



MALMÖ HÖGSKOLA

Lärande och samhälle

Kultur, språk och medier

Examensarbete

15 högskolepoäng

Improving Reading Skills For Dyslexic Students In The English Classroom

*Förbättring av läsförmåga hos dyslektiska elever i det engelska
klassrummet*

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Lärarexamen 270hp
Engelska och lärande
2013-10-31

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Foreword

I would like to dedicate this paper to my sister Cecilia who has been struggling with dyslexia her whole life. In my profession as a teacher I want to be able to help students with dyslexia in every way I can. I also want to thank my family: my husband Josef and daughter Alma for the support, smiles and kisses.

Abstract

The aim of this paper was to investigate what principles and approaches can be utilized when helping dyslexic students to improve their reading skills in the English classroom. The structure of this study is narrative research synthesis which means that the paper is based on articles written by others. The results indicate that there are several approaches to make use of, such as the Orton-Gillingham approach, Phonics and Whole language. Many experts support the principle of multisensory structured learning regarding the teaching of dyslexic students. This means that students use all their senses at the same time: visual, auditory and kinaesthetic. In order to further help students improve reading skills, the teacher can create a safe and calm classroom environment to reduce stress.

Keywords: Dyslexia, reading, multisensory structured learning, phonemic awareness, Orton-Gillingham approach, phonics, whole language.

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1. Introduction

During my teacher education, I have simply had one lesson regarding dyslexia together with other learning disabilities. With one semester left until I graduate I do not feel prepared to fulfil the needs of a dyslexic student. My education has focused on teaching secondary and upper secondary school and not teaching younger students how to read. In higher grades students normally read fluently. However, every teacher most certainly come across students with dyslexia and reading difficulties. Naturally, one can always receive appropriate help from a special education teacher, though I would personally feel better if I had more knowledge regarding dyslexia to have the opportunity to design lessons and tasks better suited for dyslexics.

My sister Cecilia was diagnosed with dyslexia after finishing her compulsory 12 years in school. Therefore, I have seen how difficult reading can be for someone with dyslexia. Furthermore, I have seen how difficult school can be for a dyslexic student who does not receive appropriate help. Cecilia struggled with reading all through her education and that had an impact on all school subjects and English in particular. Cecilia finally received appropriate help at Brunnsvik's folkhögskola, where they specialize in helping dyslexics and where she learned a new way to read. Before, it had taken Cecilia a year to finish a simple novel. Reading had been such a struggle and so time consuming, that she had difficulties in grasping the content of the novel. English books were not optional since that meant an even greater struggle. Today Cecilia is able to finish a novel in two weeks and she has started reading English books as well though English is still a bit of a struggle. She has improved her reading abilities in Swedish and is therefore more motivated to read. This shows the importance of dyslexic students getting the right tools for learning. Today Cecilia has finished an education in sales and is currently working at a company in the Netherlands where she uses English daily.

The presence of dyslexia in Sweden is between 5 - 8 %. Approximately one student in each class has dyslexia (Swedish Dyslexia Association, 2012). Therefore, it is valuable if teachers are aware of the signs of dyslexia. The earlier dyslexia can be discovered in a student the better.

The reason for selecting and focusing on the English classroom is because the English language has a more difficult orthography than other languages, which can make learning English even more difficult for dyslexics. Irregular spelling makes it complicated for dyslexic students when learning to read and write in English (Swedish Dyslexia Association, 2012). Furthermore, English is an important language in Sweden when it comes to higher education and work. Universities often use English literature and in multinational companies English is the working language.

According to McGuinness (1997), “Reading impacts on almost everything we do. It determines how we learn, what we learn, whether we can graduate from high school, gain entrance to college, or hold down a job” (p. 280). Reading is such an important skill to master and as stated in the previous quote, many other skills or possibilities are dependent on the ability to read. According to The International Dyslexia Association (IDA) (2012), people with dyslexia have difficulties with language skills and reading in particular. Therefore, this paper focuses on reading.

1.1 Purpose and Research Question

The purpose of this paper is to help teachers gain knowledge regarding dyslexia and how to teach students with dyslexia. My intention is that the paper can be used as a handbook for myself and perhaps my colleagues. A history and definition of dyslexia, together with misconceptions, dyslexics’ rights and reading challenges for dyslexics will be provided. The research question for this paper is: What principles and approaches can be utilized when helping dyslexic students to improve their reading skills in the English classroom?

2. Literature Review

2.1 Background and Definition of Dyslexia

The German ophthalmologist Rudolf Berlin coined the term dyslexia in 1887 (Wagner, 1973). Since then a tremendous amount of research has been carried out. In particular, during the last twenty years of research there has been considerable progress in the field of dyslexia (Reid, 2009). There are several research perspectives on dyslexia. According to Reid and Wearmouth (2002), three different levels of theory regarding dyslexia exist: the biological level, the cognitive level and the behavioural level. These levels should not be seen as competitive but as linked to one another.

An exact definition of dyslexia can be problematic since the severity of dyslexia can differ extensively. Additionally, every individual is different, which can make it difficult to define what is representative of dyslexia and what are normal differences. Furthermore, dyslexia often co-exists with other learning difficulties that make it problematic to separate the characteristics from each other (Reid, 2009). Therefore, all these factors make identification of dyslexics difficult. However, several researchers commonly use the International Dyslexia Association's definition of dyslexia:

Dyslexia is a specific learning disability that is neurological 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 the growth of vocabulary and background knowledge. (International Dyslexia Association, 2002, p. 1)

This definition will now be explained further. Ever since 1891 the neurobiological origin of dyslexia has been assumed (Allen, 2010). As a result of development in magnetic resonance imaging (MRI) research of living people's brains has been

possible. Brain activity has been investigated during different tasks of language processing. However, it is complicated using a technology in constant progress to understand reading “brain functions are highly interactive, making it difficult to determine just what activation is directly related to the task of interest” (Reid & Wearmouth, 2002, p. 32) Both the anterior and posterior systems of the brain are used when competent readers read words. For people with dyslexia there is a tendency to “overactivate frontal areas in the anterior region of the brain and underactivate posterior language regions in the left hemisphere. In addition, there is evidence for a failure to communicate effectively with one another” (Reid & Wearmouth, 2002, pp. 31-36). To clarify, this means that the part of the brain crucial for fluent reading is underactivated (Allen, 2010).

