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Dyslexia In L1 And L2 Teaching In K-3

Dyslexi i första- och andraspråksundervisning i årskurs 1-3

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Preface

In this degree project, we have been equally involved throughout the working process. To some extent we have had different responsibilities in the theoretical background but we both have carefully read through each other’s section. We recorded and transcribed the interviews together and we made the analysis of the materials in full cooperation.

Hereby, we have equally contributed to this work.

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Abstract

Approximately five percent of the Swedish population suffer from dyslexia. Therefore, this degree project aims to gain an insight into what pedagogical support in Swedish and English teaching can be offered to dyslexic pupils. Firstly, this paper provides an overview of theories and literature on dyslexia in L1 and L2. The researchers’ findings show that dyslectic difficulties in the L1 is most likely to affect – either by limiting or enhancing – the pupils’ abilities to learn a L2. Strategies (spelling, comparing sounds and letters) that pupils learned when they started to read and write in their L1 and the differences in orthographic systems between L1 and L2 influence their reading and writing in L2. This study is also based on interviews of four K-3 teachers in the south of Sweden. The major conclusions of this study are that (i) dyslectic difficulties extend across languages, (ii) variation of the teachers’ knowledge of dyslexia might depend on the length of their professional teaching experience and their willingness and interest to learn more about dyslexia, (iii) K-3 teachers are dependent on special education teachers’ advice on how to support dyslexic pupils, and (iv) K-3 teachers use digital resources and audiobooks to train the reading and writing in L1, but not in L2 since English in K-3 mostly focuses in training pupils’ speaking skills.

Keywords: Dyslexia, ESL, Learning difficulties, L1, L2, Language learning, Pedagogical support, Reading and writing difficulties
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1 Introduction

According to The International Dyslexia association (2002),

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

In Sweden, approximately five percent of the population suffer from dyslexia (Skolverket, 2011a). Pupils with the suspected dyslectic difficulties often undergo an investigation before being diagnosed as late as in the third or fourth grade. Therefore, in the lower grades of the primary school teachers usually use the terms reading and writing difficulties instead of dyslexia (Svenska dyslexiföreningen, 2012). The Education Act states that if pupils due to disability have difficulty meeting the various knowledge requirements at school, they should be provided with assistance aiming at stimulating pupils’ learning (SFS 2010:800). The National Curriculum (2011b) also emphasizes that teachers should “stimulate, guide and give special support to pupils that have difficulties” and “organize and carry out the work so that pupils receive support in their language and communicative development” (Skolverket, 2011b, p. 16). Therefore, it is important for teachers to know how dyslexia affects pupils’ language development to provide them with the support they need in school.

Our aim is to describe K-3 teachers’ knowledge of dyslexia and their teaching experience of dyslexic pupils, to gain an insight into what pedagogical support in first and second language teaching can be offered to dyslexic pupils. We argue that teachers should identify pupils’ reading and writing difficulties at an early stage because difficulties in a native language might also impede pupils’ foreign language learning. Having communicative skills in the English language is important in our modern society because we are in contact with English in our daily lives through education, economics and politics (Skolverket, 2011b). To achieve these skills, pupils should be given the opportunity to develop all-round communicative skills, for example, to understand spoken and written English (Skolverket, 2011b).
According to Hattie (2012), teachers play an important role in supporting pupils in developing all-round communicative skills (pp. 25-39). Teachers need to have deep knowledge about the subject they teach because, according to Moats (2009), “teachers cannot teach well what they do not understand themselves […]” (p. 387). Alatalo (2011) also highlights that it is essential for teachers to have knowledge about different reading and writing difficulties to identify pupils’ problems as well as to adapt their lessons to every pupil’s needs. This way, teachers can provide adequate support to pupils.

The skills that pupils have in their native language are beneficial when they start to learn a foreign language. According to Jacobson (2009), one of the common assumptions is that the language we speak best is also the language we read best (p. 253). Jacobson (2009) also indicates that second language development is connected to the ability to read in one’s native language (p. 253). This is supported by Sparks and Ganshow (1991) who argued, based on their Linguistic Coding Hypothesis, that pupils who have dyslexic problems in their L1 might also have difficulties in their foreign language learning. Therefore, a reasonable assumption is that if a person has dyslectic difficulties in their first language, these difficulties might interfere in the learning of a foreign language (Myrberg, 2007, p. 37). On the other hand, Miller-Guron and Lundberg (2000) claim that in some cases, pupils with dyslexia prefer to read texts in English compared to texts in their mother tongue, Swedish. This might depend on pupils’ motivation and interest in English, and their possible exposure to English outside of school through their hobbies.

A second language is defined as a language that is used in natural communication by people who have acquired wholly or partly their first language (mother tongue) (Nationalencyklopedin, 2016). Therefore, we argue that English can be seen as a second language in Sweden instead of a foreign language since English is used in Sweden daily through various forms of media and education. In this project the abbreviations English as a second language (ESL) and second language (L2) are used when referring to English as an additional language, and first language (L1) when referring to pupils’ native language. Throughout this work the terms reading and writing difficulties and dyslexia are used interchangeably since these terms are used in the primary school when referring to pupils with dyslexia-like symptoms or dyslexia. Moreover, we will view dyslexia mostly from a pedagogical perspective since our focus is on teachers’
perceptions to gain an understanding of what pedagogical support can be used in a L1 teaching and how this support can be adapted also for dyslexic pupils learning ESL.
2 Aim and research questions

Our aim is to two-fold. Firstly, we aim to make an inventory of research on what challenges are there for teaching L1 and L2 to dyslexic pupils. Secondly, we aim to investigate what K-3 teachers in Sweden do when they teach Swedish and English to dyslexic pupils and how they motivate their choices.

Two research questions have been formulated related to this aim:

1. What are Swedish K-3 teachers’ perceptions on dyslexia in a L1 and L2?
2. What pedagogical support do Swedish K-3 teachers offer for pupils with dyslexia to facilitate learning in their L1 and L2?
3 Theoretical background

In this section, we make an inventory of research on dyslexia, the possible connections between dyslexia in L1 and L2, what pedagogical support can be provided to dyslexic pupils in L1, and whether such support practices can be adapted and transferred to L2 learning. Firstly, we define dyslexia and discuss early reading and writing, and the effects of orthographies on language development. Secondly, we synthesize research on dyslexia and language development in ESL. Finally, we discuss current studies on teachers’ knowledge about dyslexia, and what pedagogical interventions are recommended for teachers to support pupils with dyslexia in their development of language skills.

3.1 Definition of dyslexia

In this section, the definition of dyslexia is described; further, some general symptoms that might be caused by dyslexia are presented, such as, difficulties in word decoding and spelling, and weakened self-esteem. The influence of genetics and environment on language skills will also be discussed in relation to dyslexia.

Some pupils encounter problems in their written language activities. According to Björk and Liberg (2005), this may depend on various factors: pupils’ socio-cultural background, previous knowledge or a learning disorder, like dyslexia (p. 131-134). As mentioned in the International Dyslexia association’s definition dyslexia is a “[…] result of a deficit in the phonological component of language”. Høien and Lundberg (1999) also define dyslexia as a deficit in the phonological system. They have summarized their definition into one sentence: “Dyslexia is a persistent disturbance of the coding of the written language, caused by a weakness in the phonological system” (our translation) (p. 21). This deficit in the phonological system causes difficulties for children to fluently and accurately decode words and results in poor spelling in the early stages of development of their reading and writing skills.

The definition of dyslexia presented by Skolverket (2011a) has a clear pedagogical focus. Skolverket (2011a) states that researchers to a certain degree agree that the reasons behind dyslexia can be explained with reference to the three phonological (how the brain perceives and processes the language) problems; “weak phonological
Awareness (difficulties in distinguishing between sounds, awareness of rhyme), weak phonological working memory (can’t remember what has been read) and weak phonological word retrieval (word finding problems)” (our translation). Children with dyslexia commonly exhibit weak phonological awareness. Nijakowska et al. (2011) define phonological awareness as the ability to “identify, distinguish between, detect and manipulate the sound structure of words with regard to different sizes of phonological units, including whole words, syllables, onsets, rimes and phonemes” (p. 63).

Moreover, dyslexia can be found in all intelligence levels. It has been shown, according to Høien and Lundberg (1999), that general intelligence has quite little to do with children’s early word decoding and reading. Consequently, pupils with low intelligence can have good decoding skills, while highly intelligent children might suffer from dyslexia (Høien & Lundberg, 1999).

