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1. Introduction

Foreign languages play a crucial role in our lives and the ability to communicate successfully in another language, especially in English, is taken for granted in numerous professions. Thus, all students are required to study vocabulary, grammar, pronunciation, spelling, etc., in order to become competent language users. Whereas some students learn those aspects of another language with ease, others experience serious difficulties due to learning disabilities.

Developmental dyslexia is such a learning disability, which is widely acknowledged to constitute an obstacle to first as well as foreign language learning. More precisely, dyslexia is a language-based disorder, “characterized by difficulties with decoding, fluent word recognition, rapid automatic naming, and/or reading-comprehension skills” (Handler & Fierston 2011: 818). According to official estimates, in every class in Austria one to two students with a reading and spelling disorder can be found on average (Landerl & Haller 2013: 9). Considering this high number of dyslexic students, every English teacher is likely to be confronted with dyslexic language learners and therefore needs to be aware of their difficulties and how affected students can be supported.

In light of the fact that numerous students face difficulties in the EFL classroom and struggles can be seen as normal in the learning process, the question might be raised as to why it is necessary to consider the problems of dyslexic learners in more detail. While it is true that dyslexic, as well as non-dyslexic students may exhibit similar difficulties, the root cause for their problems is different. The following comparison provides a glimpse into the world of a dyslexic individual and might help to describe their situation better: A dyslexic individual himself compared his learning difficulty once to running a 100-meter track race. In contrast to other students, he faces hurdles in his lane. “I try running like the other classmates, because we all had the same education on how to run [...] My parents and teachers are yelling at me from the sidelines, try harder, the other kids are making it down the track ok, you must be lazy or slow”. He keeps failing until one person shows him how to cope with hurdles. As he pointed out: “The key, though, is that I have to do it differently, the way that works best for me. Learning is like a tailored suit; it takes a while and is unique to everyone” (Sagmiller 2005 quoted in Thapa, Aalsvoort & Pandey 2008: 23).

As this comparison suggests, supporting dyslexic learners to cope with their weaknesses might require specific strategies and methods. Thus, dyslexia is not only a challenge for affected students, but also for their teachers.

Therefore, the thesis at hand attempts to provide insights into teaching English to students with dyslexia. In particular, the following research questions will be investigated:

1. What kind of problems do dyslexic learners face in the EFL classroom, as perceived by their teachers?
2. How do English teachers help dyslexic students to succeed and how do they cater for the different needs of these students within the mainstream classroom?
3. What problems have English teachers experienced themselves when dealing with dyslexic students?

In order to answer these questions, a qualitative research approach was employed, using semi-structured interviews to gather data. For this study, six EFL teachers who work in grammar schools in Vienna and who have experienced officially diagnosed dyslexic students in their classes were interviewed.

This paper is composed of two major parts. Whereas the first one provides a theoretical background, the second part presents the empirical research. Chapter one offers important insights into the conceptual background of dyslexia. Different aspects that play a crucial role in the definition of dyslexia, including controversial issues, as well as attempts that have been made to define the term are presented. Moreover, the effects, potential comorbidities and remedial programmes are discussed. In the second chapter the situation of dyslexia in Austrian schools is examined and the policy on how to handle dyslexic students is discussed. The next chapter shifts the focus onto dyslexia and foreign language acquisition and the problems that affected students may face. Chapter five is then concerned with EFL teaching. This section is concerned with the linguistic characteristics of English, teaching strategies and the multisensory structured learning approach.

The second part of this thesis focuses on the empirical research. For this purpose, chapter six outlines the research design. Afterwards, an analysis of the conducted interviews is offered, which is followed by a discussion of the findings. This discussion attempts to answer the research questions posed in this paper and to establish a connection to the theory. The final section presents some concluding remarks.

2. Conceptual Background

This first section is dedicated to the theoretical concept of dyslexia to ensure that its complex nature is clarified. In addition to a definition of dyslexia, it will provide essential information on effects, including reading, spelling and other difficulties. Afterwards, the issue of comorbidities and findings on what causes dyslexia will be addressed. Finally, remedial programs will be discussed.

2.1. Defining Dyslexia

Developmental dyslexia describes a language based disorder or learning difficulty, which manifests itself primarily in persistent reading, writing and decoding difficulties. In the literature, developmental dyslexia is acknowledged as being the most common learning disability (Handler & Fierston 2011: 818; Ghazaleh 2011: 160), affecting people worldwide regardless of their ethnic and socio-economic background (IDA: 2012: 1). Slightly more boys than girls have been diagnosed with dyslexia (Snowling, Gooch & Henderson 2012: 733). The precise number of dyslexic people, however, varies depending on which definition is chosen to differentiate dyslexia from other learning disabilities. A prevalence rate between 3 and 15 percent of school-age children has been suggested (Snowling, Gooch & Henderson 2012: 733); the International Dyslexic Association (IDA) assumes that even up to twenty percent of the population in the United States shows symptoms of dyslexia (2012: 1).

In order to avoid misunderstandings, it is essential to briefly point out the difference between two distinct types of dyslexia. Both developmental and acquired dyslexia lead to reading and spelling mistakes, but in the latter type those impairments are due to brain injuries or diseases. A brain trauma causes an impairment of skills that had already been possessed by a person (Nijakowska 2010: 1). Nowadays, this type of dyslexia is considered as irrelevant for the understanding of developmental dyslexia. (Nicolson & Fawcett 2008: xv). This thesis discusses developmental dyslexia, henceforth dyslexia, only.

The term dyslexia, deriving from the Greek words difficulty (dys) and word (lexis), was first coined in 1884 by Rudolf Berlin, in order to label people with reading difficulties

despite average intelligence (Kormos & Smith 2012: 20). Nevertheless, the first documented case of specific reading deficits can be traced back even further. In 1877, Adolph Kussmaul, a German doctor, described an adult patient whose inability to read was his sole problem. This means that neither intelligence nor speech or sight problems could be identified as the cause of his reading problems. Kussmaul introduced the term word-blindness to define this specific condition (Hallahan & Mercer 2001). In 1896, Pringle Morgan described the case of a 14-year-old boy who displayed severe deficits in reading and writing despite average achievements in other academic areas (Kormos & Smith 2012: 21). Considerably more scholars researched in this field and described such cases. Thus, dyslexia is by no means a new phenomenon, although the definition of this learning disability is, of course, by far more complex nowadays, due to the increased knowledge in this field.

Average intelligence is one aspect that is still stressed as a hallmark of defining dyslexia, and hence, the struggles of dyslexic students have often been referred to as an unexpected underachievement. Traditional approaches use IQ as an “exclusionary criteria in order to operationalize unexpectedness” (Wagner 2008: 176). The aim of this criteria is to disregard other factors that might have caused reading problems, like “emotional disturbance” (Wagner 2008: 176). Even though a definition of dyslexia based on the discrepancy between IQ and abilities is highly controversial nowadays (Nijakowska 2010: 100; Hulme & Snowling 2009: 38), it proved to be extremely useful for early research in dyslexia. According to Frith, the discrepancy criterion was crucial for the scientific identification of dyslexia: “Objectively measurable performance on standardized tests and the use of relevant regression equations made dyslexia scientifically respectable. It transformed dyslexia from an unspecified complaint in the mind of the beholder to a reality that can be seen by everyone” (1999: 198).

In recent literature, the disadvantages of IQ based definitions are stressed, as Snowling, for example, points out, “[g]radually, this ‘discrepancy definition’ of dyslexia has fallen from use [...]” (Snowling 2013: 7). One problem that is addressed regarding an IQ discrepancy definition of dyslexia is due to the fact that dyslexia can occur among people of all intellectual levels (IDA 2012: 1). Consequently, people who score lower on an IQ test might not be identified as dyslexic despite their reading difficulties, since they do not meet the discrepancy criterion (Snowling, Gooch & Henderson 2012: 733). In addition,

Williams and Lynch question whether IQ tests mirror the appropriate level of cognitive skills of dyslexic individuals since most of them require language skills (2010: 67).

Furthermore, the discrepancy criterion is blamed for creating a “wait-to-fail” approach (Wagner 2008: 176). If dyslexia is identified only when a discrepancy between the reading ability of students and their intellectual level is observed, students must have undergone reading instructions for several years before being diagnosed. Since reading difficulties become more difficult to treat the longer they exist, this approach might have a negative impact on the students’ future academic achievements (Wagner 2008: 177). Another drawback mentioned in relation to a late diagnosis is that students’ early struggles with reading in school could badly affect their motivation and result in an avoidance of reading tasks in various subjects, or in behavioural problems in school (Nicolson & Fawcett 2008:1).

Instead of referring directly to the IQ, official definitions often include the aspect of unexpectedness. Consequently, the poor reading skill of dyslexic individuals is often described as unexpected in terms of age, cognitive abilities, literacy instruction, etc. (Kormos & Smith 2012: 23). Thus, it seems impossible to fully ignore the discrepancy of skills and IQ, and, as Hulme and Snowling argue, it remains necessary for researching dyslexia. By studying poor readers of average IQ, researchers try to exclude other factors that might have led to their reading problems (Hulme & Snowling 2009: 39). Nicolson and Fawcett warn that some researchers in the US abandon the idea of a discrepancy criterion, suggesting that there is no “qualitative difference in the reading or phonological ability of poor readers with and without discrepancy” (2008: 114). This trend, according to them, might lead to a “conflation of different types of reader” and hinder the development of theoretical analysis and of individual support (2008: 114).

Although developmental dyslexia might appear as a simple concept – unexpected failure to fully acquire reading competence – different levels need to be considered to fully understand its complexity. Frith addressed the multifaceted nature of dyslexia in the following way:

To define dyslexia in terms of reading test performance is rather like defining measles as an increase in body temperature. Raised temperature, however, is merely a sign of the infection, not the illness itself. Decreasing the temperature is usually a good thing, but it does not cure the illness. All the knowledge accumulated in dyslexia research indicates that dyslexia is not a disease which comes with school

and goes away with adulthood. It is not a temporary childhood affliction; it is a lifelong burden. Nor can it be cured simply by improving reading and writing skills (1999: 209).

In their “three-level framework” Frith and Morton attempt to capture different aspects of dyslexia (Morton and Frith, 1993; 1995 referred to in Frith 1999: 193). Those levels refer to the biological, the cognitive as well as the behavioural aspects of dyslexia, and, as Frith points out, also the environmental influence is included since this has an impact on all the other levels (Frith 1999: 194).