Dyslexia is identified in IDA’s (2002) definition as a specific learning disability. According to The National Center for Learning Disabilities (NCLD), the “sign of a learning disability is a distinct and unexplained gap between a person’s level of expected achievement and their performance” (p. 1). Examples of other learning disabilities are dyscalculia, dysgraphia and ADHD (IDA, 2002). The term learning disability is often used when defining dyslexia since these problems can make academic achievements difficult (IDA, 2012). Reid & Wearmouth (2002) stress the importance of knowing the difference between dyslexia and other reading difficulties. As previously discussed, dyslexia is neurobiological in origin which “implies a complex causal chain from biology to behaviour” so reading difficulties can have the exact same cause but they can also have a numerous of other causes. For instance, the cause can be insufficient teaching (p. 51).

As stated in IDA’s (2002) definition of dyslexia, dyslexic readers have “difficulty with accurate and fluent word recognition as well as poor spelling and decoding abilities” (p. 1). As a result, reading comprehension is affected and reading will always be a battle (Allen, 2010). People with dyslexia have difficulties in identifying real words and pronouncing nonsense words (Lyon, Shaywitz and Shaywitz, 2003).

Most dyslexic readers have difficulties with phonemic awareness. This means that they have great difficulties in understanding the structure of a language: that sounds create words and that words create sentences (Allen, 2010). Phonemic awareness is necessary in order to read and it “allows the reader to decipher the reading code” (Lyon, Shaywitz and Shaywitz, 2003, p. 7).

According to the International Dyslexia Association (2012), people with dyslexia have all sorts of social backgrounds and levels of intelligence. Dyslexics are not less intellectual than others. They just need the right learning techniques adapted for their needs. Dyslexics “are often capable or even gifted in areas such as art, computer science, design, drama, electronics, math, mechanics, music, physics, sales, and sports” (IDA, 2012, p. 1). The consequences of dyslexia differ from individual to individual. It also depends on the severity of the dyslexia and the help received. Nevertheless, dyslexia continues to have an impact throughout a person’s life (IDA, 2012).

Studies of twins and relatives show that dyslexia is hereditary. However, it is not clear if the heritage is social or genetic. One cannot expect a high literacy rate in families where reading has low value and is rarely performed. Reading is a quality that needs to be entertained (Lundberg, 2003). Dyslexia does not disappear when one gets older nor if one improves ones reading skills. To improve reading skills is beneficial, though dyslexia is a struggle all through life (Reid and Wearmouth, 2002).

2.2 Subgroups

Castles and Coltheart reported in 1993 of two subgroups of dyslexia: Phonological dyslexia and Surface dyslexia. Additionally, they stated that most children with dyslexia belong to either subgroup. This categorization of subgroups is supported by Reid & Wearmouth (2002) and Peterson, Pennington & Olson (2012).

Phonological dyslexics “clearly have an impairment in the ability to establish mappings between letter strings and phonology. They have a limited sight vocabulary, great difficulties with word attack and phonic analysis and synthesis, and rely on a visual strategy for reading words” (Reid & Wearmouth, 2002, p. 73-74). To clarify, phonological dyslexics have difficulties in connecting a letter with its sound equivalence.

Reid and Wearmouth (2002) state “In single-word reading, *surface* dyslexics can map from letters to sounds, though they may read slowly” (p. 74). Furthermore, people with surface dyslexia have difficulties with orthography and often confuse

similar words. For instance, they might read the word *pint* as if it would rhyme with *mint* and write *saw* instead of *was* (Reid & Wearmouth, 2002).

2.3 Misconceptions

There has been eagerness to find solutions regarding the mystery of dyslexia. Due to non-academic efforts, this eagerness has created several misconceptions (Lundberg, 2003). There are often delays in identifying dyslexia due to misconceptions regarding dyslexia. Therefore, it is crucial to reveal these myths and prejudices to avoid confusion and delays (Allen, 2010).

One misconception is that dyslexics “see letters and words backwards” and therefore write them backwards (Allen, 2010). However, Shaywitz (2003) argues that there is no evidence of this and the behaviour is appropriate of any child learning to write. The myth that dyslexia is the result of brain damage is also inaccurate. Williams and Lynch (2010) explained this rumour with the fact that the term dyslexia has roots in brain damage research. Another misconception is that boys are more likely to have dyslexia than girls. “Boys may be referred for testing for dyslexia more often than girls” (p. 67). However, the risk of a girl having dyslexia is just as considerable (Williams & Lynch, 2010). Other misconceptions are that children with dyslexia are “left-handed, have difficulties with spatial orientation, have problems tying shoelaces, and are clumsy” (Shaywitz cited in Allen, 2010, p. 24).

2.4 Identifying Students with Dyslexia

Discovering a student with dyslexia is not an easy task. Following are a few of the problems people with dyslexia have described:

- "Learning to speak
- Learning letters and their sounds
- Organizing written and spoken language
- Memorizing number facts
- Reading quickly enough to comprehend
- Persisting with and comprehending longer reading assignments
- Spelling
- Learning a foreign language
- Correctly doing math operations" (IDA, 2012, p. 2)

However, these symptoms are not enough to diagnose someone with dyslexia. Just because a student has one or more of these symptoms does not guarantee dyslexia. Further investigation and tests have to be made (IDA, 2012). Teachers' and parents' cooperation is also important. Initially, teachers and parents have to be observant of signs. Subsequently, information must be gathered from different sources such as parents and previous teachers (Allen, 2010). Shaywitz (2003) argues that delay in speaking is one of the first clues that a child may have dyslexia. If a child has not spoken his or her first words before 15 months or whole phrases until after the second birthday the child might have dyslexia.