### 3.1.1 Symptoms of dyslexia

Høien and Lundberg (1999) claim that there are different kinds of symptoms that persons with dyslexia might have. Primary symptoms are problems with word decoding and spelling, while secondary symptoms might be poor reading comprehension, weakened self-esteem and behavioral problems. Finally, closely related to the primary symptoms might be poor articulation, problems with short-term memory, delayed language development and problems with recalling linguistic terms. Pupils’ reading skills might be negatively affected by these symptoms (p. 21-24).

Høien and Lundberg (1999) also state that pupils with poor short-term memory might have difficulties with understanding long and syntactically complicated sentences. Furthermore, a broad vocabulary is important and has a positive effect on pupil’s reading comprehension. Having problems recalling linguistic terms might delay the learning of new words, which in turn delays the development of the reading comprehension (Høien & Lundberg, 1999).

### 3.1.2 Genetics and environment in relation to dyslexia

Dyslexia can usually be found in the family, which means that this specific reading and writing disability is genetic. Høien and Lundberg (1999) state that the disorder is usually permanent, and often persists into adulthood; furthermore, many dyslexic
individuals can learn to read fairly well, but difficulties with spelling usually remain. Myrberg (2007) also points out that a person’s genetic make-up influences his or her development of phonological awareness (p. 37).

Samuelsson et al. (2007) conducted an International Longitudinal Twin Study to research the influence of genetic and environmental factors on children’s growth in language and reading and writing skills. A total of 700 twin couples at the age of 5 from Sweden, Norway, Australia and the USA participated in this study. Samuelsson et al. (2007) investigated the influence of genetics and environmental factors on certain language abilities (phonological awareness, rapid naming, verbal memory, vocabulary and print knowledge) by comparing samples of identical (100% shared genetics) and fraternal (50% shared genetics) twins. The twins were assessed in preschool for their pre-reading environment and pre-reading skills. At the end of the kindergarten and the first and second grades their progression of reading and writing development was assessed. The results show that genetics has an influence on the phonological awareness (61%), rapid naming and verbal memory while the shared environment influences the vocabulary and print knowledge (68%) of the child. This indicates that genetic factors have a strong influence on phonological awareness and the environmental factors on the child’s vocabulary and print knowledge. Samuelsson (2006) also highlights that other factors such as, reading habits, motivation, concentration ability and grammatical/syntactical ability may influence early reading and writing development (p. 382).

3.2 Dyslexia and early reading and writing in L1 and L2

Children are acquainted with the written language from pre-school and home when they enter the primary school; most children have also developed native-speaker competence in their L1. These experiences and techniques that children already have as well as the environmental influences (Samuelson et al. 2007) when they start school are important for the development of reading and writing (Björk & Liberg, 2005, p. 130).

Teachers need to know how reading and writing development in the L1 progresses and where the pupils are in their development to be able to support them also in their L2 development. Teachers’ knowledge about different phases of learning to read and write
is necessary, according to Alatalo (2011), for them to support pupils’ decoding process and to help them develop their reading and writing skills (p. 48). After identifying pupils’ difficulties, systematic and explicit support can be provided; moreover, teachers who have knowledge of dyslexia and the early reading and writing development can perhaps more confidently adjust their lessons for dyslexic pupils.

3.2.1 The different phases of reading and writing development

Research describes different phases of developing reading and writing skills. These phases, defined below, are the following: the pseudo reading, the logographic phase, the alphabetic phase and the orthographic phase (Samuelsson, 2006; Høien & Lundberg, 1999).

The pseudo reading: In this phase, children have memorized certain familiar and significant words, like McDonalds and LEGO. Children read the environment rather than reading texts. They look at etiquettes and signs and become familiar with the words that are represented in them (Høien & Lundberg, 1999, p. 86).

The logographic phase: Words are read as pictures in this phase. Children recognize words by their overall shape, and have memorized how these words should be pronounced. They have their own associations to pictures; for example, children can remember and recognize the word “camel” by associating the letter “m” to the camel’s humps. However, in this phase, they do not yet understand the sound/letter correspondence (Samuelsson, 2006, p. 386-387; Høien & Lundberg, 1999, p. 86).

The alphabetic phase: Children start to understand that there is a correspondence between phonemes (sounds) and graphemes (letters), and a difference between spoken and written language. In this phase, children listen to how the words are built, and become more aware of where the sounds appear, for example, at the beginning, middle or end of the word. They can even write letters in some familiar words, such as, their name or parent’s/sibling’s names. It is necessary in this phase that children are given explicit and systematic teaching to train their word decoding skills. The words that have been read build a phonological lexicon in the memory of the child, which is activated when reading. The alphabetic principle is significant for every child in the reading and writing development because it means that children know how to convert phonemes to
graphemes when writing, and graphemes to phonemes when reading (Samuelsson, 2006, p. 387-388; Høien & Lundberg, 1999, p. 87).

Dyslexic pupils often have problems in the alphabetic phase, due to the development of early reading and writing being dependent on acquiring the alphabetic principle. This phase requires phonological awareness; Samuelsson (2006) states that the phonological awareness is needed for the pupil to discover and understand that the phonemes in the spoken language can be written into graphemes (p. 388). Goldfus (2012) also emphasizes that “[i]not knowing that words are made up of individual speech sounds that are represented by letters is the basis of being an unskilled reader from the very beginning of the reading process; individuals who experience difficulties in learning to read continue to struggle later in life” (p. 214). Pupils with dyslexia particularly experience these difficulties; therefore, it is important from the very beginning that pupils’ problems are recognized to support them in their reading and writing development.

The orthographic phase: When children’s alphabetic phase has been developed and functions well, they are no longer struggling to read the words. They can automatically read and recognize certain parts of words where each letter has a specific place, or whole simple words by looking at them. Word decoding goes fast and clear without thinking how the words are written, and in this case, children can focus on the content of the text. Furthermore, after the alphabetic phase children’s spelling becomes more certain, and they can even spell irregular words (words that are not spelled as they sound). Finally, this phase is the highest level of learning in reading and writing and it requires reading and writing a lot of different kinds of texts and books in order to achieve and develop competence in this phase (Samuelsson, 2006, p. 390-391).

Dyslexic pupils may have difficulties at different stages; of particular interest is one of the phases called the alphabetic phase. Therefore, to support dyslexic pupils from the early stage of their reading and writing process, teachers need to know about the different phases that pupils go through when starting their formal reading and writing.

3.2.2 Dyslexia and early reading and writing in L2

Pinter (2006) claims that L2 learners have an advantage when starting to read and write in English because they already have experienced reading and writing in their L1 and
know what reading is. The L1-based strategies (for example, spelling, comparing sounds and letters) and having already learnt to read in their L1 may positively influence L2 reading (Pinter, 2006). Obviously, the pupils will differ in how well they master the reading system in their L1 (Pinter, 2006). Therefore, the difficulties dyslexic pupils encountered in their L1 reading and writing might also be noticeable in their L2 development.

3.2.3 Reading and writing activities in ESL and dyslexic pupils

Pinter (2006) recommends that teachers introduce reading and writing in a L2 context by matching the spoken language with the written (for example, label objects in the classroom) and by letting pupils write short personal texts. Pinter (2006) indicates that many L2 learners show interest in reading and writing in English if texts that they encounter contain words and phrases that are familiar and personal for them. Pupils might also gain a sense of success when they learn to read and write something that is meaningful for them, for example, shopping lists (Pinter, 2006). By consciously choosing meaningful texts and activities, teachers might motivate dyslexic pupils to learn and enjoy the L2. As mentioned before, dyslexic pupils might have lower self-esteem caused by the difficulties they have encountered in their L1 development; therefore, strengthening these pupils’ feeling of success when they start learning a L2 is important.