There seems to be a general consensus among researchers that these factors, each of them of equal importance, play a crucial role in the understanding of dyslexia (e.g. Nijakowska 2010: 33-34.; Kormos & Smith 2012: 21). Whereas the behavioural level addresses the symptoms of dyslexia, such as spelling as well as reading problems and other difficulties, the other three levels focus on causal factors. The biological level points to underlying brain mechanism and genetic factors, the cognitive level refers to aspects of mental processing and learning mechanism, like a reduced working memory or poor phonological processing. Finally, the environmental level, interacting with all other levels, stresses the influence of socio-economic factors and teaching (Nijakowska 2010:34). I will expand on the role of those levels in terms of causation in a later section that considers the causes of dyslexia.

The International Dyslexic Association (IDA) takes those four different levels into account in formulating its official definition of dyslexia. The following, fairly detailed definition of dyslexia is provided on their website:

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 (IDA <https://dyslexiaida.org/definition-of-dyslexia/>).

Kormos and Smith acknowledge this definition by the IDA to be “one of the most influential definitions of dyslexia today”, and that it addresses the biological, the behavioural, the cognitive as well as the environmental level (2012: 23-24).

Another definition provided by Schneider and Crombie includes some crucial aspects that are not addressed in the definition by the International Dyslexic Association:

It is safe to say though that dyslexia is understood as a language processing difficulty to varying degrees that affects mainly reading and writing in letter, number and/or musical symbols. These difficulties occur because of differing abilities of the brain to process auditory and/or visually presented information. While dyslexia cannot be cured, specific accommodations through professional teaching can provide the dyslexic individual with successful coping strategies (based on Augur 1993: 1; Birsh 1999 in Schneider & Crombie 2003: 3).

In contrast to the first definition, this one incorporates the aspects of different degrees of severity, the aspect of visual information and relates dyslexia to teaching.

Moreover, other aspects of the definition by the International Dyslexic Association might need to be improved. Kormos and Smith criticise that dyslexia is depicted as a disability, rather than a learning difference and that the behavioural level might be stressed too much (2012: 23-24). The latter could also be problematic due to the fact that the behavioural signs of dyslexia can change over time (Snowling, Gooch & Henderson 2012: 733). Consequently, Nijakowska points out that dyslexia should not only be defined as “a neurodevelopmental disorder, implying the existence of a complex causal chain embracing biological, cognitive and behavioural factors”, but she emphasises that the definition should include the fact that dyslexia is “present since birth and characterised by a set of behavioural symptoms subject to change over time”, in order to clearly differentiate it from other reading problems (Nijakowska 2010: 8)

Indeed, dyslexia is not the only disability that can cause reading problems, thus, it might be misleading to use the terms *dyslexia* and *reading disability* interchangeably. “Poor comprehenders”, for example, face problems in understanding the content of what they read despite accurate decoding skills (Snowling 2013: 8). Therefore, children who are affected by reading comprehension impairment might be seen as presenting “the mirror image of dyslexia” (Snowling, Gooch & Henderson 2012: 733) or as showing “the opposite profile” of dyslexic individuals (Peterson & Pennington 2015: 285). Dyslexic children may display struggles in understanding as well, which can be ascribed to their slow word reading and their need to focus on decoding rather than on comprehension (Snowling 2013: 8).

Thus, Snowling suggests that three types of poor readers can be identified: dyslexic individuals, poor comprehenders and those who have decoding as well as comprehension problems (2013: 8). In order to demonstrate the relationship between language and impairment and the difference between comprehension impairment and dyslexia, she uses the two-dimensional model shown in Figure 1 (2013: 8, after Bishop and Snowling 2004). As this model shows, the problems of dyslexic readers and those of poor comprehenders have distinct causes. Consequently, these two kinds of struggles can be seen as two different types of reading problems, with each type being able to occur in the absence of the other (Snowling 2013: 8). Being aware of the differences might be helpful in predicting what kind of reading problems children might face. According to Snowling, “[...] children who enter school with poor phonology are at risk of decoding difficulties, while children with broader language impairments are at risk of reading comprehension difficulties. Children with clinically diagnosed specific language impairment generally have pervasive reading disorders with both processes affected” (2013: 8). However, both dyslexia and comprehension impairment appear on a continuum, as it is also presented in the two-dimensional model in Fig. 1. The corollary of this is that for both types of reading problems no clear-cut off points can be determined.

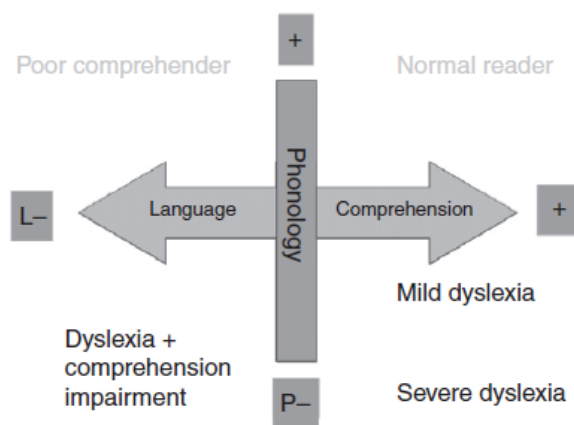


Figure 4: Two-dimensional model of the relationship between language and reading impairments

Overall, a precise definition of dyslexia and explanation of its nature remain challenging for various reasons. First of all, the debates about the definition and the discrepancy criterion have shown that no general agreement on dyslexia has been reached yet. As a consequence of this, some researchers even reject the idea of dyslexia at all, referring to it as obsolete, concluding that the construct of dyslexia has “passed its usefulness for

scientific and practical purposes”, as Vellutino summarises Elliott’s and Grigorenko’s point of view in the foreword of their book *The Dyslexia Debate* (2014: xv). Instead, Elliott and Grigorenko propose replacing the term dyslexia with *reading disability* and referring to all those who struggle with reading with this label, rather than differentiating between reading difficulties (2014). Another problem is the diagnosis of dyslexia. It not only needs to be distinguished from other reading disabilities but it also lacks clear criteria, since reading abilities appear on a continuum. As Peterson and Pennington point out, “in order to diagnose the disorder, a somewhat arbitrary cutoff must be set on a continuous variable” (2015: 285). Moreover, not all dyslexic individuals display the same problems and also differ in terms of severity. Thus, further research in this field might be necessary, in order to understand dyslexia better and to cater for the needs of dyslexic individuals. Having defined what is meant by dyslexia, it is now important to discuss its effects and the problems it may cause.

2.2. Effects of dyslexia

Although problems in decoding are considered as being characteristic of dyslexia, the exact symptoms are likely to vary from person to person. In order to stress this variability of symptoms, Kormos and Smith draw an analogy between dyslexia and a cold: One person who suffers from a cold might have a runny nose and a cough whereas another one might have a sore throat, a headache and a high temperature. Both individuals display distinct symptoms, but might still be diagnosed as having a cold (2012: 7). This analogy might be useful in understanding that the diagnosis of dyslexia is neither clear cut nor that the behavioural manifestation of it is always the same. In fact, dyslexia can manifest itself very differently in different individuals.

The reasons for individual variation are numerous. First of all, dyslexia ranges from a mild to a severe form. Consequently, the problems dyslexic people face crucially depend on the degree of severity of the disability (IDA 2012a). It is, however, noteworthy that, as Frith emphasises “individual differences might have explanations that lie entirely outside the factors responsible for the disorder” (1999: 200). One such a factor is definitely the language itself. The specific nature of the language of a dyslexic person, whether it has an opaque or a transparent orthography, can have an influence on how dyslexia manifests

itself (Nijakowska 2010: 101). The impact of dyslexia does not only vary between individuals, but the symptoms of one person might also change over time. Since dyslexia is a life-long condition, the behavioural signs of an adult have probably altered, compared to the symptoms when he or she was a child (Snowling, Gooch & Henderson 2012: 737). Adults are able to improve their reading skills, for instance, even though the cause and underlying problems of dyslexia are not gone (Frith 1999: 209). Hence, training or a supportive learning environment can lead to a change in the behavioural signs of dyslexia (Kormos & Smith 2012: 24). Overall, it is essential to be aware that the manifestation of dyslexia can vary, which might influence important fields, such as diagnosis or treatment.

Despite those individual differences, some specific problems are considered as typical of dyslexia. Since dyslexia is a language-based disorder, often referred to as a reading disability, the key symptoms can be found in the literacy skills (Handler & Fierston 2011: 818). According to Vellutino and Fletcher, studies show clearly that “developmental reading difficulties in children with dyslexia are manifested in basic and pervasive deficiencies in word identification, phonological (letter-sound) decoding, and spelling” (2005: 363). In the following subsections, difficulties in reading, spelling as well as other potential problems will be considered in more detail.

2.2.1. Difficulties in reading

Reading is indisputably a complex process, requiring readers to make meaning from abstract symbols. Therefore, it is “a miracle that anyone manages to learn to read, and in a sense, it is hardly surprising if anyone has difficulty”, as Nicolson and Fawcett tellingly put it (2008: 12). According to the “triangle model”, the development of reading skills requires creating “mappings between orthography (print) and phonology (speech sounds; the phonological pathway), and between orthography and phonology via semantics (the semantic pathway)” (Snowling, Gooch & Henderson 2012: 732). In order to become a fluent reader, phonological awareness and an understanding of the grapheme-phoneme correspondence are obviously crucial (Snowling, Gooch & Henderson 2012: 734). Thus, it has been proposed that “[t]he foundation for reading is decoding”. This means, for example, that a child who learns to read, sounds out unknown words: *cat* /k/ /ae/ /t/. (Hulme & Snowling 2009: 43). “Decoding, or word attack, is the ability to sound out

words” and as such, “poor decoding is the core characteristic of poor reading” (Handler & Fiererson 2011: 822). Experienced readers do not have to pay attention to conscious decoding and hence become more fluent (Handler & Fiererson 2011: 822).

Dyslexic individuals’ poor performance in reading can be mainly traced back to their deficits in phonological awareness (IDA 2012a: 1). Therefore, problems with learning the name of the letters and their sounds can be an early sign of dyslexia in children (Hulme & Snowling 2009: 50). In addition, dyslexic individuals are thought to have difficulties with orthographic awareness, which is the knowledge of the organisation of letters in words. Normally, this understanding enables readers to realise “regularities and redundancies in the writing systems (e.g., at in cat, fat, rat)” and is consequently helpful in the acquisition of reading (Vellutino & Fletcher 2005: 364”).

