARSI (Mokhtari, K. et al. 2018). The revised MARSI had this question included so I thought I could be useful to include in my background questionnaire as well.

3.6 Administering the questionnaire.

The questionnaire was administered on two different days. I got to loan an arts session in the first school where I was in the class myself and present and handed out the questionnaire. I also explained some of the most difficult strategies and told the pupils why I was there and that I needed their help to get responders to my questionnaire. The following day I did the same thing at the other school. Both classes and teachers were positive to participating and the pupils had a 45-minute session to complete the questionnaire, but in both classes the pupils only needed about 30 minutes. I had one extra teacher with me in class in the first school and two teachers with me to assist in the other school. The administering of the questionnaire went very well and all pupils that were present in both schools participated in the study.

3.7 Ethical considerations.

I was in contact with the NSD, which is the Norwegian national centre for research data. I wanted to know if I had to apply to them for keeping and collecting the data I needed for my thesis. I was told by them that I needed only to apply if I were to contain personally identifiable information. Since my study does not require me to contain personally identifiable information, I did not need to apply to the NSD either. I was not allowed to gather consent from each parent either since that means I would need their signature which again is categorized as identifiable information, that could identify pupils and parents. I still needed the parents' approval somehow, so the teachers from each school I visited had sent out a message to each parents informing them about my visit and told them that if they for some reason did not want their children to participate, they could send a message and that pupil would get some other tasks to do. Luckily, all parents thought it would be fine for their children to participate. I was also told by the NSD that it was important that the questions could not identify anyone. This means that there could not be any open questions in the questionnaire. This is probably to avoid that the pupils would give any information about

themselves when answering the questions. The most important was to avoid that anyone at any point could figure out who had responded to the questionnaire.

3.8 Data analysis

The data was analysed using SPSS. I have chosen to analyse my data by using a t-test, more specifically the independent samples t-test and the one samples t-test. The one samples t-test was used to only find mean scores for all the pupils combined. While the independent samples t-test was used to figure out whether groups differ with regard to gender and reading ability. The independent samples t-test is categorized as the simplest test to figure out whether groups differ (Larson-Hall, J. 2016. p. 177). In this case I want to figure out whether and to what extent 7th grade pupils make use of reading comprehension strategies while reading in their L2. I also want to figure out whether there are differences between male and female 7th grade pupils in the use of reading strategies while reading in their L2 and lastly, I also want to figure out whether there is a relationship between the self-rated reading comprehension and reported strategy use.

To find the results for the first research question about whether and to what extent 7th grade pupils make use of reading strategies I used a one samples t-test in SPSS to find the mean score for all the participant combined. The results for this research question can be found in table 1 to 3 in the results chapter. When I found the result for the seconds research question about gender differences and reading strategy use, I used the independent samples t-test to find the mean score for the boys and the girls. The independent samples t-test also shows whether the result show a statistically significant different between the genders. The results for this test can be found in table 4 to 6 in the result chapter. Lastly, I want to figure out there is a statistically significant difference between the self-rated reading comprehension and reported strategy use. In order to answer this research question I had to split the participants in two different group, one with the participants who reported a high reading level and one with the pupils who reported a low reading level. The pupils who reported their reading level to be 5 or higher on question 4 in the background questionnaire were placed in the high reading ability group. The pupils who reported their reading level to be 3 or lower on question 4 in the background questionnaire were placed in the low reading ability group. 25 pupils were placed in the high ability reading group while 13 pupils were placed in the low reading ability group.

To figure out whether there was a statistically significant difference between the two groups the independent samples t-test were used. The results can be found in table 7 and 8. To figure out whether a result was statistically significant or not I used the p-value from SPSS. If the p-value was 0.05 or below it means that the result shows a statistically significant difference between two groups.

The t-test have been used to find the mean scores and to check for significant differences between groups in my study. There are two types of t-tests, the independent samples t-test and the other is the paired samples t-test (Larson-Hall, J. 2016. p. 177). The independent samples t-test is used when the two groups consist of different people, and the paired samples t-test is used when the two groups are the same, but the data was gathered at different times (Larson-Hall, J. 2016. p. 177). Since my data consists of two groups, boys, and girls for one test and high and low reading ability for the other test, I need to use the independent samples t-test. The one samples t-test was used when I wanted to find mean scores for all the participants in total. Another reason for selecting the independent samples t-test is that the same test was used in two similar studies that I can use to compare my study with. These studies were the study by Lindholm and Tengberg (2019) and the study by Sheorey and Mokhtari (2001). The first study used the MARSII questionnaire while the other used the SORS questionnaire, which is the same as I have used.

In the result chapter below, there are several tables that presents the result. If the pupils report a mean score between 3.5 and up, it means that the strategy is frequently used by the pupils, while a mean score of 3.4 to 2.5 indicates a medium frequent usage of the strategies and a score of 2.4 and lower indicates a low strategy use (Sheorey, R. & Mokhtari, K. 2001).

4.0 Results

In this chapter the results of my study will be presented. All the numbers that are presented in the tables below are from the one sample t-test and the independent samples t-test in SPSS. I have inserted them into a word table to make them more presentable and easy to read. The results for the three research questions are presented in tables. Table 1, 2 and 3 shows the result for the first research question. Tables 4, 5 and 6 presents the results for the second research question and lastly tables 7 and 8 presents the result for the final research question. I

will present the results to each research question in sub-chapters. This is to make it easy and straightforward to find the result of each specific research question in this section.

4.1 Whether and to what extent do Norwegian 7th grade pupils make use of reading comprehension strategies during reading in L2?

Table 1

Mean scores for all the reading strategies reported by the participants in total.

Questions	Total = 38 participants				
	Mean score	SD		df	p-value
1. I have a purpose in mind when I read.	3.42	0.88		37	
2. I take notes while reading to help me understand what I read.	1.76	0.81		37	
3. I think about what I know to help me understand what I read.	3.07	1.04		37	
4. I take an overall view of the text to see what it is about before reading it.	3.28	1.16		37	
5. When text becomes difficult, I read aloud to help me understand what I read.	3.18	1.29		37	
6. I think about whether the content of the text fits my reading purpose.	3.44	0.97		37	
7. I read slowly and carefully to make sure I understand what I am reading	3.73	0.97		37	
8. I review the text first by noting its characteristics like length and organization.	3.26	1.13		37	
9. I try to get back on track when I lose concentration.	4.02	1.02		37	
10. I underline or circle information in the text to help me remember it.	2.05	0.98		37	
11. I adjust my reading speed according to what I am reading.	3.89	0.92		37	
12. When reading, I decide what to read closely and what to ignore.	2.84	1.15		37	
13. I use reference materials (e.g., dictionary) to help me understand what I read.	2.07	1.19		37	
14. When text becomes difficult, I pay closer attention to what I am reading.	3.63	0.97		37	
15. I use tables, figures, and pictures in the text to increase my understanding.	2.76	1.17		37	
16. I stop from time to time and think about what I am reading.	2.97	1.07		37	
17. I use context clues to help me better understand what I am reading.	3.00	0.90		37	
18. I paraphrase (restate ideas in my own words) to better understand what I read.	3.23	1.19		37	