Further, pupils’ oral skills can also be strengthened when they start learning to read and write in L2 (Pinter, 2006). In addition, using phonics is an excellent tool to use when training pupils’ reading and writing skills. By using meaningful and familiar songs and rhymes containing regular words that are spelled as they sound, pupils become more aware of the grapheme-phoneme correspondence (Pinter, 2006). Skolverket (2011b) also emphasizes that in the years 1-3, teachers should teach, “subject areas that are familiar to the pupils” and should use “songs, rhymes, poems and sagas” when teaching English (p. 33). On the other hand, learning ESL is a challenge for pupils with dyslexia, because according to Goldfus (2012) it means that pupils learn unfamiliar words that have different grapheme-phoneme match than in their L1.
3.3 The English and Swedish orthographies

Languages have different orthographies, which affect the early reading and writing development. Goswami (2002) argues that children’s learning about phonemes may be either facilitated or inhibited by the L1 orthography when they start reading (p. 142). Further, the L1 orthography affects what reading strategies children have developed and later use when starting to learn to read and write in a L2. Goswami (2002) claims that “[l]iteracy problems are greater for dyslexic children learning to read inconsistent orthographies (English) than consistent orthographies (Italian, German, Greek)” (p. 149). In this section, the English and Swedish orthographies are discussed to highlight the differences that can be found in the languages. This is important because the English and the Swedish orthographies are dissimilar, which may influence the Swedish pupils’ acquisition of ESL.

Nijakowska et al. (2011) state “[a]lphabetic orthographic systems can be classified according to the consistency of the letter-to-sound relations, defined as orthographic depth” (p. 62). In English, the letter/sound correspondence is less direct and consistent than in Swedish, for example. For this reason, the process of learning to read and write in English might take a relatively long time for the Swedish pupils (Pinter, 2006, p. 67). Additionally, the pronunciation of words might differ even if there are written similarities in words (Pinter, 2006, p. 67; Nijakowska et al. 2011, p. 62). Moreover, letters and letter clusters can have several specific pronunciations and a phoneme can be spelled in different ways (Nijakowska et al. 2011). English has, therefore, deep orthography.

On the other hand, languages exhibiting more consistent letter/sound correspondences have shallow orthographies; therefore, the process of learning to read and write in such languages might be less complicated and take less time (Pinter, 2006, p. 67; Nijakowska et al. 2011, p. 62). In these languages, a phoneme is always spelled in the same way, and letters or letter clusters are pronounced in the same way. For example, Elley (1992) reports that Finnish has a very shallow orthography with a relatively consistent sound-symbol relationship, which might be one of the factors why children are very proficient readers already by age of nine in Finland (p. 73). Swedish and Norwegian have relatively shallow orthographies as well, falling somewhere in the midpoint of a 1-5
scale where Finnish scores 5 (highly regular) and English scores 1 (highly irregular) (Elley, 1992, p. 62).

### 3.4 Dyslexia and L2 development

In 1991, Sparks and Ganschow presented The Linguistic Coding Hypothesis. They argued that pupils who have dyslexic problems in their L1 might also have difficulties in their foreign language (FL) learning. Sparks and Ganschow (1991) argued that pupils are “thrown back” when they start to learn a FL and might be recalling those difficult situations when they started learning to read and write in their L1. Additionally, Sparks and Ganschow (1991) argued that a deficit in syntactic (the structure of the sentence), phonological (relationship of sounds) or semantic (the meaning of words) components of the L1 is most likely to affect – either by limiting or enhancing – the pupils’ ability to learn a FL. Sparks and Ganschow (1991) also claimed that these difficulties might be caused by deficits in either one or more components and that pupils’ verbal memory has an influence on how well and quickly they can take advantage of the components. Further, Sparks and Ganschow (1991) suggested that the phonological and syntactic components have the strongest impact on the difficulties pupils might encounter in FL learning. Further, they claimed that pupils’ anxiety, aptitude and motivation towards the L1 might correlate with pupils’ difficulties in FL learning. In conclusion, Sparks and Ganschow (1991) advocated that pupils’ abilities in their L1 should be investigated when they encounter difficulties in their FL learning. Thus, the researchers also established the connection between L1 and L2 dyslexia.

Sparks and Ganshows’s (1991) hypothesis is further supported by Helland and Kaasa (2004) who conducted a study amongst Norwegian 12-year-old dyslexic ESL pupils. The aim of their study was to assess, with a specially designed English proficiency test, the dyslexic pupils’ reading and writing performance as well as verbal reception and expressive language. The results were compared with a control group, which consisted of pupils who did not have dyslexia.

Generally, the results show that dyslexic learners scored lower in the measures of orthography, semantics, syntax and morphology (words are built of morphemes which are the smallest units of meaning in a language). There were differences on how well the dyslexic pupils scored on the measures. However, all dyslexic learners performed
equally low in spelling scores compared to the control group. The researchers suggest that those dyslexic pupils who scored almost as high as the control group on the measures could use computerized aids as spell check, but otherwise were able to follow the regular English teaching class. Furthermore, the dyslexic pupils who had significantly lower scores on all measures compared to the control group have difficulties in many aspects of the English language and need special education in L2. For pupils to develop their verbal, reading and writing skills, teaching should be adjusted to meet their needs. This study might be useful in a Swedish context to raise awareness on how dyslexic problem might come across in learning English as L2 since the Norwegian language is comparable to Swedish.

Contrary to Sparks and Ganshow (1991) and Helland and Kaasa (2004), Miller-Guron and Lundberg (2000) found that in some cases dyslexic native Swedish speakers who preferred reading English texts to Swedish ones showed fewer problems in reading and writing in English. Miller-Guron and Lundberg (2000) presented different factors that may explain their results. One of these factors is that all the pupils were beginners to the language; therefore, some of the dyslexic pupils felt as good as their classmates, and they had a second chance and an opportunity to start to learn a new language. The dyslexic pupils might have had more negative experiences when learning Swedish. Another factor that has been identified in this study is the motivation and interest of the dyslexic pupils in learning English; pupils may have been exposed to English outside of school through their hobbies or games, which may create positive attitudes towards learning English. Therefore, dyslexic pupils might feel secure to use English, which can increase their self-esteem and motivation to learn. Miller-Guron and Lundberg (2000) emphasize the importance of knowing the strengths and weaknesses of dyslexic pupils’ learning ESL to provide these pupils with adequate support. The potential of dyslexic pupils to acquire a L2 should not be underestimated; they can learn languages almost as well as pupils without dyslexia. Therefore, it is necessary for teachers to create interesting, motivating and challenging lessons in English also for dyslexic pupils.

3.5 Teachers’ lack of knowledge about dyslexia

Many teachers would agree with the saying “those who know, teach well” (McCutchchen and Berninger, 1999). Findings from five recent studies, however, indicated that
teachers in such different contexts as India, USA and Sweden lack the knowledge needed to teach struggling readers, particularly pupils with dyslexia.

Shetty and Rai (2014) conducted a study in India, where most of the children with dyslexia and other learning disabilities were undiagnosed and labeled as “difficult” or “not bright” pupils, 314 schoolteachers were assessed based on their awareness of the 12 symptoms and signs of dyslexia. Among 314 teachers, 66.2% had inadequate knowledge of dyslexia, 16.6% teachers admitted that they were not aware of dyslexia, 92.3% of the teachers who were “aware” of dyslexia admitted that they were not confidently capable of supporting and guiding pupils with dyslexia.

Another study conducted by Washburn, Joshi and Binks-Cantrell (2011) in the USA arrived at similar conclusions. A total of 188 K-5 teachers participated in that study. Washburn et al. (2011) findings show that teachers on average were able to demonstrate implicit skills connected to specific basic language concepts (for example, syllable counting), but failed to display explicit knowledge of concepts such as phonics principles. Findings also show that teachers in this study shared the common misconception that dyslexia is a visual processing deficit rather than phonological processing deficit. Washburn et al. (2011) argued that this misconception could limit the opportunities that pupils with dyslexia or dyslexia-like symptoms receive the appropriate interventions.

Also, the study conducted by Alatalo (2011) in Sweden among 269 elementary teachers and 31 special education teachers strengthen these conclusions. Alatalo (2011) suggested that many teachers lack knowledge of the structure of the Swedish language and Swedish spelling rules. They are also unaware of how to create an effective reading and writing instruction; therefore, many pupils who needed improve their reading and writing skills were left without support. According to Alatalo (2011), “knowledge of language structures, spelling conventions and spelling rules allows the teacher to closely monitor pupils’ written language development, and to develop professionally” (our translation) (p. 208). Therefore, teachers should strive to develop their knowledge and become effective teachers for their pupils with reading and writing difficulties.

Further, teachers’ lack of knowledge of basic language structures can impede their ability to support pupils’ reading and writing development both in L1 and L2.
According to Moats (2009), if teachers have knowledge of particular language structures (including orthography and spelling conventions), they are able to use this knowledge in their teaching. Goldfus (2012) agrees with Moats (2009) and indicates that desirable knowledge on language structures is necessary for teachers “to understand, interpret, and respond to the pupils’ errors and to explain the rules and give examples” (p. 214). Goldfus (2012) also added that language structures must be taught properly because “weak readers lack phonological processes and sensitivity to language structure” (p. 214). If teachers themselves have difficulties in these aspects they are unable to teach their pupils accurately, especially pupils with dyslexia. The problem of sound discrimination among dyslexic pupils increases particularly when learning English; therefore, emphasizing the significance of teachers’ knowledge is needed to support pupils with reading and writing difficulties.