Especially reading single words and nonwords, words that do not exist, poses a difficult challenge to dyslexic children. Obviously, isolated words do not allow readers to infer the meaning from the context, which makes it more difficult to recognise them (Hulme & Snowling 2009: 50). Therefore, tests including nonwords and single words are used to test the phonological development of children (Nijakowska 2010: 85). As Hulme and Snowling explain, a 7-year old child without phonological problems is expected to pronounce nonwords such as “pim” or “zot” without any struggles, in contrast to children with dyslexia (2009: 50).

Even though reading problems are regarded as the hallmark of dyslexia, they should neither be seen as the single criteria in diagnosing dyslexia nor are they always caused by this specific reading disability. A poor reading performance can have different reasons, with dyslexia only as one possible cause among others (Peterson & Pennington 2015: 285). Therefore, it has been stressed that “[p]eople with dyslexia read slowly, but not all people who read slowly have dyslexia” (Handler & Fiererson 2011: 820). Moreover, even an individual who possesses considerably good reading skills can be dyslexic. This can be explained by the fact that the behavioural signs of dyslexia can change and improve over time if an appropriate learning environment is provided (Nicolson & Fawcett 2008: 13).

2.2.2. Difficulties in spelling

Similar to reading, spelling requires phonological and orthographic awareness. The deficits in these fields typically also result in poor spelling skills. In contrast to reading, where dyslexic individuals might recognise a word as a unit, writing requires them to be aware of each letter (Kormos & Smith 2012: 31). Consequently, it has been suggested that very often children struggle even more with spelling than with reading. (Hulme & Snowling 2009: 50). Moreover, compared to reading problems that might decrease with much effort, spelling mistakes tend to remain a problem in adulthood (Nijakowska 2010: 89). The following problems and spelling mistakes that result from those problems have been, among others, described as typical: “confusion with homophones” (grate/great); “difficulty visualizing the correct spelling of words” (I hav enoughf mony to buy a gam) (Williams & Lynch 2010: 69), “recognising individual sounds in the right sequence” (pakr/park) and “phonetic spelling” (yoos/use) (Nijakowska 2010: 91).

Another symptom that is regularly mentioned in relation to dyslexia-specific writing is the reversal of letters, though this issue is discussed controversially. Nijakowska argues that younger children at risk for dyslexia occasionally mirror letters (b-d) or words (2010: 88) and that even older students struggle at times to distinguish letters that look similar (a-o), or similar letters with a different position (p-b) (2010:91). Handler and Fiererson, in contrast, refer to the mirroring of letters and words as a “common misconception”, because, according to them, a dyslexic child does not tend to have more problems with this than any other young writer and reader (2011: 820). If more experienced writers still have trouble with some letters, it might be seen as a warning signal. Again, dyslexia can be the cause of severe spelling difficulties, but not necessarily. Consequently, not everyone who demonstrates poor spelling skills is dyslexic (Handler & Fiererson 2011: 822).

2.2.3. Further difficulties

Difficulties in reading and writing as described above are often accompanied by weakness in other areas as well. It seems quite understandable that students who perform poorly in reading, read less, which then may lead to a smaller range of vocabulary (Handler & Fiererson 2011: 821). Furthermore, difficulties with speech production and articulation as

well as with the memorisation of words when having to name pictures are only a few examples of the problems that have been observed in some dyslexic individuals (Kormos & Smith 2012: 32). Further, problems associated with language impairment are difficulties with the arrangement of words in a sentence, thus, with syntax and incorrect pronunciation of words (Nijakowska 2010: 87). Additionally, dyslexic individuals might exhibit a great number of non-linguistic obstacles, such as problems with attention, organization, working memory (Snowling 2013: 7), time management, handwriting and coordination of motor skills (Kormos & Smith 2012: 33). Some children may also display struggles with the memorisation of sequences, like the days of the week, the alphabet and nursery rhymes (Nijakowska 2010: 87).

Having described all those struggles dyslexia can cause, it seems necessary to emphasise again that this does not mean that dyslexic individuals are not intelligent or that those students will fail school. In fact, they can be very talented in other areas like sports, arts and science (Hulme & Snowling 2009: 2). Moreover, outstanding visual-spatial abilities, a talent for creative, multidimensional thinking and problem-solving have been observed (Olagboyega 2008: 24). According to the International Dyslexic Association, some students with a learning disability, including dyslexia, show even exceptional strengths in another field and are therefore referred to as “twice exceptional”, in short, “2e” (IDA 2013a: 1). Hence, it needs to be stressed that dyslexia does not affect other talents, and as such does not necessarily hinder children in becoming successful in the future (Gabrieli 2009: 280).

2.3. Comorbidities

It is generally acknowledged that dyslexia frequently co-occurs with other disabilities and that affected individuals are likely to display additional symptoms to those associated with the specific reading disability. The term *comorbidity* is used to refer to such a presence of two or even more developmental disabilities in one person (Snowling, Gooch & Henderson 2012: 732). In terms of dyslexia, several other disorders, such as attention-deficit hyperactivity disorder (ADHD), specific language impairment (SLI), developmental coordination disorder (DCD) (Snowling, Gooch & Henderson 2012: 738) and deficits in mathematical cognition have been described as common comorbidities

(Hulme & Snowling 2009: 40). Even though those are distinct conditions, some of the comorbidities might be due to a partial overlap of risk factors (Pennington 2006: 386).

Especially ADHD is closely associated with dyslexia, with a suggested rate of comorbidity of approximately 30 percent (IDA 1: 2008). This means that this percentage of dyslexic individuals also exhibits symptoms of ADHD. As Pennington explains, comorbidity as a result of overlapping definitions can be excluded, since “dyslexia is defined by cognitive tests whereas ADHD is defined by behavior ratings” (2006: 390). In contrast to other comorbid disorders, ADHD is an “externalizing disorder” rather than a language disorder and thus, regarded as a “heterotypic comorbidity” (Pennignton 2006: 389). According to Willcutt and Pennington who conducted a research project to investigate the comorbidity of dyslexia and ADHD, the latter is in general more widespread among boys than girls (2000: 179). In addition, dyslexic males exhibit signs of inattention as well as of hyperactivity, in contrast to girls who tend primarily to show symptoms of inattention (2000: 186). This difference in prevalence rate and symptoms has often been used as an explanation of why dyslexia is diagnosed more often in boys than in girls (Snowling, Gooch & Henderson 2012: 733).

Overall, the knowledge of comorbidities plays a significant role in the understanding and treatment of dyslexia. Since it has been suggested that the co-occurrence of dyslexia and other developmental disorders are a result of partially overlapping risk factors, this might be helpful in understanding the causes of dyslexia. Moreover, dyslexia is usually diagnosed only after a child has undergone reading instruction, whereas comorbid disabilities like ADHD, SSD and LI might be observed earlier (Peterson & Pennington 2015: 288). This was also demonstrated in a recent study concerned with comorbidities in preschool children, conducted by Gooch et al. (2014). In their study, “significant weaknesses in motor skills and executive functions/attention” in preschool children with language impairment were observed (2014: 244). Therefore, Gooch et al. conclude that deficits in motor skills, “play a role in predicting children’s early literacy outcomes”, which seems particularly helpful for children at family risk of dyslexia (2014: 244). Thus, signs of developmental disorders, known to frequently co-occur with dyslexia, can be an early warning of prospective reading difficulties that might arise. Consequently, being aware of comorbidities might allow parents or teachers to support affected children right from the beginning, rather than to wait until they fail.

2.4. Causes

Being aware of what causes a specific impairment seems necessary in order to fully understand and support affected individuals. A great number of different theories on underlying causes, such as the Double-Deficit Hypothesis or various visual theories have been suggested. However, it would be beyond the scope of this thesis to present them all. Therefore, this section focuses on the Phonological Deficit Theory and theories related to the brain as well as to genetics and environmental causes.

Rather than one single cause, numerous different factors are assumed to play a role. Frith, based on the three-level framework mentioned earlier, pointed out different levels that should be considered to explain possible causes of dyslexia: cognitive, biological and environmental (1999: 194). There is widespread agreement among researchers that those levels still apply and need to be taken into account in discussions about the causes of dyslexia (Snowling, Gooch & Henderson 2012: 734; Nijakowska 2010: 34). Nijakowska suggests, for example, a “hypothetical causal link” for interacting levels by stating that “a genetic difference causes a brain abnormality, which in turn is responsible for a cognitive deficit, which in turn brings about certain observed patterns of behavior” (2012: 34).

Since the behavioural manifestations of dyslexia differ considerably between individuals, the question must be raised as to whether one common cause can be identified. As Gabrieli points out, “[t]he causes of dyslexia can be considered at multiple levels of analysis and probably reflect multiple interacting mechanisms that vary across children” (2009: 281). Regardless of any individual differences, Peterson and Pennington suggest causal factors that are more or less common in all affected individuals, even in different languages. According to them, despite “[...] some differences in the manifestation of dyslexia across various languages and orthographies, there is also evidence for impressive universality of the disorder’s underlying brain bases and neuropsychology” (2015: 300). Overall, most researchers agree that even though behavioural variations have been observed, affected individuals share some underlying causes. (Galaburda et al. 2006: 1216; Peterson & Pennington 2012: 1999)

2.4.1. Phonological Deficit Theory

Even though some doubts about a causal link between phonological deficits and dyslexia have been raised (e.g. Vidyasagar & Pammer 2010), there is widespread agreement among researchers that it plays a dominant role in causation (Hulme & Snowling 2009: 73; IDA 2012a: 1). According to the Phonological Deficit Theory, “an underlying phonological processing problem, namely impaired phonological awareness” leads to the specific literacy problems associated with dyslexia (Kormos & Smith 2012: 33). The theory tries to offer a cognitive explanation, which does not, however, preclude any other brain-based explanation (Frith 1999: 194). In fact, it has even been argued that “cognition provides an important bridge between biological and behavioral levels of explanation” (Snowling, Gooch & Henderson 2012: 734).