19. I try to picture and visualise information to help me remember what I read.	3.28	1.11		37	
20. I use typographical features like bold face and <i>italics</i> to identify key information.	2.44	1.10		37	
21. I critically analyse and evaluate the information presented in the text.	2.60	1.07		37	
22. I go back and forth in the text to find relationships among ideas in it.	2.89	1.10		37	
23. I check my understanding when I come across new information.	2.86	1.06		37	
24. I try to guess what the content of the text is about when I read.	2.73	1.13		37	
25. When text becomes difficult, I re-read it to increase my understanding.	3.15	1.30		37	
26. I ask myself questions I like to have answered in the text.	2.44	1.13		37	
27. I check to see if my guesses about the text are right or wrong.	2.57	1.19		37	
28. When I read, I guess the meaning of unknown words and phrases.	3.02	0.94		37	
29. When reading, I translate from English into my native language.	2.71	1.27		37	
30. When reading, I think about information in both English and my mother tongue.	2.76	1.28		37	

As we can see table 1 contains the mean scores for each reading strategy. A mean score that is higher than 3.5 indicated a high frequent use of that reading strategy, while a score of 3.4 to 2.5 indicates a medium frequent usage. A mean score of 2.4 and below indicated a low usage or no usage at all of that reading strategy. There are 4 strategies that fell into the high frequent usage category. These are strategy number 7, “I read slowly and carefully to make sure I understand what I am reading” with a mean score of 3.73 and the deviation in the answers were 0.97. The second strategy with a high reported usage is strategy 9, “I try to get back on track when I lose concentration”. This strategy had a mean score of 4.02 which is the highest mean score in the table. The deviation in the answers were 1.02. Strategy number 11 also had a high mean score with 3.89 and the deviation between the answers were 0.92. Strategy 11 is, “I adjust my reading speed according to what I am reading”. The last strategy with a mean score above 3.5 is strategy 14, “when text becomes difficult, I pay closer attention to what I am reading”. This strategy had a mean score of 3.63 and the deviation in the answers were 0.97. The 4 reading strategies with a score above 3.5 are about 13% of the total amount of strategies in the questionnaire. There are a total of 23 strategies with a mean score between 3.4 and 2.5, this is about 76% of the strategies while 3 strategies had a mean score below 2.4 which is 10%.

Table 2

Most used reading comprehension strategy categories reported by the participants.

Questions	Total = 38 participants				
	Mean score	SD		df	P-value
1. Global reading strategies	2.94	1.11		493	0.001
2. Support strategies	2.57	1.23		341	0.001
3. Problem solving strategies	3.46	1.10		303	0.001

All the 4 strategies that had a mean score above 3.5 were problem solving strategies, this category also had the highest mean score with 3.46 and a deviation between the answers of 1.10. This shows that the problem-solving strategies are the most used according to the pupils self-reporting. The global reading strategies have a mean score of 2.94 and the support strategies were the least used in total with a mean score of 2.57.

In the table below (table 3) we can see the strategies that are most used at the top of the table, which means they have the highest mean score, and the ones that are least used (lowest mean score) at the bottom of the table. The table also says what reading strategy category the strategies belong into.

Table 3

Reported reading strategies used most and least by the participants in the study.

Category	Most popular strategies (n= 38)
PROB	I try to get back on track when I lose concentration.
PROB	I adjust my reading speed according to what I am reading.
PROB	I read slowly and carefully to make sure I understand what I am reading.
PROB	When text becomes difficult, I pay closer attention to what I am reading.
GLOB	I think about whether the content of the text fits my reading purpose.
GLOB	I have a purpose in mind when I read.
PROB	I try to picture and visualise information to help me remember what I read.
GLOB	I take an overall view of the text to see what it is about before reading it.

GLOB	I review the text first by noting its characteristics like length and organization.
SUP	I paraphrase (restate ideas in my own words) to better understand what I read.
SUP	When text becomes difficult, I read aloud to help me understand what I read.
PROB	When text becomes difficult, I re-read it to increase my understanding.
GLOB	I think about what I know to help me understand what I read.
PROB	When I read, I guess the meaning of unknown words and phrases.
GLOB	I use context clues to help me better understand what I am reading.
PROB	I stop from time to time and think about what I am reading.
SUP	I go back and forth in the text to find relationships among ideas in it.
GLOB	I check my understanding when I come across new information.
GLOB	When reading, I decide what to read closely and what to ignore.
GLOB	I use tables, figures, and pictures in the text to increase my understanding.
SUP	When reading, I think about information in both English and my mother tongue.
GLOB	I try to guess what the content of the text is about when I read.
SUP	When reading, I translate from English into my native language.
GLOB	I critically analyse and evaluate the information presented in the text.
GLOB	I check to see if my guesses about the text are right or wrong.
GLOB	I use typographical features like bold face and <i>italics</i> to identify key information.
SUP	I ask myself questions I like to have answered in the text.
SUP	I use reference materials (e.g., dictionary) to help me understand what I read.
SUP	I underline or circle information in the text to help me remember it.
SUP	I take notes while reading to help me understand what I read.

Like I mentioned above, all 4 strategies that had a mean score above 3.5 are problem-solving strategies. The last strategy in the top five are the global strategy “I think about whether the content of the text fits my reading purpose” with a mean score of 3.44 and the deviation between the answers was 0.97. At the bottom of table 3 we can see the reading strategies with the lowest mean scores, which means that they are the strategies the participants reported to use the least while reading. The 5 strategies at the bottom are mostly support strategies, with 4 strategies in that category and 1 reading strategy in the global strategies category.

3 of the 5 strategies at the bottom of table 3 have a mean score below 2.4. The support strategy “I take notes while reading to help me understand what I read had a mean score at 1.76, the other support strategy “I underline or circle information in the text to help me remember it” had a mean score of 2.05. The last strategy with a mean score below 2.4 is “I use reference materials (e.g., dictionary) to help me understand what I read” and had a mean score of 2.07. The other two strategies at the bottom were the support strategy “I ask myself questions I like to have answered in the text” and the global strategy “I use typographical features like bold face and *italics* to identify key information”. Both these strategies had a mean score of 2.44. The numbers from tables 1-3 indicates that the pupils use reading strategies but to a different extent depending on the strategy. The most popular reading strategies are the problem-solving strategies, followed by the global strategies and the support strategies are the least used strategies.

4.2 Are there differences in 7th grade pupils reported use of reading strategies with regard to gender?

Table 4

Reported reading strategies used by the participants in the study and the difference between the boys and the girls in the study.

Questions	Boys = 16, Girls = 22					P-value
	Boys	SD	Girls	SD	df	
1. I have a purpose in mind when I read.	3.50	1.03	3.36	0.78	36	0.647
2. I take notes while reading to help me understand what I read.	1.43	0.62	2.00	0.87	36	0.035
3. I think about what I know to help me understand what I read	3.12	1.20	3.04	0.95	36	0.821
4. I take an overall view of the text to see what it is about before reading it.	2.93	1.06	3.54	1.18	36	0.112
5. When text becomes difficult, I read aloud to help me understand what I read.	2.25	1.12	3.86	0.94	36	0.001
6. I think about whether the content of the text fits my reading purpose.	3.18	0.83	3.63	1.04	36	0.165
7. I read slowly and carefully to make sure I understand what I am reading	3.32	0.94	4.04	0.89	36	0.020
8. I review the text first by noting its characteristics like length and organization.	3.25	1.12	3.27	1.16	36	0.952