### 3.6 Pedagogical support

It is important to intervene adequately as early as possible to minimize pupils’ reading and writing difficulties. Pupils who do not receive proper interventions might struggle with all subjects in school, which may lead, among other things, to low self-esteem. According to Skolverket (2011a), pupils with dyslexia should be given immediate pedagogical interventions to prevent them from developing a negative self-image and to instill in them the feeling that they are capable to learn despite their difficulties.

In this section, we firstly discuss the steering documents and the obligations that schools have to support pupils with learning disabilities. Secondly, we discuss interventions that are beneficial for dyslexic pupils. Lastly, we explain different obstacles that prevent teachers from offering adequate support to pupils with dyslexia.

#### 3.6.1 The steering documents

The Education Act states clearly that pupils who are in need of special support are entitled to receive the proper assistance they need, and if pupils due to disability have difficulty meeting the various knowledge requirements in school, they should be given assistance to help them reach their full potential (SFS 2010: 800). This special support could be, for instance, in form of different resources such as assistants, higher teacher ratio and special education teachers. The Education Act also states that all pupils should be given the necessary support to stimulate their learning and personal development so
that they may reach their full potential in relation to the educational objectives (SFS 2010: 800).

Skolverket (2011b) states that guardians, parents and the school are responsible for creating best learning conditions for pupils. Together they should “[…] develop both the content and activities of the school” (p. 17). Teachers also have the responsibility to inform guardians about the pupil’s school situation, learning and well-being. Bøyesen (2006) argues that teachers should create a good relationship with parents to help the pupil in the best possible way to overcome their reading and writing difficulties. Therefore, parents should be an active part of the interventions offered for the pupil with learning difficulties. However, it is the teachers’ responsibility to discuss with the parents what role they may have in the interventions to stimulate and support their child’s reading and writing development.

3.6.2 Interventions supporting dyslexic pupils in L1

Dyslexic pupils can be supported pedagogically in different ways. According to Foorman and Torgesen (2001), interventions for pupils with dyslexia should be “[…] more explicit and comprehensive, more intensive, and more supportive than children typically receive in the regular classroom” (p. 207) because dyslexic pupils have different needs than normally developing pupils. Skolverket (2011a) provides some examples of pedagogical interventions that can help dyslexic pupils to develop their reading and writing skills. Some of these interventions are: one-to-one tutoring, computer-based support, follow-up and evaluation activities, and systematic instruction.

One-to-one tutoring is a structured intervention used to support pupils with dyslexia. Some examples of one-to-one tutoring are decoding and phonemic awareness training, reading fluency training, and reading comprehension strategies. According to Wolff (2011), using photos of letters (the consonants) and drawings (of vowels) of a mouth illustrating pronunciation is an efficient way to train decoding and phonemic awareness. This can help dyslexic pupils to write words by putting together pictures of the mouths. Later pupils can match the mouths with graphemes and construct words. Wolff (2011) also points out the importance of repeating the sounds of each vowel, both the long and the short versions. This helps dyslexic pupils who have main problems in spelling to learn the difference between vowel sounds. However, Wolff (2011) suggests that
dyslexic pupils should only work with one specific task at a time, and the task should be carefully presented for pupils to master it.

Høien & Lundberg (1999) also present different factors benefitting dyslexic: early identification and support, basic phonological training, immediate teaching, multisensory stimulation (several sensory channels are used to process language), mastering word decoding and good learning environment (p. 267). However, dyslexic pupils gain little if teachers only give them extra attention without offering targeted interventions, or wait for the pupils to outgrow the problems. Moreover, hearing words such as “misfit” or “lazy” is directly detrimental (Høien & Lundberg, 1999, p. 267-268).

3.6.3 Resources for dyslexic pupils

According to Skolverket (2011a), digital resources are effective with dyslexic pupils. Blythe (2006) investigated the potential advantages of a computer-based phonics training program (for example, trains phoneme awareness) on dyslexic pupils; and, came to the conclusion that by using the computer program, both at home and at school, dyslexic pupils improved their reading ability (for example, in word reading). In addition, Blythe (2006) states that dyslexic pupils might feel motivated to use a computer-based training program that includes immediate feedback, opportunity to repeat tasks until mastering them and humorous visual and auditory elements. Therefore, pupils can with the help of systematic computer-based training develop their reading skills. In short, pupils might become better at reading and develop confidence in their own abilities using tools as a resource.

Another resource that can be used with dyslexic pupils is audiobooks. Høien and Lundberg (1999) point out that audiobooks can train pupils’ reading, listening and concentration skills when they listen to the text while reading, for example. Also, pupils can easily follow and understand the text that can be read at different pace. However, Høien and Lundberg (1999) recommend to choose meaningful texts that engage and evoke pupils’ feelings to increase their interest in reading. Pupils’ reading skills can be strengthened by listening (auditory), seeing (visually) and pronouncing (motor skills) the words in the text. Audiobooks can be individually adjusted to fit the needs of dyslexic pupils.
3.6.4 Obstacles to provide interventions

There are different factors and obstacles that prevent teachers from giving the right support for pupils with dyslexia. According to Alatalo (2011), some of these factors and obstacles are large numbers of pupils, lack of special education teachers, time, resources and lack of knowledge about reading and writing difficulties. Even special education teachers, according to Spencer et al. (2008), do not have sufficient knowledge to provide accurate phonemic awareness intervention (p. 517). Alatalo (2011) also emphasizes the importance of providing teachers with special training and education that can further develop teachers’ professional skills in supporting pupils with reading and writing difficulties. Furthermore, Alatalo (2011) claimed that teachers with longest experience and teachers who had most training about reading and writing difficulties and early reading and writing development in children can identify the strengths and weaknesses of the pupils and they could therefore help pupils overcome their difficulties. Washburn et al. (2011) support Alatalo’s (2011) study and state that teachers’ experience may strengthen their knowledge of certain basic language concepts, but on the other hand variables such as teachers’ attitude and exposure to professional development may have more impact than length of teaching experience.

The current research points to a connection between dyslexia in L1 and L2. There are also a number of interventions described in the research literature that can be used in L1. With this as our point of departure, we proceed with the investigation of what four contemporary K-3 teachers in Sweden do when they teach Swedish and English to dyslexic pupils and how they motivate their choices.
4 Methodology

In this degree project, four K-3 teachers at Swedish schools were interviewed. Interviews as a method was selected because according to Alvehus (2013), it is an effective tool to use in qualitative studies: it is one of the best ways to get access to respondents’ opinions, experiences, feelings and motives regarding a specific topic.

4.1 Ethical considerations

In this degree project, Vetenskapsrådet’s (2002) research ethical guidelines have been taken into consideration. There are four main requirements that need to be included when conducting research: the consent requirement, the confidentiality requirement, the information requirement and the requirement of usage.

All participants were contacted via e-mail with a letter attached to it (see appendix 1) and were informed about their rights. The aim of our degree project was carefully explained, including our selection criterion (we needed to find K-3 teachers teaching both in subjects Swedish and English). The participants were informed that we were interested in their thoughts and experiences about dyslexia in a L1 and L2 perspective.

Furthermore, the participants were informed that their participation is voluntary, and they have the right to withdraw their participation at any time. The participants were informed that the interview material is confidential and is exclusively used in this degree project. Also, the letter emphasized that all the participants are anonymous, which means that the names of the teachers and the schools they work in are renamed. Finally, we informed the participants that they can have access to the final project.

4.2 Participants

To find participants for our interview, sixteen schools in the south of Sweden were contacted. Five schools responded, and a total number of seven teachers showed interest to participate in an interview. Due to parent-teacher conferences as well as the winter sports holiday, three teachers could not participate. In the end, four teachers from two different schools were able to participate.

The first teacher (here called Ulla) has been working as a K-3 teacher for almost forty years. She works at a school located in a large city in the south of Sweden. The school
has about 450 pupils, covering the years K-6, and has about 75 employees including three special education teachers. People living in this area have multi-cultural backgrounds with varying socio-economic statuses.