According to Shaywitz (2003), dyslexia is hereditary, so children to dyslexics are likely to have dyslexia themselves. Therefore, it could be important to be observant of students with dyslexia in the family. Children between three or four years old love to rhyme words. Children with dyslexia often have problems with creating or recognizing words that rhyme. The inability to rhyme may therefore be another sign of dyslexia.

2.5 Reading Challenges for Dyslexics

Following is a description of specific difficulties dyslexic students may have with reading. Letters with similar shapes such as ‘*u*’ and ‘*n*’ may be confusing, along with similar looking words such as ‘*saw*’ and ‘*was*’ (Farrell, 2006). Words that have the same initial and final letter can also be confusing for dyslexics. Furthermore, words like *wood* and *word* are easily mistaken for each other (Allen, 2010). There also may be confusion of in which direction letters are written, for example *b/d*, *p/q*, *p/9* (Williams & Lynch, 2010). Additionally, dyslexics may leave out small words (*it/is*) or word endings (Farrell, 2006). People with dyslexia may have difficulties in understanding that each letter is connected to a sound and that these sounds produce words, also known as lack of phonemic awareness (Allen, 2010). Farrell (2006) states “this phonological deficit leads to poor mental mapping of letters of the alphabet to phonemes [...] both lead to difficulties with phonological tasks such as splitting words into their phonemes” (p. 26). Grammar is another area where people with dyslexia might have difficulties. They can mistake words that have a similar meaning and read ‘*cat*’ instead of ‘*dog*’. Words with many syllables are easily mistaken, such as *animal/corridor/family* (Farrell, 2006).

Regarding the English language, Spencer (2000) states, “the basic idea of alphabetic systems is a one-to-one mapping of phonemes to graphemes” (p. 153), which means one letter for each sound. The English language significantly deviates from this idea with words that generally have more letters than sounds. There are 43 sounds in spoken English that are represented by around 100 letters (McGuinness, 1997). This makes English a more difficult language to teach and learn. According to Spencer (2000), “a perfect spelling system is one that has no alternative spellings for the same sound, and no overlap in the code where one spelling pattern stands for different sounds” (p. 155). The lack of such a system makes it difficult for readers of English (Spencer, 2000). Written English can be very difficult for people with dyslexia and may result in English language learners giving up on learning English, despite the fact that proficient knowledge in English is vital in higher education and work (Holmberg, 2007).

2.6 Dyslexic's Rights in Swedish Schools

According to The Swedish Dyslexia Association (2011), the term dyslexia is not mentioned by name in the laws and regulations for the Swedish compulsory school. Instead, dyslexia is considered part of the groups “students in the need of special support” and “students with difficulties”. The reason for this is defined in Skolverket's general advice (2013): It is not possible to define in a law the circumstances in which a student can be offered special support. The definition of what special support is, is a professional judgment made by the school. This has to be made in every individual case. The Swedish Education Act stated, “Consideration shall be made to children and students' different needs in their education. Children and students shall be given support and stimulation for further development. An attempt shall be to counter-balance differences in the children's and students' ability to assimilate their education” (Chapter 1. 4§, my translation). The curriculum for compulsory school argue that teachers shall pay attention to and aid students in need of special support. Furthermore, teachers have to consider every individual's condition, experience and needs (Skolverket, 2011).

The Swedish Education Act further states, “If students with disabilities or other permanent personal circumstances are unable to meet the knowledge requirements, teachers are allowed to disregard from some of the knowledge requirements” (Chapter 10. 21§, My translation). This is further discussed in the section “Questions and Answers” at Skolverket's webpage: For a student with severe dyslexia it can be impossible to meet the knowledge requirement to perform an oral presentation. However, the student is not supposed to miss teaching or education because of his or her disability. No definition exists of what types of disabilities are valid for this circumstance. Therefore, it is up to the teacher to make this distinction (Undantagsbestämmelsen). To make such a distinction can certainly be a difficult task for teachers. Co-operation with special needs teachers may be beneficial. Education in Sweden is supposed to be free, which means that books and other tools are not supposed to cost anything for students (Swedish Education Act, Chapter 10. 10 §). Therefore, aids such as audio books and laptops should be free for dyslexics in need of these aids.

2.7 Definition of Principle and Approach

According to Longman (2009), the word principle means “the basic idea that a plan or system is based on” (p. 1377). In this case, what ideas the teaching of dyslexic students to read are based on.

The term approach is the basis of how and why languages are being taught in a certain way. An approach explains how a language is used, how people gain knowledge of the language and how to make language learning successful (Harmer, 2007).

3. Method

The method used is narrative research synthesis. I gathered research performed by others and articles written by others in order to gain more knowledge regarding the subject matter and to answer my research question. I choose narrative research synthesis to not be dependent on others than myself, since the paper is to be written within set timeframes. Interviews and observations can be time consuming. Wray and Bloomer (2012) state that unexpected problems can arise when one is dependent on other people in ones research. For instance, the participants in an observation may act differently since they know they are observed. Also, questionnaires can sometimes be interpreted in more than one way. I have experience of how difficult it can be to produce functioning questionnaires with questions that is too narrow, too wide, or fail to generate sufficient answers.

Before this paper my knowledge about dyslexia was minimal. Therefore, I aimed to gather as much information as possible to learn more and that is another reason I chose narrative research synthesis. However, narrative research synthesis is not flawless and has its limitations. For instance, one is dependent on other people's written words, interpretations and research. Furthermore, I have come across authors arguing that their methods are superior and the only way to go. To improve the trustworthiness of this paper, I used two different databases to search for articles.

3.1 Description of Relevant Research

I gathered relevant articles from two databases: ERIC and LLBA. Education Resources Information Center (ERIC) is a database of pedagogical articles and Linguistics and Language Behavior Abstracts (LLBA) contains linguistic articles. The search words used were dyslexia, orthography, ESL/EFL, reading and reading

disability in different combinations. I also found relevant articles from the reference lists of other articles. A total of nineteen articles are used in this paper.