The importance of phonological awareness in becoming literate is beyond any doubt, as has already been stressed in an earlier section. It refers to a “conceptual understanding of the idea that spoken words consist of individual sounds (phonemes) or combinations of speech sounds (syllables, onsets, and rimes)” (Vellutino & Fletcher 2005: 364). Thus, this knowledge enables, for example, to differentiate between phonemes or to identify syllables in a word; in short, it is the understanding of the sound structure of words (Nijakowska 2010: 44). Therefore, Peterson and Pennington emphasise that phonological awareness is a “key predictor of reading skill” in every language, but even more important for consistent writing systems (2012:1998).

However, in both rather inconsistent orthographies, like English, and in more consistent orthographies such as Spanish, phonological awareness has an impact on literacy skills (2012: 1998). It seems that this holds true for non-alphabetic languages as well. In Chinese, a logographic language, “the smallest written units [...] are characters representing monosyllabic morphemes (units of language that convey meaning)” (Peterson & Pennington 2012: 1998). The majority of Chinese characters contain semantic as well as phonetic information, hence information about meaning and pronunciation (Brunswick 2010: 145). Even though other aspects like morphological awareness play a significant role as well, phonological awareness is necessary to become a skilled reader in Chinese (Su, Klingebiel & Weekes 2010: 206). Although it has been argued that dyslexia in alphabetic languages and in Chinese is not exactly the same (Su, Klingebiel & Weekes 2010: 206; 215), phonological awareness is crucial in logographic

as well as in alphabetic languages. Thus, it seems reasonable that a lack of this ability or a deficit in this field is likely to lead to difficulties in different scripts.

Phonological awareness can already be observed in children, even before they start writing. If they have a poor understanding of sounds, they might struggle to identify words that share the same sounds, to create rhymes or to leave one sound out of a word so that it becomes another word (Gabrieli 2009: 281). Peterson and Pennington assume that phonological awareness develops gradually over time as a result of linguistic input, rather than being innate. Therefore, they emphasise that “the conclusion that phoneme awareness deficits have a unidirectional causal link to reading problems is oversimplified” (2015: 290). In contrast, they come to the conclusion that phonology and literacy influence each other (2015: 291).

An empirical study by Ramus et al. (2013), discussing specific language impairment and dyslexia, provides scientific evidence that deficits in phonological skills are typical for the majority of dyslexic children. The researchers came to the conclusion that non-phonological skills, like syntax, are not impaired in dyslexic children, but their findings show that those children also performed below average in this field. However, the children’s grammar abilities were not impaired, but they achieved only low scores in vocabulary. This is probably due to the role of reading in vocabulary acquisition and is therefore not highly surprising. Even though they do not address whether phonological deficits directly cause dyslexia, the results might be seen as a confirmation of the Phonological Deficit Theory (Ramus et al. 2013).

2.4.2. Dyslexia and the Brain

On the biological level, dyslexia has been researched with respect to underlying brain mechanisms. In order to gain more insights into the brain, different methods such as magnetic resonance imaging (MRI), which provides information on the location and amount of activity involved in a task, are used (IDA 2015: 1). On the basis of such findings, researchers infer that there is not one specific area in the brain that is exclusively responsible for reading, but that numerous cognitive processes are involved (IDA 2015: 1). Indeed, language skills like reading, writing as well as spelling require different areas of the brain to work together. As Fawcett and Nicolson exemplify, reading aloud

“involves the coordination of vision, eye movements, cognitive processing and speech” (2008: 78).

Researchers were able to find abnormalities in the brain of dyslexic individuals, concluding that their brain develops and functions differently (Handler & Fierston 2011: 823). Especially areas in the left hemisphere language network revealed atypical activity: The temporoparietal cortex is acknowledged to be crucial for phonological awareness, and as such is responsible when we have to decide for example whether words rhyme, as well as for phoneme-grapheme conversion (Peterson & Pennington 2012: 2001). The occipitotemporal region is thought to be essential for recognising whole words (Peterson & Pennington 2012: 2001). Neuroimaging studies have presented an underactivation of both areas, of the left temporoparietal cortex (Peterson & Pennington 2015: 293; Gabrieli 2009: 281) and of the occipitotemporal region (Peterson & Pennington 2015: 293). In addition, dyslexia is associated with unusual activations of “the left prefrontal regions associated with verbal working memory [...]” and “left middle and superior temporal gyri associated with receptive language” (Gabrieli 2009: 281).

Without a doubt, some areas of the brain of people with dyslexia work differently compared to others. In terms of causation, however, it is not clear whether those altered brain mechanisms are a cause or rather a consequence of reading impairment. Studies have demonstrated that reading or reduced reading experience, as is probably the case in dyslexic individuals, affect the brain regions involved in dyslexia (IDA 2015: 3). As such, reading experience itself might be seen as an environmental factor (Nijakowska 2010: 37). Moreover, Hulme and Snowling argue that it is necessary to distinguish how different causes work together. An additional cause might either correlate with another cause of dyslexia or be independent of any other factors and thus function separately (2009: 73). Nevertheless, it has been suggested that some of the altered brain mechanisms are likely to lead to the phonological difficulties in dyslexia (Galaburda et al. 2006: 1213). Overall, further research in this field is necessary in order to fully understand brain activities.

In discussions about the brain and dyslexia, the Cerebellar Deficit Theory is frequently mentioned as a causal explanation. The cerebellum is not only responsible for motor skills but also plays a role in reading skills and verbal memory (Snowling, Gooch & Henderson 2012: 736). Fawcett and Nicolson assume that a genetic disposition can hinder a normal

development of the cerebellum already in the womb. According to them, this abnormality of the cerebellum can later cause motor difficulties in infants, such as a delayed ability to sit up or to crawl (2008: 85). In dyslexic adults, a reduced activation of the cerebellum during motor sequencing tasks has been observed (Snowling, Gooch & Henderson 2012: 736). Fawcett and Nicolson are convinced that a cerebellar impairment causes, “by direct and indirect means, ‘the phonological core deficit’ that has proved such a fruitful explanatory framework for many aspects of dyslexia” (2008: 86). Other researchers, however, critically question this view, since it is unclear how phonological deficits can arise from an impairment of this area of the brain (Snowling, Gooch & Henderson 2012: 737).

2.4.3. Genetics and Environmental Causes

Another aspect that needs to be considered on the biological level of causation is the genetic basis. Dyslexia is widely recognised to be heritable and as such runs in families. Studies have proposed that between 30 and 50 percent of children whose parents are dyslexic inherit the reading disability (Snowling, Gooch & Henderson 2012: 736). However, parents or other family members might not display poor readings skills, despite some phonological deficits or they might not fully meet diagnostic criteria to be diagnosed dyslexic (Peterson & Pennington 2015: 294). Nevertheless, dyslexia might also occur without any family history (Handler & Fierston 2011: 820). Multiple genes are likely to play a role in dyslexia, by altering the development of the brain areas responsible for reading (Hulme & Snowling 2009: 80).

Within the literature of dyslexia, researchers agree that environmental risk factors should not be underestimated (Nijakowska 2010: 34; Peterson & Pennington 2015: 294). As Hulme and Snowling argue, “[w]e are not born with genes that make us dyslexic, nor are we born into the environment that makes us dyslexic. We may, however, be born with genes that give an increased risk of developing dyslexia, but this risk will, in turn, be moderated by environmental factors” (2009: 329). In the case of dyslexia, such environmental factors are, for example, the literacy environment at home and in school. It has been suggested that the role of heritability in reading skills depends on gene-environmental factors, in fact on the education of parents (Friend, Defries & Olson 2008).

The responsibility for genetic risk factors increases with a higher educational level of the parents, whereas environmental factors play a bigger role with a lower educational level of the parents. (Friend, Defries & Olson 2008: 1124). Peterson and Pennington explain that this conclusion is based on the assumption that “the child’s literacy environment is, on average, both more favorable and less variable as parent education increases” (2015: 295). Overall, it seems clear that we are not determined by genes, but that numerous other factors play a role in causation as well.

Overall, it appears that the cause of dyslexia is still not clear and it is likely that various aspects play a role, rather than one single cause. Hence, further research in this field is necessary to learn more about dyslexia. Altered mechanism in the brain and genetic factors, as presented in this section, may provide an explanation for the fact that dyslexia cannot be fully cured. Nevertheless, as has been pointed out in a previous section, dyslexic individuals can indeed learn effective strategies to successfully handle their problems. Therefore, remedial programs are discussed in the following subsection.

2.5. Remedial programmes for dyslexia

Remedial programmes do not provide a cure for dyslexia, but they can help affected individuals to decrease their problems. A wide range of such programmes can be found, many of them, however, lack any scientific evidence (Landerl 2013: 12). Visual training methods for instance, including training glasses and coloured lenses, are frequently mentioned, but have been reported as ineffective for dyslexic individuals (Handler & Fierston 2011: 818). As Nijakowska tellingly put it: “Apparently, sensational media reports about wonderful cures for dyslexia certainly do no good, quite the opposite, they are unhelpful both for the professionals and individuals with dyslexia“ (2010:101). Hence, therapies which promise a cure with the help of tools always need to be critically questioned.

Nevertheless, a widespread agreement has been reached on the usefulness of language-based treatments (e.g.: Landerl 2013: 13; Handler & Fierston 2011: 818). Therefore, Handler and Fierston suggest that in remedial interventions, decoding, fluency, vocabulary, and comprehension should be trained (2011: 818). With regard to the different levels of dyslexia (cognitive, biological, behavioural), remedial programmes can

focus on the cognitive level, to strengthen the cognitive foundation for reading and writing, or on the behavioural level, to practice reading and writing directly. Depending on the specific difficulties, remedial training might concentrate on reading, spelling or on both types of difficulties (Steinbrink & Lachmann 2014: 170).

Steinbrink and Lachmann present a selection of remedial programmes that are used in German-speaking areas and that have been proven effective (2014). Some of the programmes concentrate on the enhancement of phonological awareness, auditory processing and grapheme-phoneme correspondence, whereas others focus on fluent reading or spelling using different methods. The results showed that many dyslexic individuals who undergo remedial programmes are able to improve their skills (Steinbrink & Lachmann 2014). As Nijakowska points out: “Provided considerable attention and time is devoted to the remedial activities, there is a realistic chance that reading problems can substantially decrease or even disappear“ (2010: 89). This was also confirmed by Temples et al. who were the first researchers able to demonstrate with the help of brain imaging scans the changes in brain functions of dyslexic children after they had undergone a specific computer-based remedial training (2003). The children improved in various fields such as word reading, pseudo-word decoding, passage comprehension, oral language ability as well as rapid naming. Moreover, the researchers showed that the remedial training led to an increased activity in several brain areas, even though the areas were not as active as those of non-dyslexic children (Temples et al. 2003).