The other three teachers (here called Felicia, Anna and Elsa) work in a school located in a small city in the south of Sweden. Felicia has been working as a K-3 teacher for seven years; and, Anna has been working mostly for grades 4-6 but also for grades K-3 for 13 years. Elsa is a newly examined teacher who has been working for about one year as a K-3 teacher. The school they work in covers the years K-6 and has about 160 pupils with varying cultural and socio-economic backgrounds. There are about 30 employees including one special education teacher working in the school. The majority of the pupils in this school have Swedish as a L2.

All four teachers currently teach K-3 pupils and are also teaching English and Swedish subjects. They all have encountered pupils with dyslexia or dyslexia-like symptoms in their classrooms. Each teacher leads a class of fourteen to twenty-five pupils.

4.3 Semi-structured interviews

In our investigation, we use semi-structured interviews (based on an interview-guide containing a few open-ended questions) to collect our data material. Bryman (2011) emphasizes that in semi-structured interviews the respondents have greater freedom to answer the questions in their own ways. By using open-ended questions, we can give the teachers the opportunity to reflect and express their thoughts about the interview questions. As interviewers we have the opportunity to ask follow-up questions if we need clarification, or if we want to gain more information about an unexpected response. Alvehus (2013) points out that interviewers should strive to be responsive and attentive in their listening to offer respondents with follow-up questions that are relevant to the topic. On the contrary, closed questions would not have been appropriate for our research since they would limit the possible responses from our respondents.

The questions in the interview guide were divided into three categories, which are (i) the knowledge background, (ii) teaching methods in Swedish/English and (iii) collaboration and materials (see appendix 2). These categories were constructed in relation to our aim, which is to investigate what K-3 teachers in Sweden do when they teach Swedish and English to dyslexic pupils and how they motivate their choices. The
first category consists of four questions that aim to establish the teachers’ professional background and their knowledge of dyslexia. This category was constructed for us to be able to understand different factors (for example, years of teaching) that might affect their answers. According to Washburn et al. (2011) and Alatalo (2011) teachers’ experience may strengthen their knowledge of certain basic language concepts. The second category consist of four questions connected to our aim and research questions which focuses on teachers’ perspectives on dyslexia, the support offered to dyslexic pupils and the interventions and teaching methods that teachers use to facilitate teaching for dyslexic pupils in L1 and L2. Finally, two questions were created to find out if teachers collaborate with special education teachers and what they would need to support dyslexic pupils learning Swedish and English.

4.4 Procedure for the interviews

The main interview questions were sent to the teachers before the interviews. The reason behind this was for the teachers to be prepared at the interview occasion and for us to receive detailed answers from the teachers. The respondents’ permission for recording the interview was asked beforehand, and all the respondents agreed. Bryman (2011) highlights that specific phrases and words might be lost if the interviewer relies on taking down notes from the interview. Similarly, Alvehus (2013) states that the interviewer does not perhaps have time to write down everything that is being said while being a good listener. Also, the notes that have been written down might not correspond to what was said. Therefore, our interviews were recorded to enable us to listen to the discussions again and to accurately transcribe them. We are aware that a recorded interview might affect the respondents’ performance because they might feel restricted in how open they are in their answers but still deemed this course of action.

The respondents were also given the opportunity to decide where and when the interview would be held. All interviews took place in the respondents’ classrooms without any disturbances and lasted between 15 to 30 minutes. According to Bryman (2011), the interview should take place in a calm environment where the respondent can feel comfortable. This is also important for us to receive more detailed answers from the teachers. Furthermore, the answers of the respondents might be affected by their nervousness about the situation. Both authors were present during the interviews in order to support each other by taking down notes and by asking follow-up questions.
However, we felt this did not affect the teachers negatively since they were given the opportunity to prepare for the interview.

### 4.5 Analysis of the data

Each interview was transcribed directly after the interview was held. By doing so, we ensured that we could remember the respondents’ reactions and our own reflections and thoughts on what has been said. Parts of the interviews connected to our research questions were carefully transcribed. A certain encoding procedure was used in the transcription: the names of the interviewers and the teachers were abbreviated by using initials (Ulla = U), the conversations were transcribed and the long pauses were presented by using symbols, for example (…).
5 Results and discussion

This section presents, describes and analyzes the data collected through the semi-structured interviews conducted with the four K-3 teachers (Anna, Felicia, Ulla and Elsa). We categorized the data under four subsections in relation to our aim and research questions: teachers’ descriptions of dyslexia, dyslexia and L2 development, pedagogical support facilitating learning in L1 and L2, and collaboration to support dyslexic pupils. We have summarized the answers and in some cases also provided some of the relevant quotes that we transcribed and translated into English. The results were then related to the research literature presented in the theoretical background.

5.1 Teachers’ descriptions of dyslexia

All the four teachers state that they have encountered pupils with dyslexia or dyslexia-like symptoms. Some descriptions they have given about dyslexia match with the definitions given by some researchers.

Ulla and Felicia agree upon that dyslexia has nothing to do with pupils’ intelligence. Ulla states that dyslexic pupils have a normal intelligence as other pupils. This is supported by Felicia who rather categorically relates, “(…) it has absolutely nothing to do with the intelligence”. This is in compliance with Høien and Lundberg’s (1999) definition of dyslexia, which indicates that dyslexia, can be found at all intelligence levels. This means that pupils with high intelligence might have dyslexia while pupils with low intelligence might not have dyslectic difficulties. Ulla’s and Felicia’s statements indicate that the Swedish teachers interviewed are aware of dyslexia, whereas in India, according to Shetty and Rai (2014), children with dyslexia and other learning disabilities are often undiagnosed and labeled as “difficult” or “not bright” pupils.

Ulla adds that dyslexic pupils understand the principles of reading but have a hard time putting them into practice. Ulla and Felicia argue that dyslexic pupils’ difficulties are noticeable when it comes to binding letters together into words and sentences. According to Skolverket (2011a), pupils with a weakened phonological awareness experience difficulties distinguishing between sounds and have problems with word decoding and spelling. In addition, Felicia claims that dyslexic pupils have short-term
memory deficits that cause them to forget the sounds and graphical representation of letters. Felicia reports that when she shows the letter “H” and asks the dyslexic pupil to write it, the pupil cannot remember it. Furthermore, Ulla and Felicia describe situations where dyslexic pupils spell words incorrectly. Ulla maintains, “(…) they revise “b” and “d” and revise letters in short words (…)” while Felicia describes, “(…) everything that he writes is reversed” when she refers to a dyslexic pupil. Skolverket (2011a) states that pupils who forget what has been read have a weakened phonological working memory. The teachers’ descriptions of dyslexia might imply that they are aware of dyslexic pupils’ difficulties lying on phonological problems which cause poor word decoding and spelling.

Anna also notices difficulties among dyslexic pupils. She points out that dyslexic pupils tend to skip some letters or words when they read; and, they have problems with the reading direction and reading the letters in the right order. Anna explains that some dyslexic pupils read backwards or start reading at the middle of the words,

\[\text{(...) let us say that it is written “sig”, they read it as “gis”. They read backwards or they start in the middle, they read it in the wrong order. The reading direction does not end up as it should be. (...) if it is written “sig”, they might start with “i” instead of the first letter “s”}\]

She also claims that dyslexic pupils employ in general a strategy – to write as short as possible – but still misspell a lot of words and misplace the letters. Elsa expresses a similar concern as Anna when she describes the symptoms of dyslexia. Elsa expresses, “(…) pupils might skip words when reading or say words in an unorganized manner”. This description given by Anna and Elsa explains that dyslexic pupils have problems in the alphabetic phase. As Hoien and Lundberg (1999) and Samuelsson (2006) explained, in this phase of reading and writing children listen to how words are built, and where the sounds of the letters appear in the words. Therefore, it is necessary that pupils are given explicit and systematic teaching to train their word decoding skills to know how to convert phonemes to graphemes when writing, and graphemes to phonemes when reading. Also, to support dyslexic pupils from the early stage of their reading and writing process, teachers need to know about the different phases that pupils go through when starting their formal reading and writing.