I choose to focus my attention on studies regarding children between the ages 6-15 in primary to secondary school since research from upper secondary school has been difficult to find. However, one article (Holmberg, 2007) concerns adult education and dyslexics improving their English. According to Holmberg (2007) the material aimed for adult learners could be adapted to fit younger students with dyslexia.

In the beginning of this paper, my intention was to focus on the last 13 years of research, 2002-2013, in order for the research to be as updated as possible. During the progress of the paper I have discovered many useful articles and ideas dated earlier than 2002. Therefore I have decided to use articles before 2002 if I have found them suitable. Unfortunately, many useful articles found in the different databases were not available to me and this was a huge disadvantage.

Besides articles, I have used several books regarding dyslexia: *The Routledge companion to dyslexia* edited by Gavin Reid, *Dyslexia and literacy: Theory and practice* edited by Reid and Wearmouth, *The effective teacher's guide to dyslexia and other specific learning difficulties* by Michael Farrel and *Teaching reading and spelling to dyslexic children* by Margaret Walton.

Furthermore, official documents from Skolverket have been used: *Curriculum for the compulsory school, preschool classes and leisure-time center* (2011), Swedish Education Act and Undantagsbestämmelsen.

One of the sources in this paper is from a web page regarding kinaesthetic learning (<http://www.learning-styles-online.com/style/physical-bodily-kinesthetic>). This is included in my research since it offered several useful techniques regarding kinaesthetic learning.

3.2 Inclusion and Exclusion Criteria

In the process of deciding what research material to use I have had both inclusion and exclusion criteria. When entering the search word dyslexia in ERIC I found 2723

different articles. Therefore, it was important to define clear criteria in order to select the most relevant material. According to Norris and Ortega (2006), this is an important step in a research synthesis: “This step involves an iterative process of examining the potentially relevant studies [...], working towards clear and well-motivated criteria for inclusion and exclusion of studies” (p. 15). The research material for this project was examined several times in order to define clear inclusion and exclusion criteria.

The articles and research material included in this paper are produced primarily between 2000-2013. However, a few articles produced before 2000 that are still valid are also included in the paper. The articles included in the paper are both research studies and review articles. Sadly, I have not managed to find many research studies. This is a limitation with the paper.

Most of the research regarding dyslexia concern English as a first language (L1) and intervention programs for other languages are based on the English research (Reid, 2009). Therefore, the articles included in this paper concern both English (L1) and English as a second/foreign language (ESL/EFL). Another inclusion criterion is articles where the L1 is Swedish or languages with similar writing systems to Swedish. It has been difficult to find articles that focus on students in secondary school, since a lot of the articles stress the importance to get it right from the beginning. That is why articles in this paper concerned children age 6-15.

Articles excluded from the paper concern school subjects other than English or with a focus on languages with different writing systems than Swedish, such as Chinese or Japanese. Articles that concern other skills than reading are also excluded.

4. Results

This chapter presents the results of the paper. A majority of the research and articles I have come across claim that when teaching students with dyslexia, teaching should be multisensory structured.

4.1 Multisensory Structured Teaching

According to Reid (2009), there are different perspectives regarding the cause of dyslexia though the most accepted is the phonological deficit hypothesis. “This perspective has been derived from the substantial evidence that difficulties in phonological processing [...] have been a major distinguishing factor between dyslexics and non-dyslexics” (Reid, 2009, p. 6). Many experts support the use of multisensory structured teaching. This principle can be seen as a member of the phonological deficit hypothesis family since it entails “improving phonological skills and linking these to literacy via multisensory strategies” (Reid, 2009, p. 15). The International Dyslexia Association (2012) agrees with this viewpoint. They stress the importance of using multisensory structured teaching (p. 3). In total, I have utilized eight different articles and three books supporting the principle of multisensory structured teaching.

According to the International Dyslexia Association (2009), “multisensory learning involves the use of visual, auditory, and kinaesthetic-tactile pathways simultaneously to enhance memory and learning of written language” (p. 1). This means that multisensory structure entails seeing, listening and touching. Walton (1998) claims, “attack a problem from as many sides as possible, because learning through one sense reinforces learning through another” (p. 6). Using all senses when learning is a principle I myself have used during my education. Some elements are more difficult to acquire and the use of multisensory structure can be valuable. Reading segments out loud, writing them by hand or on computer, repeat them to

yourself or to someone else. Perhaps multisensory structured teaching could be useful for other than dyslexics.

Regarding foreign language learning, Reid (2009) argues: “Two main factors make foreign language learning difficult for individuals with dyslexia. The first is the nature of the disability itself; the second is the way that foreign languages are traditionally taught” (p. 298). The methods used to teach foreign languages generally do not take into account dyslexia. Therefore, multisensory structured language teaching can help dyslexic students improve their skills in a foreign language (Reid, 2009). Foreign language teachers may have no or little knowledge regarding the importance of explicit instruction of the target language’s phonology. Foreign language teachers might not have had any difficulties in learning the language themselves and therefore lack understanding that others might have difficulties (Sparks, Ganschow, Kenneweg and Miller, 1991). Obtaining skills in English have always come naturally to me. Hence, it is important to be reminded of the struggle others have to go through in order to learn English.

According to Sparks, Ganschow, Kenneweg and Miller (1991):

we propose that a multisensory, structured language approach be used because a methodology which adheres to the direct and explicit teaching of the phonology of the second language and at the same time enables the students to “see,” “hear,” and “do” (write) the language simultaneously might be the key that enhances a student’s ability to unlock or crack the code of a foreign language (Sparks, Ganschow, Kenneweg & Miller, p. 106).

This quote advocates a multisensory structure when teaching a foreign language. In addition, phonemic awareness is mentioned as the basic skill that needs to be taught.

McGuinness (1997) stresses the importance of teachers having sufficient phonemic awareness in order to teach their students. Several aids exist to help teachers improve phonemic awareness: phoneme charts, pronunciation dictionaries and audiotapes of English phonemes (p. 210). These tools provide excellent support for teachers as well as for students. When home, students can simply go online to listen to the correct sounds. This will minimize the risk of students learning sounds inaccurately. A teacher-approved site or link may be provided to the students.