9. I try to get back on track when I lose concentration.	3.75	0.93	4.22	1.06	36	0.160
10. I underline or circle information in the text to help me remember it.	1.87	0.95	2.18	1.00	36	0.350
11. I adjust my reading speed according to what I am reading.	3.93	1.12	3.86	0.77	36	0.812
12. When reading, I decide what to read closely and what to ignore.	2.75	1.12	2.90	1.19	36	0.680
13. I use reference materials (e.g., dictionary) to help me understand what I read.	2.06	0.99	2.09	1.34	36	0.934
14. When text becomes difficult, I pay closer attention to what I am reading.	3.31	0.70	3.86	1.08	36	0.84
15. I use tables, figures, and pictures in the text to increase my understanding.	2.50	1.26	2.95	1.09	36	0.243
16. I stop from time to time and think about what I am reading.	2.50	0.96	3.31	1.04	36	0.019
17. I use context clues to help me better understand what I am reading.	3.06	0.92	2.95	0.89	36	0.721
18. I paraphrase (restate ideas in my own words) to better understand what I read.	2.93	1.12	3.45	1.22	36	0.192
19. I try to picture and visualise information to help me remember what I read.	3.31	0.79	3.27	1.31	36	0.915
20. I use typographical features like bold face and <i>italics</i> to identify key information.	2.06	0.99	2.71	1.12	36	0.067
21. I critically analyse and evaluate the information presented in the text.	2.56	1.03	2.63	1.13	36	0.838
22. I go back and forth in the text to find relationships among ideas in it.	3.18	1.04	2.68	1.12	36	0.169
23. I check my understanding when I come across new information.	2.93	1.12	2.81	1.05	36	0.739
24. I try to guess what the content of the text is about when I read.	2.81	1.16	2.68	1.12	36	0.730
25. When text becomes difficult, I re-read it to increase my understanding.	2.93	1.23	3.31	1.35	36	0.382
26. I ask myself questions I like to have answered in the text.	2.31	1.07	2.54	1.18	36	0.538
27. I check to see if my guesses about the text are right or wrong.	2.81	1.16	2.40	1.22	36	0.313
28. When I read, I guess the meaning of unknown words and phrases.	3.25	0.77	2.86	1.03	36	0.217
29. When reading, I translate from English into my native language.	2.25	0.93	3.04	1.39	36	0.056
30. When reading, I think about information in both English and my mother tongue.	2.37	1.02	3.04	1.39	36	0.113

The independent samples t-test was conducted to see if there were any statistically significant differences between the boys and the girls in the use of reading strategies. As we could see in table 3, there was overall no statistically significant difference in scores for boys and girls with a few exceptions. There are 4 strategies that have a significant difference between the

two genders. For all the 4 strategies that have a significant difference the girls report higher mean scores than the boys. The first strategy with a significant difference is strategy number 2: “I take notes while reading to help me understand what I read” which had a p-value of 0.035 and is a support strategy. Since the p-value is below 0.05, there is a statistically significant difference. The standard deviation in this question is also 0.62 for the boys and 0.87 for the girls which show a smaller difference in answers compared to many of the other questions. “When text becomes difficult, I read aloud to help me understand what I read”, which is strategy number 5, also has a significant difference ($p = 0.001$). Strategy number 5 is also a support strategy. This strategy had a higher deviation with 1.12 for the boys and 0.94 for the girls. Strategy number 7 also had a significant difference between the genders, and it is a problem-solving strategy. The strategy was “I read slowly and carefully to make sure I understand what I am reading” ($p = 0.020$). The deviation for this strategy was 0.94 for the boys and 0.89 for the girls. The last strategy that had a significant difference is strategy number 16 in table 3, which is “I stop from time to time and think about what I am reading”. This strategy is a problem-solving strategy and had a p-value of 0.019 and a deviation in the answers of 0.96 for the boys and 1.04 for the girls. All the other results in table 3 shows that there is no significant difference between boys and girls. Even though there is not a significant difference between the genders in most of the times, the girls have higher mean scores, which means they reported more frequent use of 20 out of 30 strategies. This is about 66% of the strategies were the girls have a higher mean score. The boys have reported a more frequent use in 10 out of 30 strategies. This is about 33% of the strategies in the questionnaire.

As shown in table 3, the girls reported mean scores that vary from a high of 4.22 to a low of 2.00. The problem-solving strategy “I try to get back on track when I lose concentration” is the most used strategy by the girls in this study, and the support strategy “I take notes while reading to help me understand what I read” is the least used according to the girls self-reported use of reading strategies. The boys have also reported the support strategy “I take notes while reading to help me understand what I read” to be least used with a mean score of only 1.43, which indicates that this strategy is almost not used at all. The strategy which is reported to be most used by the boys is the problem-solving strategy “I adjust my reading speed according to what I am reading” with a mean of 3.93. Like I mentioned above, strategies with a mean score of 3.5 or higher indicated that this strategy is often used by the pupils. For the girls there are 7 reading comprehension strategies that fall into this category. This is about 23% of the reading strategies in the SORS questionnaire. For the boys there

were 3 strategies that fell in the high usage group. This is about 10% of the strategies. The only strategy were both the boys, and the girls reported a high usage of was the “I try to get back on track when I lose concentration” strategy. Strategies with a mean score of 3.4 to 2.5 indicated that this strategy is used with a medium frequency by the pupils, they only use it sometimes. The girls reported a medium usage of 19 strategies, which is about 63% of the strategies in the SORS questionnaire. The boys on the other hand also reported a medium usage of 19 reading strategies (63%). Strategies with a mean score of 2.4 and lower indicated a low use of these strategies, and for the girls there were 4 strategies that fell into this group. This means about 13% of the strategies. For the boys, there were 8 strategies that fell into the low usage category, which is about 26% of the strategies in the SORS. Many of the strategies where the pupils reported a high mean score are strategies that fall into the problem-solving category. As shown in table 4 below this is the most popular reading comprehension strategy category.

Table 5

Most used reading comprehension strategy categories reported by the participants with regard to gender.

Questions	Boys = 16, Girls = 22					
	Boys	SD	Girls	SD	df	P-value
4. Global reading strategies	2.88	1.11	2.99	1.11	492	0.272
5. Support strategies	2.29	1,09	2.76	1.30	340	0.001
6. Problem solving strategies	3.28	1.01	3.59	1.15	302	0.016

Even though only four strategies in table 3 had a significant difference, 2 out of 3 reading strategy categories actually had a significant difference between the genders. If we look at the results in table 4, we can see that for the support strategies and the problem-solving strategies there is a significant difference between the genders. For the support strategies the p-value was 0.001 with the deviation between the answers was 1.09 for the boys and 1.30 for the girls. The mean scores were, as we can see in table 4, 2.29 for the boys and 2.76 for the girls. For the problem-solving strategies the p-value was 0.016 and the deviation between the answers was 1.01 for the boys and 1.15 for the girls. The results for the global reading strategies were not statistically significant since it had a p-value that was higher than 0.05. Since the result

from the support strategies and the problem-solving strategies are statistically significant, we can actually say that there is a statistical difference between the genders. The girls report a more frequent use of the strategies in all three categories with a higher mean score than the boys. With a mean score of 3.59 for the girls and 3.28 for the boys, the problem-solving category has the most frequently used strategies in the questionnaire. For the girls, 4 out of 7 strategies with a mean score above 3.50 are problem-solving strategies, while there are 2 global strategies and 1 reading strategy in the support category that are reported to be used with a high frequency. For the boys, 2 out of 3 reading strategies that was used with a high frequency fell in the problem-solving category, while the last strategy fell into the global reading strategies category.