On the whole, a remedial programme always needs to be adapted to the individual needs of each dyslexic person. Hence, remedial programmes that include training on phonological awareness are only reasonable if phonological deficits have been tested (Landerl 2013: 14). Therefore, Landerl warns making any generalisations about effective training programmes based on case studies or on reports in which authors write about their own experience with dyslexia. Even though those reports may provide interesting insights, it is essential to take the individual weaknesses and strengths of an affected person into consideration when planning a remedial training (Landerl 2013:14). Moreover, it needs to be pointed out again that this does not mean that remedial programmes can eliminate the cause of dyslexia; instead, they help affected individuals to handle the effects.

So far this paper has focussed on providing a definition of dyslexia, including its effects, possible comorbidities, causes and remedial programmes. One aim was also to highlight controversial issues about dyslexia and to show that it is not simply a reading and spelling weakness, but a complex disorder, and that to fully understand it, its various aspects need to be considered. The following chapters will shift the focus onto dyslexia in the context of school, language learning and teaching, starting with a discussion of the situation in Austria.

3. Policy and legal framework in Austria

Since the empirical part of this thesis concentrates on EFL teachers who work in the Austrian school system, a discussion about the situation of dyslexia in Austria is inevitable. Therefore, the following section will present insights into official rules and regulations published by the authorities responsible for schools and education.

First of all, it needs to be pointed out that within the literature published in German, two distinct concepts can be found. On the one hand, dyslexia is translated with the German term ‘Legasthenie’ or ‘Lese- und Rechtschreibstörung’, which means reading and spelling disability. On the other hand, another concept exists, the so-called ‘Lese- und Rechtschreibschwäche’ (LRS) that can be translated as reading and spelling weakness. In contrast to dyslexia, the latter is assumed to be temporary and as such can be overcome (Steinbrink & Lachmann 2014: 5). Furthermore, it can be caused by various psychological and physical problems, such as a difficult situation in the family or seeing and hearing impairments (Kopp-Duller 2011: 18).

Despite similar symptoms, LRS is clearly different from dyslexia and thus, the need to distinguish these two concepts has been stressed (Kopp-Duller 2011: 18). Other authors, however, use the term LRS to refer to both types of reading and spelling difficulties. This is, for example, done in documents published by the Austrian Ministry, in which LRS is used as an umbrella term to refer to all kinds of reading and spelling difficulties, including dyslexia. The authors justify this by emphasising that *every* child with problems in this field needs to be offered support, be it a weakness or a disability (Hallerl &

Landerl 2013: 5), or that assistance is necessary regardless of the cause and severity of the deficits (Stadtschulrat Wien 2014: 1). It can be questioned, however, if the specific cause of the reading and spelling problem may not have an impact on the way students can be supported, and hence should be considered indeed.

In Austrian schools, a large number of teachers of all subjects face the challenge of having to deal with reading and spelling impairments in the classroom. According to official estimates, in every classroom one to two children have LRS and approximately 20 percent struggle to understand even easy texts (Landerl 2013: 9). Although problems with comprehension do not necessarily arise from dyslexia, it is one possible cause. As a consequence of such high numbers, the Austrian Department of Education published a text on their website in order to instruct teachers to be sensitive to the needs of dyslexic children (BmBF). Moreover, it has been stressed by the Ministry that teachers should not only be aware of the specific difficulties but also should be able to recognise affected students, their symptoms and to cater for affected learners:

Die hohe Prävalenz der LRS macht es weiters erforderlich, dass Lehrkräfte mit diesen Schwierigkeiten vertraut sind und über Kenntnisse über die typischen Symptome, Entwicklungsverläufe und Einflussfaktoren verfügen. Sie müssen in der Lage sein, LRS auf Basis von gängigen Screeningverfahren und der eigenen Beobachtung frühzeitig zu erkennen, SchülerInnen mit LRS im Rahmen des allgemeinen Unterrichts geeignet zu unterstützen und ggf. weitere Fördermaßnahmen in die Wege zu leiten. (Hallerl & Landerl 2013: 45).

In order to acquire this profound knowledge, teachers *can* participate in further trainings (Hallerl & Landerl 2013: 45) or, as the authorities in Vienna strongly recommend, teachers of all subjects should acquaint themselves with the topic LRS (“Es ist ebenso wünschenswert, dass sich Lehrer/innen aller Gegenstände mit dem Thema LRS näher beschäftigen [...]”) (Stadtschulrat Wien 2014: 4). Moreover, it has been suggested that every school should have at least one qualified LRS expert who can offer remedial courses to provide help for students (Stadtschulrat Wien 2014: 4, 5). So it depends on the teachers whether or not they inform themselves about LRS. To meet those high expectations by the Ministry quoted above, every teacher would need to be an expert in this field and hence the feasibility of those suggestions is rather questionable.

3.1. Regulations on testing and assessment

Several documents by the Ministry on the issues of dyslexia and LRS discuss the implications for assessment. As formulated in a public letter by authorities responsible for schools in Vienna, assessment of students with LRS should take place in accordance with general applicable laws on testing and evaluation (“Die besondere Berücksichtigung der LRS erfolgt durch eine intensive Ausschöpfung der gesetzlich vorgesehenen Möglichkeiten der Leistungsfeststellung und Leistungsbeurteilung“) (Stadtschulrat Wien 2014: 2). One crucial aspect of this is that grades in the annual report must not be based on written performance only, but the individual assessment of students with LRS should take into consideration those aspects that are not affected. Hence, students should be given the chance to display their strengths and knowledge in other areas, in order to compensate for weaknesses. This implies, for example, that in oral exams students should not be asked to write on the board (Stadtschulrat Wien 2014: 2).

A key issue discussed in those documents is the assessment of writing. The advantages of modern technologies, for instance, computer programmes which facilitate text writing and spell checkers are discussed. The authors stress that dyslexic students will clearly benefit from those tools and thus, affected students can be allowed to use them (BmBF). Moreover, great emphasis is put on the fact that when marking a written exam in language classes, more aspects than the amount and kind of spelling mistakes have to be taken into account (“Schularbeiten und andere schriftliche Leistungsfeststellungen dürfen daher nicht ausschließlich nach Art und Anzahl der Rechtschreibfehler beurteilt werden“) (BmBF). In order to stress this, a reference to a general school law on marking exams is made, according to which written tests in foreign language classes, for instance, need to consider idiomatic expressions, accuracy in grammar, the range of vocabulary, task achievement, spelling, register, organisation and layout (SchUG §16) (BmBF). This regulation holds true for every student, which means that no student can fail an exam only because of poor spelling (“Sowohl aus den Lehrplanbestimmungen als auch aus der Verordnung ergibt sich somit eindeutig, dass der Gesichtspunkt der Schreibrichtigkeit keinesfalls die einzige Grundlage der Leistungsbeurteilung sein kann und darf“) (BmBF). In terms of spelling mistakes in texts written by students with LRS, teachers are also asked to recognise mistakes that somehow correlate, due to phonological confusion, visual confusion etc., and to count the same types of mistakes only once rather than

marking every single mistake (Landerl & Haller 2013: 52). Unfortunately, no examples are provided to demonstrate clearly what kind of mistakes can be seen as related to each other.

In an official circular letter sent to schools in Lower Austria, the implications of LRS for foreign languages are also discussed (Landesschulrat NÖ 2007). The authors of the text acknowledge that LRS affects not only the first language but also foreign language learning. Skills in listening, reading, writing and speaking are of equal importance and hence, all of them need to be considered when grading a student (Landesschulrat NÖ 2007: 7). In terms of writing, emphasis is put on the fact that the aim of this competence is communication, rather than a text without any mistakes. In general, written texts of all students need to be assessed in this way, but if students are diagnosed with dyslexia, teachers are allowed to be relatively lenient with all kinds of mistakes (“Bei klar nachgewiesener LRS [...] können aber der Teilbereich Orthographie sowie durch Legasthenie bedingte Schwächen [...] je nach Schulstufe und Übungsgrad mit größter Toleranz beurteilt werden” Landesschulrat NÖ 2007: 8). This regulation on mistakes only applies, however, as long as texts are still comprehensible. If this is not the case, dyslexic students can indeed fail a written test. Furthermore, in English lessons, dyslexic students need to be allowed to compensate weaknesses in writing with speaking, listening and reading skills and oral exams and presentations also need to be included when grading a student (Landesschulrat NÖ 2007: 7-8).

According to a document by the Viennese Department of Education, students do not need to hold an official diagnosis in dyslexia in order to take part in remedial courses organised by the school or to have teachers take their deficits into account. Even though the usefulness of an official diagnosis has been pointed out, teachers, in cases of doubt specifically qualified teachers, can decide whether a student needs additional support (Stadtschulrat Wien 2014: 2-3). Authorities in lower Austria, however, put emphasis on an official diagnosis given by a psychologist or an LRS trainer (Landesschulrat NÖ: 2007). If students are officially diagnosed with a severe case of impairment that has an effect on spelling, special regulations apply (BmBF).

Overall, the legal framework for dealing with dyslexia in schools is rather vague. A large amount of it seems to depend on the interpretation and willingness of the specific teachers or on the school. In addition, the legal framework is complicated by the fact that official

documents and circular letters have been published by several departments, such as by the Ministry of Education (BmBF) and by the education authorities of each state (e.g. Stadtschulrat Wien, Landesschulrat NÖ). Depending on the document, slightly different aspects on how to handle dyslexia are described. Furthermore, it is questionable whether all schools can meet the demands for having an LRS expert in their school and whether all teachers can familiarise themselves with the topic, as requested by the authorities (Stadtschulrat Wien 2014).

Having discussed the policy on dyslexia in Austria and official regulations for schools, the next part of this paper will focus on foreign language acquisition and the problems dyslexic learners might face.

4. Dyslexia and Foreign Language Acquisition

This section concentrates on the question of how dyslexia affects foreign language acquisition. Although it is not the aim of this thesis to provide a theoretical background on foreign language learning, a brief insight into some underlying theory is offered to enhance understanding about language learning and learner differences in general. In addition, the Linguistic Coding Deficit Hypothesis, which is concerned with the impact of native language skills on foreign language acquisition, is presented. The last subsection considers the problems dyslexic language learners might encounter as identified in the literature. Therefore, a number of relevant studies and their findings are included that indicate the difference between dyslexic and non-dyslexic learners.