Regarding what elements should be taught to dyslexics learning a new language, Williams and Lynch (2010) state: “Teach the structure of language at all levels. Teach sounds, symbols, syllables, word structure, word meaning, grammar,

sentence structure, paragraph structure, text organization, and study skills” (p. 70). The International Dyslexia Association (2000) also promotes these elements and elaborates upon them as indicated below:

- Phonological awareness: the fact that words are composed by sounds and that words can be divided into these sounds.
- The association between sound and symbol: that each sound is equivalent to a letter. This section “must be taught (and mastered) in two directions: visual to auditory and auditory to visual” (p. 1).
- Syllable instruction: students should be taught the different syllable types of the English language.
- Morphology: students should be taught that roots, prefixes and suffixes construct words.
- Syntax: the rules of grammar and how words compose sentences.
- Semantics: the meaning of the words or sentences.

This list generates principles for language teaching. It could certainly be helpful for language teachers to have access to such a list. Teachers could develop it further with their own comments. I believe this could be used in any language classroom regardless of dyslexics present or not.

Multisensory structured teaching keep the students activated. In addition, a multisensory structured approach might help to avoid problems that can arise when students are tired or bored (Reid, 2009). If students do the same thing during a whole lesson it can be difficult for the teacher to keep their interests. Furthermore, moving around or using one’s hands to perform a task is also beneficial. If students lose focus, they might use their mobile phones, talk to each other or even start throwing things. Multisensory structured teaching could help the teacher avoid this since it divides each lesson into shorter segments.

Following is an example of how multisensory structure can be utilized. When a student learns a new letter, the teacher dictates approximately seven words that the new letter is included in. The student then repeats each word aloud in order to hear that the letter sounds the same in all the words. Secondly, it is beneficial for the student to see the letter written on a piece of paper or the whiteboard. Lastly, the student copies the letter, writes it him-/herself and at the same time pronounce it

(IDA, 2009). This example is most suitable for young learners of English in primary school or the beginning of secondary school though it can be reorganised to suit higher grades.

As previously stated, kinaesthetic learning is part of multisensory structured learning. Kinaesthetic learning is all about touch and using one's hands. Farrell (2006) states:

Touch enables one to determine a wide range of information about an object; shape and size, texture, weight, malleability, temperature, hardness or softness, and sharpness or bluntness. Through touch, a sense of direction develops, including sidedness or laterality. This aids spatial orientation necessary for balanced movement, which has great importance for learning (p. 9).

Touching an object gives much more information about the object than by only observing it. It is the same when writing a letter with the use of a pencil instead of on a computer. One actively shapes the letter and registers the movement.

Another effective way of learning in a kinaesthetic way is to use cards. It can be cards with letters/words that the student uses to build up words/sentences. It depends on what knowledge level the student is at and what needs to be learned (IDA, 2009). Other examples include moving around, writing a letter in the air, role-play and touching physical objects (www.learning-styles-online.com).

Sparks & Miller (2000) claim that multisensory structure shall be used when teaching a foreign language to “at-risk” students (learning disabled, struggled in previous FL course, problems in learning native language) (p. 125). “At-risk” students can certainly be dyslexics. In the article, Sparks and Miller discuss foreign language in general with Spanish as an example. I believe that this can be applied in the EFL classroom in Sweden since the Swedish writing system is similar to the Spanish.

Sparks and Miller (2000) generate a lesson plan for teaching with a multisensory structured approach:

1. Oral warm-up exercises (1-2 min)
2. Writing exercises of new as well as older sound-letter connections (10-12 min)
3. Instructions regarding grammar as well as grammar exercises (10-15 min)
4. Exercises with vocabulary and dialogue (10-15 min)

5. Reading or communicative exercises regarding implementing the newly learned ideas (10 min)

Furthermore, Sparks and Miller (2000) provide detailed instructions for implementing these different steps. An example of an oral warm-up exercise can be the teacher asking the students questions such as: What did you do during the weekend? What is the colour of the rainbow? The idea is to use recently learned language as well as already acquired language (p. 128). The way for new information to be learned and remembered is to repeat it. After one has been introduced to a new word, one has to repeat it after a day, after a week and after a month. New words may not be remembered if not used in sentences and repeated several times.

Farrell (2006) suggests that when a new word is introduced to students the teacher asks questions regarding the word. Questions should be connected to different aspects such as semantic, phonological and grammatical (*What does the word mean? Where does it come from? How many syllables does the word have? What sounds can you break up the word into? Do you know any words that sound similar?*). This kind of approach is successfully used in the United Kingdom in both primary and secondary school (p. 37). A great number of questions can be asked about a single word though teachers' time must be given to reflect upon it.

According to Sparks and Miller (2000), "direct instruction in grammar is extremely critical for the success of students with language learning problems, especially in the FL classroom" (p. 129). When introducing new grammar, the teacher first explains it in the students' native language before discussing it in the foreign language. For instance, when introducing pronouns, the teacher should have a chart on the whiteboard with the information in the native language. Following is a discussion of pronouns in the native language and then the students write the information in their notebooks. When the students understand the concept in their native language the teacher moves on to the foreign language. Colour coding is useful when highlighting differences in the two languages (Sparks and Miller, 2000). Speaking of personal experience from my own education, I want to stress the importance of a clear connection between the native language and the foreign language. In some cases the names of grammar concepts can be similar in Swedish and English but in the other cases be sure to explain thoroughly. Grammar can be difficult for many people and it is vital to allow the knowledge to sink in and not rush

to quickly. Colour coding is a technique I have utilized when learning both Swedish and English grammar. It has helped me understand the structure of the language in a clear way.

Regarding vocabulary exercises, “students should hear, see and read, and say a word until it is learned to automaticity” (Sparks and Miller, 2000, p. 129). After some time, the students will be able to apply the words when asking questions and having dialogues with each other (Sparks and Miller, 2000). Throughout compulsory school, the way to learn new vocabulary was to write the words repeatedly. A multisensory structured teaching might be more beneficial for all students not merely dyslexics.