In table 5 below we can see a list with the strategies that was used with the highest frequency at the top and the strategies with the lowest reported use at the bottom. The top 3 reading strategies for the boys have a mean score of 3.50 or above which indicates a high frequent use, while for the girls, the first seven reading strategies have a mean score of above 3.50, which indicates a high frequent use. At the bottom of table 6 we can see that 4 out of the 5 strategies are support strategies, while the other strategy in the bottom 5 are a strategy in the global reading strategy category. For the boys all 5 strategies at the bottom had a mean score below 2.4, which indicates low use or no use at all for those strategies. For the girls, 4 of 5 strategies had a mean score below or on the 2.4 mark. For both the girls and the boys, “I take notes while reading to help me understand what I read”, had the lowest mean score, with only 1.43 for the boys and 2.00 as the mean for the girls. The strategy “I underline or circle information in the text to help me remember it” had a mean score of 1.87 for the boys and 2.18 for the girls, while the strategy “I use reference materials (e.g., dictionary) to help me understand what I read” had a mean score of 2.06 for the boys and 2.09 for the girls. These were the three strategies that both the boys and the girls reported to use the least, but the girls still have higher mean scores in all of them. The 2 last strategies at the bottom at the table for the girls were, “I check to see if my guesses about the text are right or wrong” with a mean score of 2.40 and “I ask myself questions I like to have answered in the text” with a mean score of 2.54. While the 2 other strategies at the bottom of table 6 for the boys were, “I use typographical features like **bold face** and *italics* to identify key information” with a mean score of 2.06 and “When reading, I translate from English into my native language” with a mean score of 2.25.

Table 6

Reported reading strategies used most and least by the participants in the study with regard to gender.

Category	Most popular strategies among Boys (n= 16)	Category	Most popular strategies among girls (n= 22)
PROB	I adjust my reading speed according to what I am reading.	PROB	I try to get back on track when I lose concentration.
PROB	I try to get back on track when I lose concentration.	PROB	I read slowly and carefully to make sure I understand what I am reading.
GLOB	I have a purpose in mind when I read.	SUP	When text becomes difficult, I read aloud to help me understand what I read.
PROB	I read slowly and carefully to make sure I understand what I am reading.	PROB	I adjust my reading speed according to what I am reading.
PROB	When text becomes difficult, I pay closer attention to what I am reading.	PROB	When text becomes difficult, I pay closer attention to what I am reading.
PROB	I try to picture and visualise information to help me remember what I read.	GLOB	I think about whether the content of the text fits my reading purpose.
PROB	When I read, I guess the meaning of unknown words and phrases.	GLOB	I take an overall view of the text to see what it is about before reading it.
GLOB	I review the text first by noting its characteristics like length and organization.	SUP	I paraphrase (restate ideas in my own words) to better understand what I read.
GLOB	I think about whether the content of the text fits my reading purpose.	GLOB	I have a purpose in mind when I read.
SUP	I go back and forth in the text to find relationships among ideas in it.	PROB	I stop from time to time and think about what I am reading.
GLOB	I think about what I know to help me understand what I read.	PROB	When text becomes difficult, I re-read it to increase my understanding.
GLOB	I use context clues to help me better understand what I am reading.	PROB	I try to picture and visualise information to help me remember what I read.
GLOB	I take an overall view of the text to see what it is about before reading it.	GLOB	I review the text first by noting its characteristics like length and organization.
SUP	I paraphrase (restate ideas in my own words) to better understand what I read.	SUP	When reading, I translate from English into my native language.

PROB	When text becomes difficult, I re-read it to increase my understanding.	SUP	When reading, I think about information in both English and my mother tongue.
GLOB	I check my understanding when I come across new information.	GLOB	I think about what I know to help me understand what I read.
GLOB	I check to see if my guesses about the text are right or wrong.	GLOB	I use tables, figures, and pictures in the text to increase my understanding.
GLOB	I try to guess what the content of the text is about when I read.	GLOB	I use context clues to help me better understand what I am reading.
GLOB	When reading, I decide what to read closely and what to ignore.	GLOB	When reading, I decide what to read closely and what to ignore.
GLOB	I critically analyse and evaluate the information presented in the text.	PROB	When I read, I guess the meaning of unknown words and phrases.
PROB	I stop from time to time and think about what I am reading.	GLOB	I check my understanding when I come across new information.
GLOB	I use tables, figures, and pictures in the text to increase my understanding.	GLOB	I use typographical features like bold face and <i>italics</i> to identify key information.
SUP	When reading, I think about information in both English and my mother tongue.	SUP	I go back and forth in the text to find relationships among ideas in it.
SUP	I ask myself questions I like to have answered in the text.	GLOB	I try to guess what the content of the text is about when I read.
SUP	When text becomes difficult, I read aloud to help me understand what I read.	GLOB	I critically analyse and evaluate the information presented in the text.
SUP	When reading, I translate from English into my native language.	SUP	I ask myself questions I like to have answered in the text.
GLOB	I use typographical features like bold face and italics to identify key information.	GLOB	I check to see if my guesses about the text are right or wrong.
SUP	I use reference materials (e.g., dictionary) to help me understand what I read.	SUP	I underline or circle information in the text to help me remember it.
SUP	I underline or circle information in the text to help me remember it.	SUP	I use reference materials (e.g., dictionary) to help me understand what I read.
SUP	I take notes while reading to help me understand what I read.	SUP	I take notes while reading to help me understand what I read.

To summarize, the results showed that there was overall no significant difference between the genders with the exception of 4 reading strategies where the girls reported a higher mean score. The most popular reading strategy category was the problem-solving category. The problem-solving strategies and the support strategies also showed a significant difference between the genders where the girls had the highest mean scores. The global reading strategies showed no significant difference between the genders.

4.3 What is the relationship between the self-rated reading ability and the reported strategy use?

Table 7

Differences in reported strategy use between the pupils with self-reported high reading ability and self-reported low reading ability.

Questions	High = 25, low = 13					P-value
	High	SD	Low	SD	df	
1. I have a purpose in mind when I read.	3.56	0.82	3.15	0.98	36	0.185
2. I take notes while reading to help me understand what I read.	1.76	0.77	1.76	0.92	36	0.974
3. I think about what I know to help me understand what I read	3.36	0.86	2.53	1.19	36	0.020
4. I take an overall view of the text to see what it is about before reading it.	3.40	1.29	3.07	0.86	36	0.423
5. When text becomes difficult, I read aloud to help me understand what I read.	3.24	1.23	3.15	1.40	36	0.847
6. I think about whether the content of the text fits my reading purpose.	3.64	0.81	3.15	1.21	36	0.149
7. I read slowly and carefully to make sure I understand what I am reading	3.52	0.96	4.07	1.11	36	0.118
8. I review the text first by noting its characteristics like length and organization.	3.24	0.87	3.30	1.54	36	0.864
9. I try to get back on track when I lose concentration.	3.96	1.09	4.00	1.22	36	0.919
10. I underline or circle information in the text to help me remember it.	2.16	0.94	1.86	1.06	36	0.358
11. I adjust my reading speed according to what I am reading.	3.84	0.85	3.92	1.11	36	0.799
12. When reading, I decide what to read closely and what to ignore.	2.88	1.09	2.76	1.30	36	0.738
13. I use reference materials (e.g., dictionary) to help me understand what I read.	2.28	1.17	1.76	1.16	36	0.210
14. When text becomes difficult, I pay closer attention to what I am reading.	3.56	1.08	3.76	0.72	36	0.536
15. I use tables, figures, and pictures in the text to increase my understanding.	2.84	1.02	2.61	1.44	36	0.582
16. I stop from time to time and think about what I am reading.	3.00	0.91	2.92	1.38	36	0.838
17. I use context clues to help me better understand what I am reading.	3.24	0.77	2.53	0.96	36	0.021
18. I paraphrase (restate ideas in my own words) to better understand what I read.	3.28	1.06	3.15	1.46	36	0.762