4.1. Foreign Language Acquisition

Over the years, a great number of diverse theories, models and hypotheses, attempting to explain how foreign language acquisition takes place, have been proposed. Depending on the specific perspective, such as the behaviourist, the innatist or the cognitivist perspective, the explanation of language learning differs. Theories related to the cognitivist perspective are, for example, the interaction hypothesis, highlighting the need

for active interaction and real communication, or the noticing hypothesis, emphasising that learners need to be actively aware of language aspects (Lightbown & Spada 2013: 114-115). Unfortunately, researchers have not yet come to an agreement on one general theory to explain language learning. As Lightbown and Spada clarify: “The complexities of second language acquisition, like those of first language acquisition, represent puzzles that scientists will continue to work on for a long time” (2013: 121). Despite the lack of one common theory, some insights into the broad field of foreign language research might be helpful in understanding learners, including those who struggle with learning, and in drawing conclusions for teaching.

Learning the mother tongue and foreign language learning might share a few similarities, but in fact, the latter is very different in terms of learning conditions and how learning takes place. One central difference is that foreign language learners have, in general, already learned at least one other language prior to the acquisition of a foreign language. On the one hand, the knowledge of how languages work can be an advantage. On the other hand, the first language might lead learners to draw wrong conclusions about the target language and thus, result in errors influenced by the first language (Lightbown & Spada 2013: 36). Also, the age of acquisition plays a significant role since first language learners are in general very young, compared to foreign language learners. As Lightbown and Spada indicate, the “cognitive maturity” or “metalinguistic awareness” of older language learners has an influence on the learning process (2013: 38). Furthermore, learning the mother tongue as a child is assumed to be rather independent of explicit correction, whereas this is probably more important for foreign language learning (Lundberg 2002: 170). These are only a few differences that illustrate how foreign language acquisition differs considerably from the first language learning process. Despite those differences in the learning process, the difficulties that dyslexic students have in their first language are likely to cause problems in foreign language learning as well, as will be discussed in the Linguistic Coding Difference Hypothesis.

Within the literature of language learning, interlanguage and its role in the foreign language learning process has been discussed. Interlanguage, a concept introduced by Selinker in 1972, refers to a language system that is neither the first nor the foreign language but consists of its own rules (Dal 2008: 441). It includes, according to Lightbown and Spada, “some characteristics influenced by previously learned languages,

and some characteristics of the second language, and some characteristics, such as the omission of function words and grammatical morphemes, that seem to be general and occur in all interlanguage systems” (2013: 43). Dal refers to the raised awareness to analyse learner language, hence interlanguage, as a “breakthrough in this field” (2008: 441). The interlanguage of learners can be seen as a dynamic system that gradually develops as input is provided. This process is, however, “not necessarily smooth and even”, but learners might face pauses before the interlanguage develops further (Lightbown & Spada 2013: 43). It has even been suggested that the interlanguage can ossify, resulting in features in learner’s language that do not change anymore (Lightbown & Spada 2013: 43). The concept of interlanguage shows two aspects that may be relevant to the discussion of dyslexia: Firstly, it shows again how the first language might influence the foreign language learning process, as it has an impact on the interlanguage; and secondly that difficulties in the acquisition of a foreign language are common among all learners, not only dyslexic ones..

Obviously, language learners differ in the degree of how proficient they become in an additional language. This can be observed in every language classroom. The variation is not necessarily due to a learning difficulty, but numerous explanations have been proposed for the cause of differences among all kind of language learners. Factors that are assumed to have an impact on language learning success are for instance learning style, learner strategies, age and personality (Dörnyei & Skehan 2003). In addition, it is generally acknowledged that learner motivation is a crucial factor. Especially in language learning, which is a lengthy process, motivation can change over time and is constantly influenced by various internal and external factors (Dörnyei & Skehan 2003: 617). Furthermore, anxiety can hinder learners from developing their language skills in a foreign language. According to Lundberg, both low motivation and anxiety are thought to be not the causes, but the result of language learning problems. However, affective factors probably also play a role at the beginning of the language learning process and thus, should not be ignored (Lundberg 2002: 171).

One central idea related to language learner differences is foreign language aptitude, which is also significant for predicting success in language learning. A researcher who is strongly associated with the topic is J.B. Carroll. He developed language aptitude tests and identified four linguistic factors for language aptitude: 1) phonetic coding ability, 2)

grammatical sensitivity, 3) inductive language learning ability and 4) rote memory for L2 materials (Lundberg 2002: 171). Differences in language aptitude can be observed among all learners, but it is also highly relevant when it comes to dyslexia and foreign language learning. The four linguistic factors that have been identified for language aptitude may provide an explanation for the struggles of dyslexic learners to become proficient language users and predict their success. Since phonological awareness is recognised as a core deficit in many dyslexic individuals, they are expected to achieve a lower score in language aptitude tests (Kormos & Smith 2012: 63). Empirical research has confirmed this assumption, showing that dyslexic learners performed worse than non-dyslexic learners on all components of language aptitude (e.g. Downey et al 2000 in Kormos & Smith 2012: 63). Hence, dyslexia can be a serious obstacle to learning a foreign language.

This section gave a brief insight into foreign language acquisition in terms of interlanguage, learner differences and language aptitude. Aspects that seem to be important for the discussion of dyslexic learners are especially that the interlanguage is also influenced by the first language and that the motivation as well as the anxiety of a learner can play a role in successful language acquisition. In addition, phonetic coding ability has been pointed out as a crucial factor for language aptitude. Despite the differences between native and foreign language acquisition that have been addressed, these two processes are not completely independent from each other. The native language skills of a foreign language learner and thus, also difficulties in the mother tongue, are assumed to have an impact on foreign language acquisition. The Linguistic Coding Difference Hypotheses considers this correlation and is therefore introduced in the following section.

4.2. Linguistic Coding Difference Hypothesis

The Linguistic Coding Deficit Hypothesis (LCDH), later Linguistic Coding Difference Hypothesis, was introduced by Richard Sparks and Leonore Ganschow in the nineties and is concerned with the impact of native language skills on foreign language learning (Nijakowska 2010: 71). Linguistic Coding refers to “deficiencies of students with LD [learning disabilities] in one or more of the linguistic codes (phonological, syntactic, and semantic) of their native language system” (Sparks & Ganschow 1993: 58). Competences

in those three fields are supposed to be the basis for foreign language learning (Nijakowska 2010: 69). A great number of other researchers refer to the LCDH hypothesis and emphasise that years of studies conducted in this field are in favour of the hypothesis; thus, support the idea that problems in foreign language learning are strongly related to language skills in the native language (e.g.: Nijakowska 2010: 71; Schneider 2009: 299; Dal 2008: 440). Consequently, dyslexic learners experience a disadvantage when acquiring a foreign language.

The LCDH hypothesis can, therefore, provide useful insights into dyslexia and foreign language learning and into the problems dyslexic individuals might encounter. Good encoding as well as decoding skills facilitate foreign language learning, hence, deficits in those fields can inhibit foreign language learning (Schneider & Crombie 2003: 4). All the subtle or overt language-related problems learners face in their mother tongue can reoccur when they learn an additional language (Schneider 2009: 299). Among the different language skills, weak phonological, as well as syntactic awareness, have been identified to have the most impact. According to the LCDH hypothesis, weak phonology-orthography awareness, the core deficit of many dyslexic individuals, is one major cause of early foreign language learning problems. Even though struggles with grammar and complex vocabulary structures might not have a negative effect at the beginning, they probably become significant as soon as the tasks become more complex (Schneider 2009: 299).

Another important finding proposed in the LCDH is that a negative attitude towards language learning is probably a consequence and not the cause of the problems (Schneider & Crombie 2003: 5). Therefore, Sparks and Ganschow propose that foreign language teachers who encounter a student struggling with language learning should not immediately blame a lack of motivation, but consider a cognitive explanation first (1993: 68). This might be especially difficult if students master their native language well. They might not display difficulties in their first language due to the help of learning strategies, but underlying deficits can still impact reading, writing, listening and speaking skills in the foreign language (Schneider & Crombie 2003: 5). However, it has been suggested that generally students who have a good command of their mother tongue are likely to have higher foreign language proficiency (Nijakowska 2010: 69). Problems affect both native and foreign language, and in return, strategies can also trigger skills in both languages.

Therefore, teaching strategies that were effective in one language also have a positive impact on the other language (Schneider 2009: 300). Overall, the Linguistic Coding Hypothesis provides an insight into how first and foreign language learning is connected to each other. Consequently, all language teachers should be aware of teaching strategies and how to support dyslexic language learners.

Having pointed out that dyslexic learners face troubles in language acquisition and also having given some reasons for their struggles, the last subsection of this chapter discusses the specific problems in more detail.

4.3. Difficulties of dyslexic language learners

Not everyone who struggles to acquire a foreign language is dyslexic. It is, however, especially demanding for dyslexic students. As Schneider and Crombie assert, learning to read, write, speak and listen in a foreign language is likely to present a difficulty to a great number of learners, but these difficulties are likely to be much more severe in dyslexic learners (2003: 7). Phonological short-term memory capacity, word-recognition skills and phoneme awareness have been referred to as “key abilities in the successful acquisition of another language”. Deficits in those fields are characteristic for dyslexia and hence, might hinder learners to become proficient language users (Kormos & Smith 2012: 65). In addition, as the LCDH hypothesis has suggested, their impairment in their native language is believed to affect foreign language learning as well.

Similar to the problems in the native language, the severity and kind of problems in a foreign language vary among dyslexic language learners (Dal 2008: 440). Dal points out several fields in which affected students might encounter problems:

Thus, dyslexic students may have problems distinguishing between words in the foreign language, storing new words and retrieving words from long-term memory (vocabulary). They might have problems learning the pronunciation of foreign words, becoming aware of the sound structure of foreign words (phonological awareness), learning the phoneme-grapheme-correspondences, the syntactic structure, the word formation patterns, and the grammar of the foreign language (2008: 440).

Hence, not only reading or spelling can be impaired, but also other competences, a fact that was also confirmed by Ghazaleh whose findings revealed that dyslexic learners

struggle with both receptive (reading and listening) and productive (writing and speaking) skills (2011: 163). It has been argued that “differences in how the brain processes literacy tasks into comprehensible information” are the cause of those struggles (Schneider 2009: 298).