Furthermore, three of the teachers believe that dyslexia can affect pupils’ self-esteem in different ways. Felicia and Anna state that due to the pupils’ reading and writing
difficulties, pupils tend to experience frustration with their tasks simply because it takes longer time for them to complete the task than it does for their peers. As Felicia describes, “it is really difficult for a child to see that everyone else is almost done, that frustration is not terribly fun”. Anna adds that this might lead to dyslexic pupils preferring to do something else than the task given to them. Moreover, Anna states that dyslexic pupils show “little interest in reading and writing (…)” and that they become a little reserved in their interactions with others. According to Elsa, these difficulties might make them shy and scared to make mistakes. This is why Skolverket (2011a) states that dyslexic pupils should be given immediate pedagogical interventions to prevent them from developing a negative self-image and to instill in them the feeling that they are capable to learn despite of their difficulties. Knowing the strengths and the weaknesses of dyslexic pupils and not underestimating their skills teachers can adjust their teaching to meet the needs of the pupils with dyslexia.

The four teachers have different length of teaching and professional experience of teaching dyslexic pupils. Ulla, Anna and Felicia have been working for more than five years and give more explicit descriptions of dyslexia than Elsa who has only been working for a year. As Alatalo (2011) and Washburn et al. (2011) also argued in their studies, teachers’ experience may strengthen their knowledge of certain basic language concepts. In our study, however, all the four teachers, regardless of their years of teaching, express an interest and willingness to learn more about dyslexia, and this positive attitude towards their professional development might help them to increase their knowledge about dyslexia. Elsa, Felicia and Anna have learned more about dyslexia during their in-house training and courses within teacher education, whereas Ulla states that she has not attended any special in-house training but has read books about dyslexia. Elsa, on the other hand, reports that she is dyslectic herself and, therefore, can identify symptoms of dyslexia among her pupils. Further, Felicia and Anna report that when they encounter pupils with dyslexia or dyslexia-like symptoms, they update their knowledge by taking courses or reading about dyslexia. Finally, all of the teachers claim that they collaborate with a special education teacher to increase their knowledge of dyslexia and to receive concrete advice on how to support dyslexic pupils in the classroom. The teachers’ statements show their engagement to learn more about dyslexia and this enables them to support dyslexic pupils. As what Washburn et al. (2011) argued, teachers’ attitude and exposure to professional development may have
more impact than the length of teaching experience. Therefore, teachers themselves have the responsibility to acquire knowledge to develop their competence about dyslexia.

5.2 Dyslexia and L2 development

Our findings show that three out of four teachers (Ulla, Elsa and Felicia) express their uncertainty about dyslexic pupils’ difficulties in ESL, but after reflecting upon it, they all state that difficulties might be observed also in learning ESL. Ulla states that she has not thought about dyslexic pupils difficulties in English because they mostly focus on speaking skills than writing in the third grade. However, after some thinking, she adds that dyslexic pupils might have more difficulties in writing in their books than their peers. She states, “(…) you can see when they work with their books. (…) it might be little more difficult for them”. Elsa describes that she does not have as high demands in English as in other subjects, such as mathematics, and uses English “for pleasure” in the classroom. In addition, Elsa explains that dyslexic pupils might have more difficulties in English and might prefer speaking in Swedish rather than in English. Felicia concedes as well that pupils with dyslexia might experience difficulties in English. According to her, regardless of what language pupils learn, they deal with combining letters into words and sentences when they read and write. This implies that the three teachers to some degree are aware that dyslexic problems can come across in different languages. This is supported by Sparks and Ganshcow (1991) who argued that pupils’ deficit in syntactic (the structure of the sentence), phonological (relationship of sounds) or semantic (the meaning of words) components in L1 is most likely to affect – either by limiting or enhancing – their ability to learn a FL.

However, the fourth teacher (Anna) is certain about pupils with dyslexia having difficulties when learning ESL. Anna bases this claim on her own experiences when teaching in a fourth grade. Further, Anna argues that it becomes difficult for dyslexic pupils to learn ESL because “(…) the texts do not sound as they are spelled in English. It makes it more difficult to get it right”. According to Pinter (2006) and Nijakowska et al. (2011), English has a deep orthography while Swedish has a relatively shallow orthography. This might be another challenge for dyslexic pupils because the letter-sound correspondence is less direct and consistent in English, which means that words might be written similarly but pronounced differently. Pupils with dyslexia already have
difficulties in reading and writing in their L1, and it becomes complicated for them to learn ESL due to the irregularities in the English language. Also, Goswami (2002) claims that when learning inconsistent orthographies such as English, reading and writing becomes even a greater challenge for dyslexic pupils.

On the other hand, three teachers (Ulla, Elsa and Felicia) state that English is an interesting subject, even for some dyslexic pupils. The teachers do not generalize that dyslexia affects pupils’ interest towards English but claim that it depends on the pupils’ personalities. Ulla and Elsa points out that there are some pupils who feel embarrassed and lack self-esteem to speak English and find the subject difficult, irrespective of suffering from dyslexia or not. According to Felicia pupils love English and she adds,

The interest is extremely high when it comes to English because the needs are high. They might have iPads and watch TV. Children are very thirsty for English. English is something they hear and see so they have a lot of interest towards it.

Felicia adds that even if pupils have dyslexia, she does not believe that they will have less interest towards languages. Also, Ulla relates that English is fun for some pupils because it is a new subject. Elsa supports this by saying that pupils love English, and that they feel happy and proud when they learn new words in English. According to Miller-Guron and Lundberg (2000) the motivation and interest that pupils have gained outside of school through games and hobbies in English might create a positive attitude towards learning ESL. Furthermore, since English is a new language to everyone, dyslexic pupils might feel that they have a new opportunity to learn a new language and to feel as good as their peers (Miller-Guron & Lundberg, 2000). Therefore, we argue that teachers should create interesting, motivating and challenging lessons for all pupils from the very beginning because this might strengthen the pupils’ willingness to learn English.

Furthermore, two teachers (Elsa and Felicia) report that when teaching ESL they use words and phrases that are familiar to the pupils. Pinter (2006) indicated that if English texts contain words and phrases that are familiar and personal for pupils they can start showing interest in reading and writing in English. Felicia, for example, uses songs and chants in English that exist in Swedish. She believes that through songs and chants pupils increase their vocabulary and can later put the words into writing. By using meaningful and familiar songs and rhymes containing regular words that are spelled as
they sound, pupils become more aware of the grapheme-phoneme correspondence (Pinter, 2006). Høien and Lundberg (1999) also recommend choosing meaningful texts that engage and evoke dyslexic pupils’ feelings to increase their interest to read. Therefore, by consciously choosing meaningful texts and activities and using phonics, teachers might motivate dyslexic pupils to learn and enjoy ESL.

5.3 Pedagogical support facilitating learning in L1 and L2

All the four teachers emphasize the importance of digital tools for supporting dyslexic pupils. Ulla and Elsa use audio and spelling programs to facilitate learning in L1, while Anna has used these programs both in L1 and L2 learning. Felicia is aware of these programs but has not yet used them with her pupils. Ulla uses audio and spelling programs called Vital and Stavarex that help pupils to hear the text they are reading. Also, these programs help pupils to hear how the letters sound and how words should be spelled correctly. This can help pupils to become aware of letter-sound correspondences. Additionally, Ulla states that these programs can be adjusted by choosing different voices and tempo to reflect the needs of particular pupils. For example, she describes Vital by saying,

In Vital, (...) when a pupil has written a text and forgot the capital letter and punctuation, and then clicks “read” in the program, this makes the pupil notice what is missing. It is a good resource even for those who are not dyslexic.

Ulla, adds that these two programs can be used to facilitate learning ESL as well. According to Blythe (2006) and Skolverket (2011a) computer-aid is a valuable and effective tool to use with dyslexic pupils to improve their reading and writing skills because these tools usually include immediate feedback, opportunity to repeat tasks until mastering them and can provide pupils with visual and auditory training.

Elsa and Anna use audiobooks in their classroom to adjust their teaching for dyslexic pupils. Elsa uses Legimus, a program where pupils with writing and reading difficulties can download books in Swedish or English, which they can read and listen to. Elsa says that at this moment she only uses Legimus in Swedish. Anna also points out that audio programs can improve reading and reading comprehension among dyslexic pupils in L1 and L2. For example, she states “a whole new world opened up” for a dyslexic pupil
when she received audiobooks and spelling programs. This pupil who had not read one single book now dared to write, read and listen to as many books as she possibly could after having received these aid programs. Also, the pupil managed to answer questions about the text she listened to because they were read to her; this supported her own reading comprehension. According to Høien and Lundberg (1999), audiobooks can train not only the reading skills of the pupils but also their listening, speaking and concentration skills because pupils can listen to the text while reading as well as adjust the speed of reading. As Helland and Kaasa (2004) argued in their study, teachers should adjust their teaching to meet the needs of their pupils; and, they should provide computerized aids for dyslexic pupils with difficulties in ESL, exactly as the teachers in our study do.