When a new concept has been taught, the students read texts or perform communicative exercises in the foreign language applying the new words and concepts (Sparks and Miller, 2000).

Sparks and Miller (2000) argue that if at-risk students are taught a foreign language with multisensory structured techniques they will be able to finish the language course and become proficient in the foreign language. The multisensory structure approach can be applied to teaching and still make use of textbooks and follow the curriculum without alterations.

Over 20 different teaching approaches are based on multisensory structured teaching and a few will be presented below (Reid, 2009).

4.2 Visual Stress and Low Self-esteem

In school, stress was always present for my sister Cecilia when reading since she read more slowly than her classmates. When teachers asked the class to read something quietly Cecilia was always stressed and anxious, since she knew she would finish last. As a result, Cecilia did not understand the content of what she was reading. For many dyslexics visual stress is an evident factor regarding reading difficulties. Students with dyslexia that suffer from visual stress are often inclined to avoid reading. This leads to non-automatic reading and difficulties in understanding text content. Furthermore, the occurrence of visual stress among dyslexics has increased (Reid, 2009).

People with dyslexia might have been struggling with self-doubt most of their lives. Constant struggle, the pressure of succeeding and comparison to siblings or classmates are all causes of stress (IDA, 2013). According to Reid (2009), difficulties with visual stress can be eased by different techniques such as text enlargement or a typoscope. A typoscope can easily be made by cutting out a thin rectangular piece from a black paper in order to read one line at a time. In addition, the technique mostly used is that of coloured overlays or coloured lenses. Reid (2009) stated, “it is now generally accepted that coloured tints can reduce symptoms of visual stress and improve reading speed, fluency, accuracy and comprehension” (p. 51). However, there are some flaws regarding coloured overlays. The colour of the same object might change in different lighting, when moving from sunlight into the light of a lamp (Reid, 2009).

Coloured overlays usually come in the size of A4 and have a black horizontal line across. Coloured lenses are much less obvious to others and could therefore be more accepted (Reid, 2009). Hopefully, dyslexic students can feel confident enough to use coloured overlays in the classroom. However, they might be afraid to be looked at as strange. Therefore, it is important that the teacher creates a classroom atmosphere where students feel safe. To further reduce stress among dyslexic students it can be beneficial to receive additional time when reading or performing a task, listening to audio books and using specific computer programs designed for dyslexics (IDA, 2012).

Dyslexia may also have an impact on a person’s self-confidence. People with dyslexia often feel stupid and discouraged from continuing their studies or aim for higher education. According to Reid and Wearmouth (2002), “it is not enough to provide literacy support, because many children are scarred by their difficulties, with devastating consequences-emotional trauma, loss of self-esteem, and family difficulties. Few children emerge unscathed, and many resort to clowning or disruption to mask their difficulties” (p. 22). Disruptions and clowning are problematic in the classroom. The teacher could keep in mind that these acts could be due to lack of understanding. The problem needs to be dealt with starting from the cause.

It is important for teachers to treat dyslexic students as individuals and not merely as dyslexics. In addition, teachers should pay attention to students’ strengths as well as weaknesses (Nielsen, 2011). Because of their difficulties, many people with

dyslexia struggle with poor self-esteem. Therefore, it can be beneficial to recognize areas where the student is talented, for instance in problem solving. The teacher can present the assignment orally so there is no need for the dyslexic student to read or write. Then the student can focus on his/her strengths and not be let down by his/her weaknesses. This could lead to a boost for the student's self-esteem (Farrell, 2006). Enough time to comprehend and perform exercises as well as other aids should be given to the students. Furthermore, the student should be given trust and hope regarding the future (Nielsen, 2011). For a dyslexic student to be able to improve his or her reading skills, he or she needs to be encouraged by teacher and parents. The teacher has to believe that the student can achieve success. Low self-esteem will only discourage the student even more. That is why it is so important for teachers to understand dyslexia and know how to help students with dyslexia.

4.3 Orton-Gillingham Approach

Dr. Orton, Ms. Gillingham, and their colleagues founded the Orton-Gillingham approach in the middle of the 1920's. This approach is derived from multisensory structured teaching. As previously stated, people with dyslexia can have difficulties in differentiating between letters that are similar. Orton/Gillingham suggest that this can be corrected by reinforcing visual and auditory associations with kinaesthetic-tactile associations. For instance, students with difficulties in differentiating between *b* and *d* are taught to write the letters in different ways. The student writes the letter *b* by first drawing a vertical line and then drawing a circle. When it comes to *d* the student starts with the circle and ends with the vertical line (IDA, 2009).

The Orton-Gillingham approach requires repetition and therefore has to be taught on a daily basis. Shaywitz (2003) stresses the importance of repetition “in order for students with dyslexia to retain the components of phonological awareness as well as the many rules that need to be understood to read fluently” (as cited in Allen, 2010, p. 25). Furthermore, the International Dyslexia Association recommends the Orton-Gillingham approach. “The structure of the approach often helps to organize the student's general way of learning and working. Its logic helps him/her when memory fails and when he/she encounters unknown words. Its step-by-step

progression leads to a sense of mastery and competence” (IDA, 1998, p.1).

According to Allen (2010), “the controversy with the O-G approach, though, is that it is not necessarily “scientifically research-based,” which is required by the No Child Left Behind Act (NCLB) of 2001” (p. 24). However, since it has been extensively used under a long period of time it has been encouraged through personal experience. In fact, according to the research available regarding the Orton-Gillingham approach it appears to be an effective way of teaching dyslexic students to read (Allen, 2010, p. 25).

Many other approaches are inspired by the Orton-Gillingham approach. Malin Holmberg (2007) has developed teaching material for Swedish dyslexics learning English: HELP – for dyslexics. In 1998 she started teaching adult dyslexics who wanted to improve their knowledge in English and the teaching material is a result of this and several years of research and experimenting. HELP is also derived from the Orton-Gillingham approach (p. 1). The cornerstones of HELP are phonemic groundwork, multisensory structured teaching, structured lessons and direct teaching. The students identify and analyse the sounds of the English language and connect them to letters. This is enhanced with magnetic cards on the whiteboard. Every lesson is constructed of two parts: a reading part and a writing part. In addition, one new element is introduced each lesson (Holmberg, 2007).