The researchers Helland and Kaasa demonstrate in a study the differences between dyslexic and non-dyslexic language learners (2005). They compared written and verbal abilities of 12-year-old Norwegian dyslexic learners of English as a second language with a control group in regard to different skills such as comprehension, morphology, syntax, spelling, translation and reading. Overall, their findings revealed that “the Control group scored significantly higher than the Dyslexia group on all tasks” (2005: 54). However, the results also indicated great group differences among the dyslexic group. On the one hand, the study confirms again that dyslexic learners tend to perform more poorly than non-dyslexic learners and on the other hand, that not all dyslexic learners encounter the same problems. Thus, dyslexic language learners have to be seen as a heterogeneous group.

Vocabulary related difficulties faced by dyslexic learners might be due to problems with identifying parts in an unknown lexical item. Schneider and Crombie exemplify this problem with the help of the German word for *unbelievable unglaublich* (2003: 6). Dyslexic students who already know the word *believe* are often not able to recognise that <unbelievable> and <believe> share a word family. Thus, neither <un> is identified as a prefix meaning <not>, nor is <able> recognised as a suffix. Consequently, this hinders them to infer the meaning of words they do not know, which would facilitate the acquisition and the storage of new vocabulary. In order to be able to determine the meaning of words, linguistic analysis skills are required that dyslexic learners can only learn when they are explicitly explained to them (Schneider & Crombie 2003: 6).

Furthermore, learners’ language-related attitudes can have a significant impact on the success of language learning. Kormos and Smith put emphasis on this aspect, by stressing that “[m]otivation, language learning anxiety and self-confidence are generally listed among affective factors that might potentially influence language learning outcomes” (2012: 64). A study conducted by Kormos and Csizér examined the language learning motivation of dyslexic and non-dyslexic students in Hungary (2010). More than 1000 pupils, including 184 officially diagnosed dyslexic students, received a questionnaire on different language learning aspects such as motivation, parents’ encouragement, language

learning attitude and self-perception. Their findings indicate that dyslexic learners have a “considerably more negative self-concept in the academic domain of foreign language learning” compared to their non-dyslexic peers (2010: 243).

Great struggles right at the beginning of learning can have long lasting effects on language acquisition. One important conclusion Kormos and Csizér draw from the abovementioned study is that “[l]anguage learners with dyslexia might easily get caught in a vicious circle because, owing to their problems in language learning, they lose their motivation, which then might lead to their experiencing further failures” (2010: 247). Likewise, Nijakowska points out that dyslexic learners who read slowly and as a result of that, have comprehension problems, are already at a disadvantage in the beginning. This might then lead to a decrease in motivation and in turn make them lag behind better readers (2010: 68). Low self-esteem and the lack of motivation can worsen the language-related problems (Schneider & Crombie 2003: 4). Without a doubt, this situation poses a challenge to language teachers as well as to dyslexic students.

Nevertheless, all those possible obstacles should not hinder dyslexic learners in acquiring a foreign language, nor does it imply that dyslexic learners cannot be successful. Even though students who face problems in their mother tongue are likely to encounter problems in foreign languages, ranging from mild to severe difficulties, it has been proposed that no general disability for foreign language learning exists (IDA 2012b: 1). As Dal underlines: “‘[D]ifficult’ does not mean ‘impossible’” (2008: 443). To facilitate learning, strategies and learning techniques need to be established by the teacher and the affected students (Dal 2008: 2012). Moreover, teachers should be aware of learners’ weaknesses as well as of their strengths (IDA 2012b: 1). Frequently the latter tend to be overlooked. Considering potential abilities, however, is just as important as recognising potential problems, since dyslexic learners might be able to use their talents in logic and reasoning strategies to handle the difficulties or to compensate weaknesses (Olagboyega 2008: 24). The subsequent chapter will therefore shift the focus onto teaching.

5. Dyslexia in the EFL Classroom

This chapter will concentrate on dyslexia and foreign language teaching, one of the central themes of the present thesis. First of all, the matter of dyslexia in different orthographies, especially in English, is discussed to show how the linguistic characteristics of a specific language might affect learning. Before language teachers are interviewed about their actual teaching practices and experiences in the empirical part of this thesis, the second subchapter reviews the literature on teaching languages to dyslexic students. In the last subsection an insight into multisensory structured learning, a teaching approach acknowledged to be particularly suitable for dyslexic learners, is provided.

5.1. Dyslexia and different orthographies

In the course of the discussion about dyslexia and language learning, it is important to note that the characteristics of a script can have an impact on how dyslexia manifests itself. This is due to the fact that languages differ considerably in the way their spelling system is organised. Being aware of the linguistic characteristics of a language might be helpful in increasing awareness of the problems dyslexic learners are likely to face and to develop teaching strategies.

The notion of orthographic depth refers to the grapheme-phoneme correspondence and describes the degree of regularity and consistency of a language (McDougall, Brunswick & Davies 2010: 10). Finnish, for instance, is regarded as having a shallow or transparent orthography, compared to English, which has a deep, opaque orthography (McDougall, Brunswick & Davies 2010: 10). Frith points out the correlation between writing system and dyslexia by emphasising that “[c]ulture also influences the outcome of dyslexia through the writing system it offers. [...] The more complex the system, the more difficult it is to acquire for normally developing and for dyslexic children alike” (1999: 210). Therefore, it has been proposed that the behavioural manifestations of dyslexia can differ, depending on the language. Hence, in English, dyslexic readers might face primarily problems with accuracy, whereas in Finnish the main struggle in reading is probably fluency (Snowling, Gooch & Henderson 2012: 737). Despite such differences, it seems

clear that the underlying deficits are the same in all alphabetic languages (Snowling, Gooch & Henderson 2012: 737).

English is generally recognised as a rather complex language, mainly because of the inconsistent letter-sound relationship (Peterson & Pennington 2012: 1998). As Dal points out, the English language, using an alphabet consisting of 26 letters, has a “phonemic inventory of over 40” (Dal 2008: 443). On the one hand, one letter can be pronounced in different ways, as it is the case with the letter <i> for example, in the words *bid* /bɪ d/; *bird* /bɜ : (r)d/; *bide* /baɪ d/ (Dal 2008: 444). On the other hand, one sound, such as /i:/ can be presented by different letters: <ee> *teeth*, <ea> *please*, <-y> *happy*, <-ey> *donkey*, <ie> *piece*, <ei> *ceiling*, <e-e> *complete* (Nijakowska 2010: 205).

This and other irregular words like *yacht* can cause severe reading and spelling difficulties. However, the English writing system is not completely unpredictable. According to suggestions, nearly half of the words can be predicted due to a letter-sound correspondence, and only four percent of the words in English are completely irregular, thus, need to be learned with a whole word method (IDA 2011: 2). The knowledge that the orthography of English does indeed have rules might motivate students who struggle with the spelling (IDA 2012b: 2). Teachers who are aware of language-specific issues may be able to predict and react to potential pitfalls for dyslexic EFL learners.

Overall, it is impossible to generalise and to choose one foreign language as the most suitable for all dyslexic language learners. As Schneider explains, different aspects such as a student’s individual strengths and weaknesses, as well as language-specific factors need to be taken into consideration when choosing a foreign language. Since students’ abilities in their native language also play a role in second and foreign language learning, their reading, writing, spelling and comprehension skills in their first language should be considered as well (Schneider 2009: 300). The individual differences among dyslexic individuals have been already stressed. Consequently, a foreign language in which a dyslexic student can use his or her strengths would be the best choice. According to Schneider, fairly transparent languages like Spanish, Italian or German might be the best for learners with mainly phonological-orthographic struggles, whereas Latin, due to the limited vocabulary and its specific syntax, is preferable to students who are able to meet the syntactic challenge of this language (2009: 300).

However, even more important than the choice of the foreign language might be the way it is taught in school. Teachers are therefore responsible for considering the needs of all students, including those with learning difficulties. The main suggestions on teaching presented in the literature are discussed in the next section.

5.2. Teaching Strategies and Educational Adjustments

It has been suggested that the way English is taught in schools might hinder dyslexic learners to fulfil their potential as language users. Schneider argues that “[t]wo 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 in public schools and at universities” (2009: 298). According to her, languages are mainly taught in a way that ignores the needs of dyslexic learners for “explicit, direct, and meta-cognitive instruction”. Instead, students are often required to learn through immersion and implicit instruction (2008: 298). This is, however, insensitive to the needs of dyslexic learners and hence some of the methods and materials may need to be adapted.

In line with Schneider’s statement, Margaret Byrd Rawson, a former President of the International Dyslexia Association, stresses:

Dyslexic students need a different approach to learning language from that employed in most classrooms. They need to be taught, slowly and thoroughly, the basic elements of their language—the sounds and the letters which represent them—and how to put these together and take them apart. They have to have lots of practice in having their writing hands, eyes, ears, and voices working together for conscious organization and retention of their learning (IDA 2013b: 11).

Likewise, it has been stressed that the *teaching style*, rather than the content, needs to be altered, in order to create a dyslexic-friendly language classroom (Krzyżak 2006). Therefore, a number of recommendations on how to facilitate learning for dyslexic students, as pointed out in the literature on dyslexia, will be presented and discussed in this chapter.

The textbook that is used in a language class has, in general, a significant impact on the organisation of a course, since it influences what content is taught in which order or what topics are covered. Therefore, Krzyżak urges that teachers should have the needs of

dyslexic students in mind when choosing a textbook (2006). One essential criterion for the choice is a clear overall structure so that dyslexic pupils are aware of what each unit is going to deal with (Krzyżak 2006). Despite the fact that the difficulties of dyslexic individuals do not arise from visual problems, it has been pointed out that a larger size of the font can facilitate reading tasks for them (Krzyżak 2006, IDA: 2013b: 8). Concerning the content, Schneider and Crombie point out that sometimes more complex structure are presented in course books prior to easier ones for various reasons, which may cause severe problems for struggling students (2003: 47). In addition, dyslexic students often benefit from explicit explanations, but a great number of textbooks do not explain grammar explicitly. The reason for this, as Schneider and Crombie assert, is that “this does not go along with current overall FL teaching philosophies” (2003: 26). Teachers who are aware of such issues, however, are able to choose an appropriate textbook or to adapt the material in a way that helps dyslexic students and others who experience difficulties to succeed.