Felicia points out the importance of training when learning to read and write. This training can be achieved through repeating activities that might help dyslexic pupils to train their memory. As Wolff (2011) suggests, tasks should be carefully presented for dyslexic pupils and pupils should only work with one specific task at a time until mastering it. In addition, Felicia describes that she adjusts reading and writing activities to dyslexic pupils’ skills, for example, by using a paper and a ruler to help the pupil to follow the reading and by choosing texts that are suitable for the pupils’ level of language proficiency. Elsa makes similar kinds of adjustments to pupils’ needs in her classroom. She also uses texts written in bigger font than usual, uses pictures as complements and various other gimmicks to make it easier for pupils to understand the content of the texts. Ulla reports that she helps training her pupils’ reading and writing skills by writing texts together with them. This training is usually done in Swedish to make pupils aware of “(...) what you say, you can write”. Goldfus (2012) also emphasized that “[n]ot knowing that words are made up of individual speech sounds that are represented by letters is the basis of being an unskilled reader from the very beginning of the reading process; individuals who experience difficulties in learning to read continue to struggle later in life” (p. 214). Therefore, we argue that it is necessary to introduce reading and writing for pupils by making them aware of the connection between the spoken language and the written language.
5.4 Collaboration to support dyslexic pupils

All the four teachers report that they collaborate with special education teachers to support pupils with dyslexia. They all argue that the special education teachers usually have better knowledge of dyslexia and are familiar with resources (spelling programs and audio programs) that can be used to support dyslexic pupils. Further, Ulla says, “special education teachers (…) usually develop their knowledge of the subject as part of their in-house training. Or from their own interest. And then share it with us”. Elsa expresses her relation to a special education teacher in terms of dependency. Additionally, Ulla and Anna report that they also consult with other colleagues on how to deal with dyslexic pupils.

Special education teachers play an important role in supporting pupils with dyslexia, according to all the four teachers. Elsa and Felicia report that pupils with dyslexia meet the special education teacher at times to gain support in their reading and writing. Ulla also states that pupils with reading and writing difficulties often meet the special education teacher for extra training. Anna is the only one who reports having collaborated with a special education teacher who worked directly with dyslexic pupils to specifically support their learning of ESL. Further, Anna explains that the special education teachers sometimes supervise the teachers. She also adds that they once had a special education teacher who came into the classroom and worked in small groups to give the dyslexic pupils support. The Education Act states that if pupils due to disability have difficulties to meet the various knowledge requirements in school, they should be given assistance to help them reach their full potential (SFS 2010:800). Therefore, we argue that teachers must collaborate with special education teachers and other colleagues to gain information about how to support dyslexic pupils in L1 and L2; and also to provide pupils with systematic and effective interventions that they need.

Of the four teachers, only Ulla claims that she contacts the parents of the dyslexic pupils to make sure the pupils read a lot at home. As Bøyesen (2006) argued teachers should create a good relationship with parents to help the pupil in the best possible way to overcome their reading and writing difficulties. According to Skolverket (2011b), teachers have the responsibility to inform guardians about the pupil’s school situation, learning and well-being and they should together “[…] develop both the content and
activities of the school” (p. 17). Therefore, we argue that parents should be an active part of the interventions offered for the pupil with learning difficulties.

Finally, Felicia emphasizes the importance of early identification and mapping of dyslexia. She argues that it is “incredibly pity” not to diagnose pupils at an early age because they may then lack the basic skills in reading and writing later on. Høien and Lundberg (1999) stated that dyslexic pupils benefit from early identification and support, but gain little only from receiving extra attention without offering targeted interventions or wait for the pupils to outgrow the problems.

All the four teachers express their eagerness to help dyslexic pupils. They display awareness of the curriculum’s policy that teachers should “stimulate, guide and give special support to pupils that have difficulties” and “organize and carry out the work so that pupils receive support in their language and communicative development” (Skolverket, 2011b, p. 16). The teachers add that to support dyslexic pupils in the best possible way, they would need more time with the pupils, more support from special education teachers, resources (extra teachers in the classrooms, computers/iPads and aid programs) and in-house trainings. This is in compliance with Alatalo (2011) who stated that factors such as large numbers of pupils, lack of special education teachers, time, resources and lack of knowledge about reading and writing difficulties prevent teachers from giving adequate support for pupils with reading and writing difficulties. Even special education teachers, according to Spencer et al. (2008), do not have sufficient knowledge to provide accurate phonemic awareness intervention for dyslexic pupils (p. 517). Ulla and Anna both state that they would hope that the investigation process that gives pupils access to extra resources should be quicker. According to Anna, it may take a whole semester before pupils receive resources that they need; further, she explains, “it is the child’s time that is ticking away”.

5.5 Summary

Teachers indeed play an important role in supporting pupils with dyslexia as numerous studies have demonstrated (see Alatalo, 2011; Shetty & Rai, 2014; Washburn et al., 2011; Moats, 2009; Goldfus, 2012). Our findings show that all the four teachers are aware of dyslexia and have some knowledge of dyslexia; therefore, they can to some degree provide support to develop the reading and writing skills of dyslexic pupils.
The three teachers who have worked only as K-3 teachers expressed their uncertainty about dyslexic pupils’ difficulties in learning ESL, but after reflecting upon it, they all state that pupils who have dyslexic difficulties in L1 might also have difficulties in L2 when reading and writing. The reason behind this uncertainty is that these teachers mostly train pupils’ speaking skills in English, and they may not notice the dyslexic difficulties since reading and writing are not yet the focus in the lower grades in the English classes. Another explanation is that English is used as a pleasant break from the everyday school activities, and the teachers do not yet have as high demands in English as in other subjects. It might be problematic to some degree if English is deprioritized in school because teachers might not train the pupils’ all-round communicative skills (for example, to understand spoken and written English) to the fullest. The curriculum states that it is important to have communicative skills in English since we use English in our daily lives through education, economics and politics (Skolverket, 2011b).

One teacher is certain that pupils with dyslexia have difficulties when learning ESL. This teacher argues that the texts do not sound as they are spelled in English; therefore, it becomes more complicated for dyslexic pupils to read and write in English. Learning inconsistent orthographies as English, according to Goswami (2002), is more problematic for dyslexic pupils than learning consistent orthographies as Swedish. Therefore, we argue, together with Foorman and Torgesen, that interventions for pupils with dyslexia should be “[…] more explicit and comprehensive, more intensive, and more supportive than children typically receive in the regular classroom” (2001, p. 207) when learning L1 and L2 because dyslexic pupils have different needs than pupils without dyslexia.

As the teachers and some researchers conclude, digital resources and audiobooks are effective tools to train the reading and writing in L1 and can also be used when facilitating learning in ESL for dyslexic pupils. This implies that it is important to provide support for dyslexic pupils who encounter difficulties in learning L1 and L2 because according to the Education Act, pupils who are in need of special support are entitled to receive the proper assistance they need, and if pupils due to disability have difficulty meeting the various knowledge requirements in school, they should be given assistance to help them reach their full potential (SFS 2010: 800).
The results show that all the four teachers depend on special education teachers to acquire knowledge and advice on how to support dyslexic pupils with their reading and writing development. This may be a concern because schools might lack of special education teachers, or the special education teachers may not have enough time to provide appropriate support for dyslexic pupils in all classes. Also, special education teachers may lack the knowledge themselves of dyslexia both in L1 and L2, which may decrease the opportunities for dyslexic pupils to receive interventions they need. The results also show that teachers need more time with the pupils, more support from special education teachers, more resources (extra teachers in the classrooms, computers/iPads and aid programs) and more in-house training to support dyslexic pupils in the best possible way.
6 Conclusion

After collecting research literature on what challenges there are for teaching L1 and L2 to dyslexic pupils and after investigating what K-3 teachers in Sweden do when they teach Swedish and English to dyslexic pupils, we can now answer our two research questions.