According to Holmberg (2007) direct teaching is vital for success when teaching dyslexic learners. The teacher has to be in charge and guide the students. HELP is supposed to be used in small groups or individually. Every student needs time to absorb the information, which means that the learning speed has to be adapted to the student that needs the most time.

4.4 Phonics

Many of the articles I have come across regarding dyslexia and reading state that in order to improve reading skills; one might have to go back to the basics. According to McGuinness (1997), “simply ‘reading faster’, or practicing to be ‘fluent’, without understanding the code, doesn’t improve comprehension at all” (p. 275). Students with dyslexia who have difficulties with reading in English might have problems

altogether with English. Therefore, supporters of phonics claim that in order to improve dyslexic students' reading in English one need to start from the beginning to understand the language code. McGuinness (1997) states, "reading is a skilled behavior and, like all skills, it has be taught from the bottom up, from the simple parts to the complex whole" (p. 17). Phonics is a bottom-up approach, beginning with the smaller parts of a language.

Phonics is an approach that focuses on teaching children how the sounds of the language are spelled. Phonics teachers often have planned lessons where everything comes in a special order. The reading material that the children encounter entail the spelling patterns previously learned. Phonics supporters believe that comprehension will come when children can read fluently. In 2000, the National Reading Panel published research that supported Phonics that led to Phonics being increasingly adapted in schools in the United States. (Encyclopaedia of the social and cultural foundations of education, 2009).

In phonics, when learning a new sound "the teacher models the sound (phoneme) while writing the letter(s) (grapheme) on the board" (Sparks & Miller, 2000, p. 128). The students repeat the sound and write the letter in their notebooks while saying the sound once more. There is a strict order in which the sounds are to be introduced: Vowels are introduced first, then consonants with comparable sounds as the native language, the remaining consonants, diphthongs, blends (*tr*, *pr*) and lastly accentuation. It is useful when working with phonics to use nonsense syllables. For instance, after the vowels have been taught the teacher can make up syllables using the consonant L: LA, LE, LO. Then these nonsense syllables can form nonsense words: lalo, lole (Sparks & Miller, 200, p. 128).

In *Teaching Reading and Spelling to Dyslexic Children*, Walton (1998) argues that Phonics is preferable when teaching students with reading difficulties. If a student is taught with this approach she/he will improve her/his vocabulary. It might be difficult for adults as well as for children to realize that the names of the letters do not correlate to the sounds. Eventually, students need to be able to pronounce both the name and the sound but initially it is beneficial to focus on the sound. When pronouncing the *f* in the word *fat* it is "like air escaping from a puncture" (Walton, 1998, p. 14) though the name is pronounced *eff*. If a teacher tells a student that the word *cat* is spelt *see ay tea* the student will not hear the word *cat* when she/he put the sounds together (Walton, 1998).

There has been a lot of controversy surrounding phonics. "However, there now seems to be confirmation that structured phonics instruction help improve reading skills (Reid, 2009).

4.5 Whole Language

Whole language began in the 1970's in the United States. The idea behind Whole language is that if children are exposed to interesting reading exercises they eventually will learn to read. Supporters of Whole language compare this to the way children learn to talk: by listening to their parents talking and imitating them. With the Whole language approach, focus is on comprehension and children are encouraged to look at the context of the text to try to figure out the meaning of difficult words. This approach strives for the children to associate reading and writing with something positive. The Whole language approach has been criticized of not being organized enough. (Encyclopaedia of the social and cultural foundations of education, 2009). Whole language is a top-down approach, working from the whole picture down to the smaller parts.

According to Zucker (1993), Whole language teaching is not only beneficial in an ordinary classroom but also for students who have learning disabilities. Instead of focusing on someone's weaknesses, teachers focus on the student's strengths. A primary school in New York implemented the whole language philosophy in a special education class. A day in class varied between reading, writing, listening and speaking. All senses were used in different ways, "Thus, reading was taught through shared reading, guided reading, independent reading, choral reading, sustained silent reading, paired reading with a classmate or parent, or listening to a book on tape" (Zucker, 1993, p. 669). The classroom was created to be a place where the children felt safe and were not afraid of making mistakes. Also, the walls in the classroom were filled with the children's previous work and inspiring pictures. The teacher expected the children to learn and improve themselves and this convinced the children that they would succeed. Furthermore, students had the responsibility to choose assignments and to complete them (Zucker, 1993).

The outcome of implementing whole language philosophy in a special education class was that the children's self-esteem improved and so did their skills in

reading, writing, listening and speaking (Zucker, 1993). In conclusion, “The lasting impact of incorporating a literature-based whole language teaching/learning philosophy in the education of students with language and learning disabilities was that it changed their attitudes and literacy enactments so that they came to see themselves as readers and writers, rather than as failures” (Zucker, 1993, p. 669).

Regarding dyslexia in secondary school, Reid (2009) discusses the importance to consider dyslexia as a learning preference. In comparison with learning disability/difficulty it sounds less problematic. Students with dyslexia might have a certain preference in how they acquire new information, perhaps by making mind maps or use colours or pictures.

5. Discussion and Conclusion

As previously stated, multisensory structured teaching seem to influence many approaches to teaching. It is also widely recommended in several articles and in particular by the International Dyslexia Association. An advantage can be that it can be applied in a regular class and not only in a special education class. Furthermore, it is easier to prevent boredom in class since multisensory structured teaching offer variation during lessons. A disadvantage with multisensory structured teaching might be that it can feel stressful for students if the teacher change activity too often.