19. I try to picture and visualise information to help me remember what I read.	3.28	0.93	3.23	1.36	36	0.896
20. I use typographical features like bold face and <i>italics</i> to identify key information.	2.68	1.18	2.00	0.81	36	0.072
21. I critically analyse and evaluate the information presented in the text.	2.88	1.01	2.07	1.03	36	0.027
22. I go back and forth in the text to find relationships among ideas in it.	2.96	1.17	2.76	1.01	36	0.622
23. I check my understanding when I come across new information.	2.96	1.05	2.69	1.10	36	0.472
24. I try to guess what the content of the text is about when I read.	2.56	1.04	3.07	1.25	36	0.185
25. When text becomes difficult, I re-read it to increase my understanding.	3.36	1.22	2.86	1.40	36	0.250
26. I ask myself questions I like to have answered in the text.	2.56	0.96	2.23	1.42	36	0.402
27. I check to see if my guesses about the text are right or wrong.	2.68	1.06	2.38	1.44	36	0.479
28. When I read, I guess the meaning of unknown words and phrases.	3.00	0.91	3.07	1.03	36	0.815
29. When reading, I translate from English into my native language.	2.56	1.15	2.38	1.55	36	0.696
30. When reading, I think about information in both English and my mother tongue.	2.72	1.17	2.84	1.51	36	0.778

In table 4 we see the differences in reported reading strategy use between the pupils with self-reported high and low reading ability. Like I mentioned in the data analysis chapter, the pupils who self-reported their reading level to be “5” or better were put in the high reading ability group and the pupils that reported their reading level to be “3” or lower were put in the low reading ability group. The self-reported high reading ability group, which consists of 25 pupils, has the highest mean scores in 21 of the 30 strategies in the questionnaire. This is 70% of the strategies. There is one strategy where there is no difference in the mean score between the groups. This is strategy number 2 where both groups have 1.76 as the mean score. The 13 pupils who reported themselves in the low reading ability group had a higher mean score than the pupils in the high reading ability group in 8 of the 30 strategies in the SORS questionnaire. This is about 26% of the strategies. The high reading ability group had a mean score that was higher than 3.5 in 6 of 30 strategies, while the low reading ability group had a mean score of 3.5 or above in 4 out of 30 strategies. For the high reading ability group, 20% of the strategies has a mean score of 3.5 or above, while for the low reading ability group, 13% of the strategies had a mean score of 3.5 or above. The mean score in this test varies from a high of 3.96 to a low of 1.76 in the high ability reading group. In the low ability reading the mean scores vary from a high of 4.07 to a low of 1.76.

Even though the high reading ability group had higher mean scores in 21 out of 30 strategies (70%), the results for most of the strategies are not statistically significant. There are only 3 strategies out of 30 in the questionnaire where we can find a significant difference between the high and low reading ability group. In all those 3 cases the high reading ability group had higher mean scores than the low ability reading group and all the strategies were global strategies. The first strategy where we can find a significant difference is strategy number 3 in the questionnaire. “I think about what I know to help me understand what I read” had a p-value of 0.020 which is below the $p = 0.050$ mark that is required to be able to say that there is a significant difference between two variables. The second strategy where we can find a significant difference is number 17, “I use context clues to help me better understand what I am reading” with a p-value of 0.021. The last strategy with a significant difference between the groups is number 21, “I critically analyse and evaluate the information presented in the text” with a p-value of 0.027. The strategies with a significant difference between the groups are only 10% of the total number of strategies, while in 90% of the reading strategies no statistically significant difference was found between the groups. This means that the numbers in table 4 could have occurred by a coincidence. Like I mentioned above, a reason for why the numbers does not show a significant difference could be the low number of participants. One potential reason could be the uneven numbers of participants in each group, where the high reading ability group consists of 25 pupils while the low reading ability group consists of only 13 pupils. Another reason could also be that there simply is no difference between the two groups.

Table 8
Results from the self-report reading level questionnaire.

Question	Boys	SD	Girls	SD	df	p-value
1. I like English and think it is important to be good at English.	4.18	0.91	3.63	1.17	36	0.127
2. I read English text in my spare time. (Newspapers, blogs, gaming, books, reading for information, etc.).	4.25	1.39	3.81	1.33	36	0.339
3. I have a good vocabulary in English	4.25	0.77	3.59	0.90	36	0.025
4. I consider myself as a good reader of English.	3.81	1.10	3.63	1.04	36	0.621

In order to create the two different groups, the high and low reading ability groups, I used the answers from question 4 in table 5. As we can see the mean scores for the self-reported reading levels are very high with 3.81 for the boys and 3.63 for the girls. Since the mean scores were so high, the low reading ability group became quite small. In addition to reporting a high mean score for their reading level, the pupils also report that they think English is important and that it is important to be good at English. They also report that they have a good vocabulary and that they read a lot of English in their spare time, which contributes to becoming good readers of English. The differences between the genders are not significantly different with the exception of question number 3, with a p-value of 0.025. This question also had the lowest deviation among the answers with 0.77 for the boys and 0.90 for the girls which could explain why this question is labelled as statistically significant.

5.0 Discussion

This master thesis has examined three research questions and presented result for them. The three research questions are going to be discussed and compared with other results from other articles in this chapter. The research questions were:

- *Whether and to what extent do Norwegian 7th grade pupils make use of reading comprehension strategies during reading in L2?*
- *Are there differences in 7th grade pupils reported use of reading strategies with regard to gender?*
- *What is the relationship between the self-rated reading ability and the reported strategy use?*

In order to answer the research questions I used *the Survey of Reading Strategies (SORS)* as my instrument to gather data. The participants in the study were 38 7th grade pupils from two different schools. A background questionnaire was also administered where the pupils informed me about their gender and their self-reported reading ability. This was needed to be able to answer all research questions. The SORS was selected as my instrument because it is a questionnaire that is designed to be used on L2 and English as a second language learners. The questionnaire contains 30 questions and was translated into Norwegian to make it easier to understand and answer for the pupils.

This master thesis has three main findings. These findings are all the main answers to the research questions. The main findings are summarized below.

1. The results presented in table 1 in the results chapter shows that the 7th grade pupils use reading strategies, but to a different degree depending on the strategies. There are 4 strategies that the participants reported to use with high frequencies. Those strategies were all problem-solving strategies and had mean scores from 3.63 at the lowest to a high of 4.02. There were also 3 strategies that fell in the low usage category. These strategies had a low of 1.76 to a high of 2.07, which indicates that they are almost not used at all.
2. The results presented in table 4 showed that there was no statistically significant difference between the genders. This means that the p-value was higher than 0.05 in all strategies with 4 exceptions. In those 4 exceptions, where the results showed a significant difference, the girls had a higher mean score, which means that they have reported to use those strategies with a higher frequency than the boys. Even though the results were not statistically significant, the girls reported to use 20 out of 30 strategies with a higher frequency than the boys. The boys then reported to use 10 strategies with a higher frequency than the girls.
3. In table 7 above we can see the results for the high and low reading ability groups. The results here showed no statistically significant difference between the two group with the exception of 3 reading strategies. In those 3 exceptions, where the results showed a significant difference, the high reading ability group had higher mean scores, which means that they have reported to use those strategies with a higher frequency than the low reading ability group. The high ability reading group got a higher mean score than the low ability reading group in 21 out of 30 strategies. There was one reading strategy where both groups had the same mean score, while the low reading ability group had the highest mean score in 8 out of 30 strategies.