Research findings (Sparks & Ganschow, 1991; Helland & Kaasa, 2004; Pinter, 2006) show that dyslectic difficulties in L1 is most likely to affect – either by limiting or enhancing – the pupils’ abilities to learn a L2. Strategies (spelling, comparing sounds and letters) that pupils learn from their L1 influence their reading and writing in L2. Dyslexic pupils who have Swedish as their L1 struggle even more to learn ESL because of the deep orthography of English, which means that words might be written similarly but pronounced differently (Goswami, 2002; Pinter, 2006; Nijakowska et al., 2011). However, one study (Miller-Guron & Lundberg, 2000) found out that there are native Swedish speakers with dyslexia who prefer to read texts in English compared to texts in their mother tongue, Swedish. Furthermore, some researchers (Hellad & Kaasa, 2004; Blythe 2006) and Skolverket (2011a) recommend using digital resources such as, computer aids (with spelling and reading programs) to develop dyslexic pupils reading and writing skills both in L1 and L2.

The first question asks *What are Swedish K-3 teachers’ perceptions on dyslexia in a L1 and L2?* The findings reveal that the K-3 teachers interviewed in this study are aware of dyslexia and have knowledge of some symptoms of dyslexia (for example, weakened phonological awareness and weakened phonological working memory), which affect the word decoding and spelling skills. We come to the conclusion that the variation of the teachers’ knowledge of dyslexia might depend on the length of their professional teaching experience and their willingness and interest to learn more about dyslexia. The teachers with longest teaching experience expressed more explicit descriptions of dyslexia, but all of them display eagerness to develop their competence of dyslexia to enable them to “stimulate, guide and give special support to pupils that have difficulties” (Skolverket, 2011b, p. 16). The findings also show that three teachers are uncertain if dyslexic pupils have difficulties when learning ESL, but express that they might have difficulties when it comes to reading and writing. None of them generalize
that dyslexic pupils have less motivation to learn English due to their learning disability but rather explain that pupils’ personality affect their motivation towards the language. One teacher is certain that the irregularity of the English language causes problems when dyslexic pupils learn to read and write in English.

The second question is *What pedagogical support do Swedish K-3 teachers offer for pupils with dyslexia to facilitate learning in their L1 and L2?* All teachers are dependent on the special education teachers’ advice on how to support dyslexic pupils. All the four teachers adjust their teaching somewhat to meet the needs of the pupils with dyslexia and use digital resources and audiobooks to train the reading and writing in L1 but not in L2 since English in K-3 mostly focuses in training pupils’ speaking skills.

### 6.1 Limitations of the study

Some limitations that affect the reliability of the findings in this degree project should be mentioned. Firstly, only four teachers were able to participate in this study. A larger number of teachers could have increased the reliability of the conclusions drawn and allowed further generalizations about the Swedish context. Secondly, a quantitative study about teacher’s knowledge of dyslexia in L1 and L2 would have been a more reliable method to use to investigate if factors, such as teachers length of teaching, correlates with their knowledge of dyslexia in a statistically significant way. A quantitative study was, however, not an option in this study because of the time limitations of this degree project. Thirdly, three of the teachers we interviewed work at the same school; therefore, the respondents can be seen to some degree as a homogenous group, not necessarily representative of the teacher population in Sweden.

Lastly, the reliability is affected by the method used in our study. For example, we as interviewers to some degree lead the respondents to answer in a certain way; at times, we also interrupted the respondents, which might have distracted them. The validity and the reliability of the data could have been increased if we had more experience in interview techniques. Another factor that affects the validity and reliability of our conclusions is that the respondents might have adjusted their answers to what they expected us to want to hear, or they might have felt nervous in the interview situation, which might have influenced their answers. Furthermore, the respondents were interviewed either early in the morning before the school started or after school and
might therefore felt tired to respond in detail to our questions. Further, the reliability of our conclusions could have been strengthened if we used the triangulation of results by using different methods for data collection, for example, by using both quantitative (questionnaires) and qualitative methods (focus interviews).

### 6.2 Further research

It would be interesting to carry out a similar study with teachers teaching 4-6 because they focus more on reading and writing in English since K-3 teachers who, according to our study, mostly focus on training speaking skills. Since all the four teachers expressed that special education teachers play an important role in the interventions offered for dyslexic pupils, it would also be interesting to conduct a study focusing on special education teachers’ knowledge and experiences of dyslexic pupils learning ESL and to find out what kind of interventions they implement for dyslexic pupils in learning L1 and L2.

As soon-to-be K-3 teachers, we claim that future teachers must receive adequate training in dyslexia as well as the early reading and writing development to be able to facilitate reading and writing in dyslexic pupils. Furthermore, although we have not touched upon dyslexia and L2 learning in the teacher’s education, we suggest, based on our experience in the teacher-training program, that it should be included in the teacher education programs and in-house training. With support from current research and the findings in our study, we argue that early identification of dyslexic difficulties is important to help pupils reach their full potential and learning goals of the school.
7 References


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8 Appendices

Appendix 1: Letter

Hej!

Vi, Pia Huotilainen och Levy Aquino Andersen, läser grundlärarprogrammet F-3 på Malmö Högskola och har engelska som fördjupningsämne. För tillfället går vi sista terminen på vår utbildning och arbetar med vårt examensarbete. Eftersom vi under vår praktik mött elever med läs- och skrivsvårigheter/dyslexi har vi intresserat oss för detta ämne.

Inför vårt examensarbete söker vi dig som undervisar i både ämnet svenska och engelska i årskurs 1-3 och som vill medverka i intervjuer. Vi vill höra dina tankar och upplevelser kring läs- och skrivsvårigheter/dyslexi. Intervjuerna kommer att ta cirka 30 minuter och vi anpassar oss gärna till dina förslag angående tid och plats.

Intervjumaterialet som samlas in kommer att användas konfidentiellt, och medverkande personer kommer att vara helt anonyma, vilket innebär att ingen information om vem eller vilken skola personen arbetar på kommer fram till någon annan än oss. Alla namn i arbetet kommer dessutom att fingeras för att dölja medverkandes identitet. Deltagandet är frivilligt och du kan naturligtvis avbryta din medverkan närhelst under intervjun ifall så önskas.

Din medverkan kommer att vara betydelsefull eftersom du kommer att bidra till att framtida studenter och andra intresserade kan ta del av det färdiga examensarbetet. Examensarbetet kommer att publiceras efter att den blivit godkänd i Malmö Högskolas uppsatsdatabas. Uppsatsten skickas till de medverkande som önskar det.

Vi uppskattar att få svar senast den 12/2-2016 ifall det finns intresse för medverkan.

Med Vänlig Hälsning,

Pia Huotilainen & Levy Aquino Andersen

Vi nås via e-mail och telefon:

E-mail: pia.huotilainen@hotmail.se   Telefon: 076 819 3557
E-mail: levy_mandy@yahoo.com        Telefon: 076 089 3409
### Appendix 2: Interview guide

| Kunskapsbakgrund | 1. Hur länge har du arbetat som lärare i årskurs 1-3?  
| | 2. Kan du berätta hur du upptäcker elever med läs- och skrivsvårigheter/dyslexi?  
| | 3. Hur skulle du beskriva läs- och skrivsvårigheter/dyslexi?  
| | 4. Har du tagit del av utbildning som berört läs- och skrivsvårigheter/dyslexi?  
| **Följdfråga:** | Diskuterades då dyslexi i engelskundervisningen?  
| (Karakteristiska drag) | (Lärarutbildning, fortbildning/frivillig eller obligatorisk, själv läst på, diskuterat med en kollega/arbetslag osv.)

| Undervisningsmetoder i svenska och engelska | 1. Hur upplever du att undervisa svenska/engelska för elever med dyslexi?  
| | 2. Hur klarar eleverna med dyslexi svenskundervisningen/engelskundervisningen?  
| **Följdfråga:** | Kan du berätta ifall du märkt några generella styrkor/svagheter?  
| (Känslor, utmaningar) | (I förmågorna tala, skriva, lyssna och läsa?)  
| | 3. Hur försöker du underlätta för elever med dyslexi att lära sig svenska/engelska? Skiljer det sig åt?  
| | 4. Hur skulle du beskriva elevernas motivation/attityder/intressen gentemot svenskundervisningen/engelskundervisningen?  
<p>| (Hjälpmaterial, individanpassad undervisning, metoder osv.) |</p>
<table>
<thead>
<tr>
<th>Samarbete och material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Samarbetar du med speciallärare/specialpedagoger för att stödja elever i svenskundervisningen/engelskundervisningen?</td>
</tr>
<tr>
<td>2. Vad skulle du behöva för att på ett optimalt sätt kunna stödja elever med svårigheter i engelskundervisningen?</td>
</tr>
</tbody>
</table>

(Material, kunskap, resurser, utbildning, tid osv.)