Another problem for dyslexics regarding reading is stress. Therefore, in order to improve reading skills it can be beneficial to ease the stress. For instance, the student can use coloured overlays, coloured lenses or a typoscope. Furthermore, it is helpful if the climate in the classroom is safe and friendly. A stress free environment could be attained in smaller groups or one-to-one meetings. It is more problematic in a classroom with 30 students. Finally, to help a student improve reading skills, teachers can be supportive and believe in the student. It is also important for the teacher to have knowledge regarding dyslexia to be able to teach English in the right way. This knowledge is something that teachers need to gain on their own, since it is not sufficiently taught during their education. This can be rather time consuming.

The Orton-Gillingham approach is derived from multisensory structured learning. With this approach, students are taught in an organized and thorough way, new information is added gradually after previous information is mastered, students are assessed continually and every student's individual needs should be considered. This approach is recommended by the International Dyslexia Association. However, the approach is from 1920 and might need to be updated. Moreover, it is not entirely based on research. Since it is extensively used it should be a helpful approach though it could benefit from more research.

Malin Holmberg's approach HELP – for dyslexics provide the idea that students produce their own book of rules. I believe this could be very beneficial for

the students' learning. Another positive thing with this approach is that each lesson is divided into a reading and a writing part since students might find a whole lesson of simply writing tedious. Furthermore, HELP is available as a textbook that could be a helpful guide to teachers. I have not had access to this book, though it would have been helpful in order to learn more about the approach.

As previously stated, what is most beneficial for a person with dyslexia is to receive help as early as possible, preferably in preschool. However, when dyslexia is discovered in secondary school or even later it is not indisputable how to act. There is a lack of research regarding interventions when dyslexia is identified after several years. Phonics and gaining phonemic awareness means starting from the beginning. When my sister Cecilia received help with her reading at Brunnsvik's folkhögskola, she had to start from the beginning and learn the sounds of the letters. Cecilia was at first forbidden to read anything but the simple texts her teacher introduced to her. New information was gradually introduced and after a couple of months she was allowed to choose what to read herself. Cecilia's attitude towards reading has changed and she is more self-conscious. The method used was clearly inspired by phonics. This approach helped Cecilia to improve her reading skills and today she reads better and faster. Phonics is an approach that is clearly successful. However, how does it work in an ordinary class? A dyslexic student then needs to receive help from a special needs teacher away from the regular class. Brunnsvik's folkhögskola specialised in teaching dyslexics but after upper secondary school. If dyslexia is discovered in a student before upper secondary school he or she should receive help immediately.

Phonics and whole language are two approaches opposite from each other. Phonics is bottom-up and whole language is top-down. Phonics is quite structured and focus on how and when to learn each new thing. Whole language is a more general approach and focus on the whole picture. Another difference is that I found many articles and books recommending a phonics approach when teaching students with dyslexia, but only a few articles regarding whole language. Is this a coincidence or is phonics the better approach?

A difficulty with applying phonics in secondary and upper secondary school can be if the material is at a primary school level. Students might feel stupid and unmotivated to participate. Perhaps the teacher can adapt the content or parts of it to suit older students. If this approach is successful for students, then maybe the lower

level is more acceptable. The feeling of learning/understanding new knowledge is amazing and powerful and could fight damaging feelings. The whole language approach may be the better choice with students in secondary school or upper secondary school since it is easier to apply with older students. Learning to read has to be meaningful and not simply mechanical. It is important that learning is fun, motivating and inspiring. Texts and study material need to be interesting and concern students' interests. Teachers can receive students' input on their assignments in order to see if they are valid and to improve them.

Some dyslexics struggle even though they receive help early in life. Especially people where dyslexia is identified later in life. Then they might have gone through many years of struggling to read under the wrong conditions. In that case, teachers might apply a trial-and-error approach to determine what is best in that particular case. Perhaps the most suitable solution is a blend of different approaches and principles. To apply the structure of phonics to the whole language approach and combine it with multisensory structure. When I start working as a teacher and spend more time in the classroom, I will hopefully acquire a better understanding of how students with dyslexia think, feel and what they need.

5.1 Conclusions

The purpose of this paper was to help teachers gain knowledge regarding dyslexia and that the paper could be used as a handbook for myself and other teachers when teaching English to students with dyslexia. The research question was: What principles and approaches can be utilized when helping dyslexic students to improve their reading skills in the English classroom? The results of the paper are based on articles written by others and research performed by others.

Regarding what principles to use the results indicated that dyslexic students might need to start from the beginning, by acquiring phonemic awareness. Other areas that are beneficial to teach are the association between sound and symbol, syllable instruction, morphology, syntax and semantics. Furthermore, many experts support the use of multisensory structured learning regarding teaching dyslexic students and teaching foreign languages in particular. This means using all senses when learning:

visual, auditory and kinaesthetic. Moreover, visual stress and low self-esteem are principles that benefits from being dealt with.

The results regarding what approaches to use indicated that there are several useful approaches, for instance the Orton-Gillingham approach, phonics and whole language. These examples represent both top-down and bottom-up approaches. They all have both strengths and weaknesses and there does not seem to be a simple solution. Therefore, a blend of these approaches might be an effective solution.

5.2 Limitations

One limitation with this paper is that many interesting and valid articles were not available to me. Furthermore, dyslexia is such a huge field that it has taken a lot of research and time to grasp the concept.

Another limitation with this paper is that since most remediation programs are based on English L1 there might be better ways to help Swedish students with dyslexia to learn English. Where in this case English is a second or foreign language.

5.3 Further Research

This paper has certainly been intriguing to write. Sadly, I have only just scratched the surface. I hope that I can continue investigating and improve my knowledge regarding dyslexia. There are several different theories within the field of dyslexia. Then there are numerous other research areas to focus on, for example spelling or assessment.

Further research is needed in the field of dyslexics learning English, as a second or foreign language. Thus, I would like to investigate how successful the findings of this paper are in schools. Furthermore, I would like to learn more regarding other approaches to teaching English to a dyslexic student. It would also be interesting to interview students with dyslexia to hear what they think and feel about the different principles and approaches.

I would like to research if a multisensory structured approach could be applied in all schools? Teaching all students and not just dyslexics? In addition, I would like to discuss my findings with a special education teacher. What views does he or she have? How do her views relate to my findings?

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