5.1 Comparing my results with previous research

The results that were presented in chapter 4 and summarized below will now be compared to the results from the articles I presented in the theory chapter (chapter 2). The results will be compared and discussed in sections with each research question as the main discussion point

in each section.

5.1.1 Whether and to what extent do Norwegian 7th grade pupils make use of reading comprehension strategies during reading in L2?

The results from table 1 showed that the pupils report using reading comprehension strategies to some extent. When the pupils report a mean score between 3.5 and up, it means that the strategy is frequently used by the pupils, while a mean score of 3.4 to 2.5 indicates a medium frequent usage of the strategies and a score of 2.4 and lower indicates a low strategy use (Sheorey, R. & Mokhtari, K. 2001). There were 4 strategies that were frequently used by the pupils, which means they had a mean score of 3.5 or higher. There were also a few strategies that had a mean score that was very close to 3.5. The 4 strategies that had a mean score above 3.5 were all problem-solving strategies. These strategies were also quite simple strategies, and they were all about trying to get on back on track when losing concentration, adjusting reading speed according to the text, reading slowly to make sure the reader understand and when the text becomes hard the reader have to concentrate even more. These are all strategies that the pupils at this level should not need instruction from the teacher to do while reading. The strategies at the bottom of table 3 are strategies that would probably need some instruction or are more challenging to do because of all the digital teaching in Norway. At least in my experience, when pupils are told to read by the teacher, they usually “just” read, which means that the participant’s in this study reads, but they adjust their speed, concentrate more, read more slowly, or try to get back on track when losing concentration while they read. But if they are going to make notes while reading, underline or circle information, use reference materials or use bold face or italics to identify important information, they probably need instruction from the teacher. My study did not research what instruction on reading strategies the pupils get, but when I look at other studies it is likely to think that the instruction is lacking. At least did the teachers in the study by Anmarkrud and Bråten (2012) express a lack of specialized knowledge about reading and the teaching of reading comprehension in the classroom. Their study showed that the time the teachers use on comprehension strategy instruction varied from almost 40% to less than 10% if the instructional time (Anmarkrud, Ø. & Bråten, I. 2012). Another study also showed that the instruction in reading strategies vary. Breivik (2019) filmed 47 English lessons and found that 48% of the segments contained no strategy use or instruction. This means that they scored 1 on her scale of 1 to 4. In addition to this there were no segments that contained explicit and

detailed strategy instruction, which means no segments scored a 4 on her scale. There was also one class with no observed strategy instruction or use (Breivik, L. 2019). Like I just mentioned I don't know anything about the strategy instruction the participants in the study have gotten but it is likely to think it is not too much instruction since they reported to mostly use the simplest strategies that are used during reading.

When looking at the result in table 1 we can see that 30 strategies are used with very different frequencies, but there are several strategies with mean scores that indicates that they are used from time to time (mean score between 3.4 and 2.5). The result for the most popular strategies differs between my study and Breivik's study. The 2 most used strategies in her study were the combination of "predicting" and activating "prior knowledge" (Breivik, L. 2019). That is not quite in line with the results from my study. The strategy "I think about what I know to help me understand what I read", which is the same as "prior knowledge" got a mean score of 3.07, which indicates that it is used with some frequency, but there are still 11 strategies that has a higher mean score, which means they are more used. For the "I try to guess what the content of the text is about when I read" strategy, which is the same as "predicting", got a mean score of only 2.73 and is placed among the 10 least used strategies in table 3. This indicates that the strategy is not so often used among the participants in my study. The least used reading strategy in Breivik's (2019) study is "visualising". This result is not in line with my findings either since the strategy "I try to picture and visualise information to help me remember what I read" had a rather high mean score of 3.28 and was the 7th most used strategy among all the participants. This means that the results for what reading strategies were most reported to be used most and least in my study, differs from the strategies that Breivik counted as the most used and least used. Even though the use differs between the different reading strategies, both studies have shown that the pupils use some reading strategies to some extent.

When we look at the bottom of table 3, we can see that the least used strategy among my participants were "notetaking while reading" (strategy number 2 in the SORS). This strategy had a mean score of only 1.76 and a very low deviation between the answers (0.81), which can indicate that the participants were agreeing on the fact that this is a strategy they almost never use. This result also differs from Breivik's (2019) results were "note taking" was a strategy that was observed with medium frequent use. A possible reason for why note taking is not a much used reading strategy among my participants could be because there is a lack of

instruction, or because the pupils are so used to doing intensive reading and then answering questions afterwards that they do not see the need to make notes in order to understand the text.

There were also two other reading strategies that had a mean score below 2.4. These were “I underline or circle information in the text to help me remember it” (mean score: 2.05) and “I use reference materials (e.g., dictionary) to help me understand what I read” (mean score: 2.07). A potential reason for why the pupils report to not underline or circle information, could be because they use a lot of digital aids when reading. The computer and iPad have become very common in Norwegian schools, which makes it difficult to underline or circle information. Another reason could also be that when the pupils read in books, those books are borrowed from the school and the pupils are not allowed to circle or underline information in them, which makes it difficult to use this strategy. The third and last strategy, about using reference material, shows that the pupils does not report to be using the dictionary a lot. Perhaps the pupils can feel that their working memory is not sufficient enough to both be paying attention to what they are reading and checking unknown words at the same time. We can also from the results in table 8, that the pupils self-report to have very good vocabulary knowledge. I still doubt that the pupils have so good vocabulary knowledge that they understand every word in every text that they are presented with.

With regard to the reading strategy categories, both the Lindholm and Tengberg (2019) and Sheorey and Mokhtari (2001) studies show that problem solving strategies were the most popular among the participants. In Lindholm and Tengberg (2019) the problem-solving strategies were the most popular, followed by global strategies and then support strategies as the least used. In Sheorey and Mokhtari (2001) the results were the same. They used different names for the categories, but cognitive strategies, which is the same as problem-solving strategies were the most popular, followed by metacognitive reading strategies (global strategies) and the support strategies were the least used. These results were the same in my study. The problem-solving strategies were the most popular among my participants, followed by global strategies and then support strategies as the least popular.

To sum up we can see that the participants report to be using reading strategies while reading in their L2. They also report to be using some of them with a high frequency. These findings

are also in line with Breivik's (2019) study where she also counted several reading strategies used. What kind of strategies that was used the most differed between mine and Breivik's (2019) study differed between our studies, but we also used different methods to find our results. Still, there is no doubt that reading strategies are used in the two classes I have collected my data, but to a different extent depending on the strategy.

5.1.2 Are there differences in 7th grade pupils reported use of reading strategies with regard to gender?

The results showed that there was no statistically significant difference between the genders. These results are very much in line with the results from both Sheorey and Mokhtari (2001) and Lindholm and Tengberg (2019). Results from both research articles shows that there was no statistically significant difference between the genders with a few exceptions. My results showed 4 reading strategies with a significant difference, and the girls had a higher mean score in all of those 4 exceptions. In the Lindholm and Tengberg (2019) study, there were 3 reading strategies that showed a significant difference between the genders. For those strategies there were 2 who showed a higher mean score for the girls while 1 reading strategy showed a significant difference in favour for the boys. In the study by Sheorey and Mokhtari (2001) there was only one strategy that showed a significant difference between the genders among the ESL students. That one strategy showed a significant difference in favour for the girls, which means that the girls had a higher mean score. For the US students, the results showed that 8 strategies showed a significant difference among the genders. In all those 8 cases the girls had a higher mean score than the boys. All these results are very much in line with the results from my study, where there is no statistically significant difference, but with a few exceptions. And in those exceptions, the girls report a more frequent use of the reading strategies with the one exception from Lindholm and Tengberg's (2019) study.

Even though most results from the three studies show that there is no significant difference between the genders, the girls usually report to use reading strategies with a higher frequency than the boys. In my study, the girls had a higher mean score in 20 out of 30 strategies. The results among the US students in Sheorey and Mokhtari (2001) shows a very similar result. For 22 out of 28 strategies, the girls report a higher mean score, which means that they report to use those strategies with a higher frequency. For the ESL students on the other hand, the results show that the boys report to be using 14 out of 28 strategies more frequent than the

girls, and the girls report to use 13 strategies more frequent than the boys (Sheorey, R. & Mokhtari, K. 2001). In the Lindholm and Tengberg (2019) study, the girls report to have a higher mean score in 15 out of 30 strategies and the boys report to have a higher mean score in 15 out of 30 strategies. The results are still not significant, with the few exceptions mentioned above.

The results for the reading strategy categories showed a significant difference between the gender for 2 out of 3 strategy categories. As we can see in table 5 the problem-solving strategies and the support strategies shows a significant difference, where the girls have the highest mean score. This means that the girls use those strategies with a higher frequency than the boys do. These findings are also interesting since in both Sheorey and Mokhtari (2001) and Lindholm and Tengberg (2019) there is no significant difference between the genders in the use of the different categories, with one exception. The support strategies show a significant difference between the genders for the US students (Sheorey, R. & Mokhtari, K. 2001). All other reading strategy categories showed no significant difference between the genders in the two studies.

5.1.3 What is the relationship between the self-rated reading ability and the reported strategy use?

The results showed that there was no statistically significant difference between the two reading ability groups, with three exceptions. All the exceptions that showed a significant difference, the high reading ability group had the highest mean scores. These results are very much in line with Sheorey and Mokhtari's (2001) result. In their study the high reading ability group had the highest mean scores in all 8 cases that showed a significant difference among the ESL students. For the US students, there was 6 strategies that showed a significant difference. In all those 6 cases the high reading ability group reported to be using the reading strategies with a higher frequency than the low reading ability group. In addition to having the highest mean score when the results showed a significant difference, the high reading ability group also had the highest mean score, which means that they reported to be using most reading strategies with a higher frequency than the low reading ability group.

The high reading ability group had the highest mean score in 21 out of 30 strategies, while the low reading ability group had the highest mean score in 8 reading strategies. One reading

strategy had an equal mean score in my study. These results are also quite in line with the Sheorey and Mokhtari (2001) study, where the high reading ability group had the highest mean score in 25 out of 28 reading strategies, among the ESL students. For the 3 other strategies, the low reading ability group had the highest mean score. For the US students, the high reading ability group had a higher mean score in all of the 28 reading strategies (Sheorey, R. & Mokhtari, K. 2001).

In the Lindholm and Tengberg (2019) study we can also see results that are in line with my results and the results from Sheorey and Mokhtari (2001). Pupils that are in the high achievement group report to be using reading strategies with a higher frequency than the pupils in the middle and low achievers' group (Lindholm, A. & Tengberg, M. 2019).

These results indicate that there is a relationship between reading level and the use of reading strategies. Since the results from the 3 studies are very much in line, and they all indicate that the high reading ability group uses reading strategies more frequent than the low reading ability groups. This supports that there is a relationship between the self-perceived reading ability and reading strategy use.

5.2 Practical Implications

Reading, together with writing, math and digital skills are the basic skills that every pupil needs to master while they are pupils in the Norwegian school system. All these skills are important to become participating members of society and to be able to contribute by working and socially. In order to be good enough readers, the pupils need to read a lot and be able to use reading strategies to help them with comprehension. This study has shown that the pupils do use reading strategies, but to a very different extent, depending on the strategy. The most used strategies among the participants in the study were the easiest problem-solving strategies like “trying to get back on track when losing concentration”, “adjusting reading speed”, “reading slowly and carefully” and “paying closer attention to what he or she is reading”. All of these strategies were quite easy and do not need a lot of instruction from the teacher. The strategies at the bottom of the list in table 3 on the other hand are strategies that perhaps need more instruction from the teacher if the pupils are going to use the strategies while reading. The strategies that were used the least by the participants in my study was mostly support strategies. An in order for the pupils to become more aware of and use the reading strategies,

they need to be instructed by their teachers about when and why they should be using reading strategies and why they are important. Focusing on increasing the instructional time for reading strategies will be an important focus since research since the 1980 has shown that most reading classrooms neglect comprehension strategy instruction (Breivik, L. 2019). A possible reason for this could be the fact that teachers does not have enough knowledge about this topic themselves. Anmarkrud and Bråten's (2012) study showed that all participating teachers generally expressed a lack of professional knowledge about reading strategies and especially with respect to the teaching of reading comprehension in the classroom. None of the teachers in the study believed that their teacher education had given them sufficient theoretical knowledge about reading and reading instruction (Anmarkrud, Ø. & Bråten, I. 2012). This is worrying since comprehension strategies has proven themselves to be effective for pupils reading comprehension in both L1 and L2 (Breivik, L. 2019). My study showed that reading strategies are used, but mainly problem-solving strategies. Most other strategies are used with a moderate or low frequency. This could indicate that the pupils need more instruction in when and how to use the difference reading comprehension strategies, and then especially global and support strategies.

6.0 Conclusion

In my master thesis I have investigated three research questions. These research questions have been.

- *Whether and to what extent do Norwegian 7th grade pupils make use of reading comprehension strategies during reading in L2?*
- *Are there differences in 7th grade pupils reported use of reading strategies with regard to gender?*
- *What is the relationship between the self-rated reading ability and the reported strategy use?*

This chapter will present some concluding remarks on the three research questions. The concluding remarks will be presented one research question at the time in order to make it more presentable.

6.1 Whether and to what extent do Norwegian 7th grade pupils make use of reading

comprehension strategies during reading in L2?

The results that were presented in table 1 shows that the pupils report to be using reading strategies to a different extent depending on the strategy. There were four strategies that the pupils reported to be using with a high frequency, which means they had a mean score above 3.5. All those four strategies were problem-solving strategies. These results are very much in line with Sheorey and Mokhtari (2001) and Lindholm and Tengberg (2019) studies, which also shows that the problem-solving strategies are the most popular among the pupils. Results from all three studies also show that support strategies are the least used strategies and all 3 strategies that fell into the low usage category (mean score below 2.4) in my study was support strategies. Most of the strategies had a mean score between 3.4 and 2.5 which indicates that they are used with a moderate frequency. In conclusion, my study have showed that the pupils use and are aware of a wide range of reading strategies, but they are used to a different extent in their L2 reading.

6.2 Are there differences in 7th grade pupils reported use of reading strategies with regard to gender?

The results from my study showed that there was no statistically significant difference between the genders with the exception of 4 reading strategies where the girls had a higher mean score and a significant difference. These results were very much in line with the results from Sheorey and Mokhtari's (2001) study and Lindholm and Tengberg's (2019) study that also showed a total of 12 strategies where there was a significant difference. In 11 out of those 12 cases, the girls reported a higher mean score than the boys, and the boys had a higher mean score in only 1 strategy where we could see a significant difference. The reading strategy categories also showed a significant difference for both the problem-solving strategies and the support strategies. In both cases the girls reported a higher mean score than the boys. In conclusion, the results shows that there is no significant difference between the genders in most strategies, but if we look at all results together, the results do indicate that the girls tend to use reading strategies with a higher frequency than the boys.

6.3 What is the relationship between the self-rated reading ability and the reported strategy

use?

The results from table 7 shows that there was no statistically significant difference between the high ability reading group and the low ability reading group, with the exception of 3 strategies where the high ability reading group had the highest mean scores. These results were very much in line with the results from Sheorey and Mokhtari (2001), where 8 strategies showed a significant difference for the ESL students and 6 strategies showed a significant difference for the US students. The other results showed no significant difference between the two groups. Even though the results usually showed no statistically significant difference, all the results that were significant showed that the high reading ability group reported to use strategies more frequent than the low ability reading group. The high ability reading group also had higher mean scores in 21 out of 30 strategies. These results together with the Sheorey and Mokhtari (2001) study indicates that the high reading ability group tend to use reading strategies more frequent that the low ability reading group.

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Appendix 1: The SORS questionnaire in Norwegian

Lesestrategiar.

Meininga med denne spørjeundersøkinga er å samle inn informasjon om ulike teknikkar du brukar når du **les på engelsk i skulesamanheng** (f.eks. tekstbøker, lekser, noveller, faktatekster osv.).

Alle punkta nedanfor gjelder for **lesing av skule-relatert materiell** og ikkje materiell du lesar på fritida. Etter at du har lest påstanden, set ring rundt det talet (1, 2, 3, 4 eller 5) som passar best for deg.

Det er ingen rette eller gale svar på nokon av påstandane.

Spørsmål	Kor ofte.				
	Aldri/ nesten aldri	Ein sjeldan gang	Av og til	Ofte	Alltid/ nesten alltid
31. Eg les med ei bevisst hensikt.	1	2	3	4	5
32. Eg tek notat mens eg les for å lettare forstå kva eg les.	1	2	3	4	5
33. Eg tenker på det eg kan frå før som hjelper meg å forstå kva eg les.	1	2	3	4	5
34. Eg ser over teksten for å få et overblikk over kva den handlar om før eg startar å lese.	1	2	3	4	5
35. Når ein tekst blir vanskeleg, les eg høgt for å lettare forstå kva eg les.	1	2	3	4	5
36. Eg tenkjer over om innhaldet i teksten passar med leseformålet mitt.	1	2	3	4	5
37. Eg les sakte og nøye for å vere sikker på at eg skjønner kva eg les.	1	2	3	4	5
38. Eg ser over teksten for å få oversikt over karakteristikkar som lengde og organisering.	1	2	3	4	5
39. Eg prøvar å komme meg tilbake på sporet igjen når eg mistar konsentrasjonen.	1	2	3	4	5
40. Eg set strek under eller sirkel rundt informasjon i ein tekst for å hjelpe meg å hugse det.	1	2	3	4	5
41. Eg justerer lesehastigheita etter kva eg les.	1	2	3	4	5
42. Eg bestemmer meg for kva eg må lese nærmare og kva eg kan ignorere når eg les.	1	2	3	4	5
43. Eg brukar ordbok som hjelpemiddel for å forstå kva eg les.	1	2	3	4	5
44. Når ein tekst blir vanskeleg, konsentrerer eg meg ekstra for å forstå innhaldet.	1	2	3	4	5
45. Eg brukar bileta, figurar og tabellar i teksten for å forstå den betre.	1	2	3	4	5
46. Eg stoppar av og til for å tenkje over kva eg akkurat har lest.	1	2	3	4	5
47. Eg ser på samanhengen for å betre forstå kva eg les.	1	2	3	4	5

48. Eg omskriver (omformar idear med eigne ord) for å betre forstå kva eg les.	1	2	3	4	5
49. Eg prøvar å sjå for meg bilete eller visualisere informasjonen for å hjelpe meg å hugse kva eg les.	1	2	3	4	5
50. Eg brukar typografiske kjenneteikn som fet skrift eller <i>kursiv</i> for å identifisere viktig informasjon.	1	2	3	4	5
51. Eg analyserer og evaluerer informasjonen i teksten kritisk.	1	2	3	4	5
52. Eg går fram og tilbake i teksten for å finne samanheng mellom idear.	1	2	3	4	5
53. Eg sjekkar forståinga mi når eg kjem over ny informasjon.	1	2	3	4	5
54. Eg prøvar å gjette kva teksten handlar om når eg les.	1	2	3	4	5
55. Eg les teksten på nytt for å auke forståinga mi når teksten er vanskeleg.	1	2	3	4	5
56. Eg stiller meg sjølv spørsmål som eg vil finne svar på ved å lese teksten.	1	2	3	4	5
57. Eg sjekkar om det eg gjetta om teksten er riktig eller galt.	1	2	3	4	5
58. Eg gjettar tydinga av ord eller fraser eg ikkje kan når eg les.	1	2	3	4	5
59. Eg oversett frå engelsk til morsmålet mitt når eg les.	1	2	3	4	5
60. Eg tenker over informasjonen på både engelsk og morsmålet mitt når eg les.	1	2	3	4	5

Appendix 2: The SORS questionnaire in English

The Survey of Reading Strategies

Questions	How often				
1. I have a purpose in mind when I read.					
2. I take notes while reading to help me understand what I read.					
3. I think about what I know to help me understand what I read					
4. I take an overall view of the text to see what it is about before reading it.					
5. When text becomes difficult, I read aloud to help me understand what I read.					
6. I think about whether the content of the text fits my reading purpose.					
7. I read slowly and carefully to make sure I understand what I am reading					
8. I review the text first by noting its characteristics like length and organization.					
9. I try to get back on track when I lose concentration.					
10. I underline or circle information in the text to help me remember it.					
11. I adjust my reading speed according to what I am reading.					
12. When reading, I decide what to read closely and what to ignore.					
13. I use reference materials (e.g., dictionary) to help me understand what I read.					
14. When text becomes difficult, I pay closer attention to what I am reading.					
15. I use tables, figures, and pictures in the text to increase my understanding.					
16. I stop from time to time and think about what I am reading.					
17. I use context clues to help me better understand what I am reading.					
18. I paraphrase (restate ideas in my own words) to better understand what I read.					
19. I try to picture and visualise information to help me remember what I read.					

20. I use typographical features like bold face and <i>italics</i> to identify key information.					
21. I critically analyse and evaluate the information presented in the text.					
22. I go back and forth in the text to find relationships among ideas in it.					
23. I check my understanding when I come across new information.					
24. I try to guess what the content of the text is about when I read.					
25. When text becomes difficult, I re-read it to increase my understanding.					
26. I ask myself questions I like to have answered in the text.					
27. I check to see if my guesses about the text are right or wrong.					
28. When I read, I guess the meaning of unknown words and phrases.					
29. When reading, I translate from English into my native language.					
30. When reading, I think about information in both English and my mother tongue.					

Appendix 3: The background questionnaire

Spørjeskjema om lesestrategiar.

Set kryss på det svaret som passar best for deg.

Kjønn:

Gut	Jente	Annet
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Kor god er eg i engelsk i følgje meg sjølv: Set kryss på det svaret som passar best for deg. Her er det ingen rette eller gale svar.

Påstand	Ueinig	Litt ueinig	Verken einig eller ueinig	Litt einig	Einig
1. Eg likar engelsk og synes det er viktig å vere god i engelsk.					
2. Eg leser engelske tekster på fritida mi. (Aviser, bloggar, gaming, bøker, lesar for informasjon, osv.).					
3. Eg har eit godt ordforråd på engelsk.					
4. Eg reknar meg sjølv som ein god lesar på engelsk.					

Tusen takk for at du ville delta i spørjeundersøkinga mi.