A prerequisite for altering methods or material is that teachers are aware of the needs of dyslexic learners and that they acknowledge the fact that dyslexic students will neither outgrow their specific difficulties nor that their underlying problems will be suddenly cured. According to Schneider and Crombie, “[f]or the foreign language educator, dyslexia can be seen as a difficulty that slows down the ‘in-brain’ language” (2003: x). Consequently, dyslexic students need more concentration and time to fulfil tasks, compared to other students (Schneider & Crombie 2003: x). Dal recommends considering the following six aspects in order to help dyslexic students and to facilitate their development of interlanguage:

- phonological processing (poor grasp of sound, lack of awareness of individual sounds within words);
- memory (working memory might be limited, there may be inaccurate representations in long-term memory);
- auditory discrimination (uncertainty of the sound which has been heard, difficulties in discrimination between similar sounds, difficulty in knowing where a spoken words ends and a new word begins);
- sequencing (getting things in order, e.g., letter order in words);
- speed of processing information (tendency to be slower in responding to incoming information);
- visual discrimination/recognition (poor ability to differentiate between similar-looking words) (2008: 444-445).

Tasks that require phonological processing are assumed to create the main obstacles for dyslexic EFL learners (Nijakowska 2010: 112). Thus, in concurrence with Dal's above-quoted recommendations, Nijakowska suggests training phonological awareness skills so that students become aware of sound-letter relationships, which will also improve their reading skills. This can be done by following a "developmental sequence", which means concentrating on "bigger chunks within words" before dealing with individual phonemes, with the final aim that students can distinguish individual sounds and recognise their position within the word (Nijakowska 2010: 153). Nijakowska recommends employing auditory techniques like clapping as well as visual aids such as boxes, cards or tokens for training of phonological awareness. Such aids representing sounds can help students to develop an understanding of separate sounds within a word, to discriminate between them or to raise awareness of the letter sound relationship (2010: 153). The following figure provides a sample activity in which tokens and cards with pictures are used as visual aids. The exercise can be used for practicing blending individual sounds and was published by Nijakowska (2010: 161).

6. Segmenting and blending individual sounds in words.	a) ♦ Students look at the pictures, listen to the teacher saying words, count the phonemes and place a marker from the left to the right for each phoneme heard. Later letters can be put on tokens.
	b) ♦ Students look at the pictures, listen to the teacher saying words, count the phonemes and cut the pictures into the number of pieces corresponding to the number of phonemes.

Figure 5: Activities to increase phonological awareness.

As a language learner, expanding the vocabulary is a challenging task since numerous aspects have to be remembered. Learning new words includes memorising "the meaning, pronunciation, and spelling of the word as well as the syntactic, morphological, idiomatic and pragmatic information associated with it" (Aitchison 1987 referred to in Kormos &

Smith 2012: 132). Due to their specific deficits, this is often especially difficult for dyslexic learners. One way to facilitate remembering new words and their spelling is to utilise mnemonic devices. Kormos and Smith, for instance, provide the following example for a mnemonic device for the spelling of the word ‘because’ through the sentence “‘Big Elephants Can Always Understand Small Elephants’” (2012: 131).

Moreover, Kormos and Smith suggest using drawings that include the letters of the word, like the ones shown in Figure 3 (2012: 131). The pictures as well as the process of drawing may help to memorise the spelling more easily. Schneider also emphasises that “[t]he more complex a language concept is the more *hands-on color, and shape coded materials* are necessary to help students with dyslexia understand and internalize them” (2009: 302). In order to do this, Schneider urges, similarly to the prior mentioned suggestions by Nijakowska, teachers can make use of visual aids such as blocks, cards, magnetic devices etc. to explain complex compounds or pre- as well as suffixes (2009: 302). It is, of course, neither possible to remember every word with such aids or with mnemonic devices, nor are they appropriate for every student. The best way would probably be to teach students about effective learning-strategies, such as the one shown in Figure 3 so that they can find out themselves what works best for them.

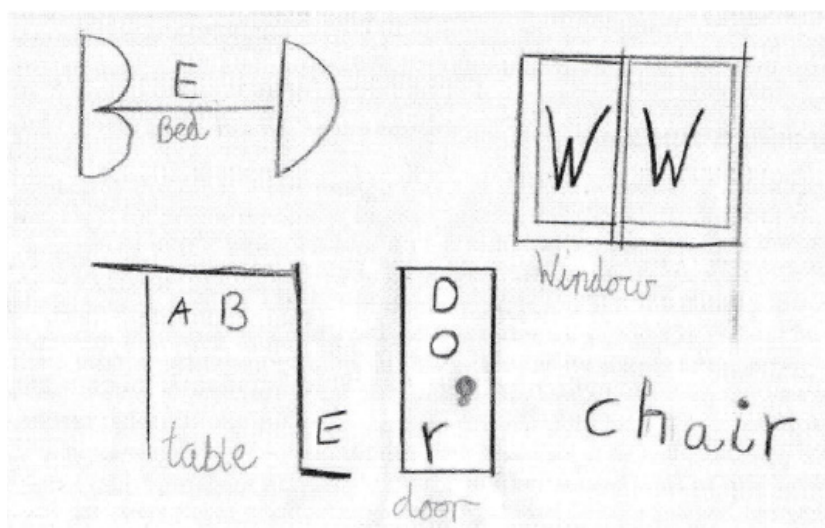


Figure 6: Visual technique to memorise words.

Furthermore, motivating dyslexic students is an essential aspect of language teaching and it might be necessary to raise teachers’ and parents’ awareness of this important aspect. Since motivation has such a great impact on the success of language learning, Dal argues

that teachers need to encourage students as much as possible. The challenge, as he points out, is to make students see a reason for learning that is beyond passing an exam (2008: 442). Motivating students may be particularly necessary for those who struggle with language learning and who have already experienced failure in their first language. This means that in order to support dyslexic students with their foreign language learning difficulties, it is necessary not only to consider their cognitive skills but also to be aware of their attitudes and motivation. The central aim should be that dyslexic students, even if they might not achieve an excellent command of the foreign language, become confident in listening, speaking and understanding the foreign language (Schneider & Crombie 2003: xii.)

Overall, some minor modifications in language teaching, as presented in this section, might enhance language learning for dyslexic students and foster their success. The most important aspects, according to Kormos and Smith, are explicit teaching, avoiding progressing too fast and revising what has been taught (2012: 130). Explicit teaching is also a key element of the Multisensory Structured Learning Approach, a way of teaching thought to be highly beneficial for dyslexic learners. Therefore, a discussion of this approach is provided now.

5.3. Multisensory Structured Learning Approach

The so-called multisensory structured learning (MSL) approach refers to a specific way of teaching. A great number of researchers recommend this way of language teaching and acknowledge it to be particularly suitable for teaching languages to dyslexic learners (e.g.: Kormos & Smith 2012, Nijakowska 2010; Schneider 2009, IDA 2012b, Krzyżak 2006). In a document published by the International Dyslexic Association the benefits of MSL have been emphasised by stating: “A multisensory approach can be valuable to many; to the dyslexic child it is essential“ (IDA 2013b: 2). In addition to several principles, the central feature of this approach is the use of different channels to enhance language learning.

MSL was developed by Gillingham and Stillman on the basis of what is known as the Orton-Gillingham (OH) approach, a programme to teach reading and spelling to students with language learning difficulties (Nijakowska 2010: 124). The MSL approach is

applicable for first as well as for foreign language learning and can be used for teaching all aspects of language, including grammar, vocabulary and the different skills (Kormos & Smith 2012: 126). In addition, Kormos and Smith point out that it is an “excellent example of how students can learn the language as well as learn about the language at the same time” (2012: 126).

As the name suggests, multisensory structured learning is about using different channels simultaneously, by incorporating auditory, tactile, visual and kinaesthetic stimuli in teaching a language (Nijakowska 2010: 125). Basically, the approach is built on the idea that “the more modalities are involved in the learning process, the more effective it is” (Nijakowska 2010: viii). Teaching a new word, for example, may include the following steps: “[s]tudents repeat the word several times after the teacher (auditory channel), draw a picture to facilitate memorization (visual channel) and act it out (kinaesthetic channel)” (Kormos & Smith 2012: 127). Hence, focus is not only on listening to a new word and writing it, but students should also learn “how the speech organs and hand feel when producing it” (Bogdanowicz 1997 in Nijakowska 2010: 125). In order to serve the tactile sense, teaching may encompass a variety of materials, such as plasticine, sponges or wooden letters. The activation of those different channels is believed to help dyslexic students to memorise grapheme-phoneme relationships and to grasp the meaning of new vocabulary (Nijakowska 2010: 125).

Furthermore, MSL entails a metacognitive principle; namely, to encourage students to think *about* the language themselves. This means that instead of simply correcting students or telling them the answer, teachers ask questions, for example: “‘Why would you write ... this way?’, ‘Why would you pronounce it this way?’, ‘Where would you put this word and why?’, ‘Can you see a pattern here?’” (Schneider & Crombie 2003: 28). In order to get students engaged in such think-aloud activities, positive feedback and a supportive classroom atmosphere is indispensable. In addition, Schneider and Crombie point out that in lower grade levels it might be necessary to use the native language for those metalinguistic dialogues (2003: 28).

Regardless of the language, students should use their own words to explain and to ensure that they have understood the underlying language principles (IDA 2012b: 2). It has been supposed that students will be able to “self-identify and self-correct errors” and be more independent from the teacher if they practice metacognitive thinking on a regular basis.

(Schneider 2009: 301). The awareness of underlying language principles is probably an advantage for all students, not only for dyslexic ones. Moreover, those think aloud-activities are also part of dynamic testing, another element of MSL. By asking students to think about a metalinguistic feature, the teacher learns in an informal way if the person has understood the new content at all and can decide whether more support is needed (Schneider 2009: 301).

The MSL approach puts emphasis on an explicit way of explaining language aspects. As Nijakowska argues, at the moment, communicative approaches are frequently applied in foreign language teaching. Instead of teaching sound-symbol or grammatical rules directly, students are often required to infer meaning from the context (2012: 127). This way of teaching has also been criticised by Schneider, as presented in the previous section. Dyslexic students might fail to recognise language patterns and consequently, explicit instructions that make rules in language more transparent, are favoured in MSL (Schneider 2009: 301). Guiding questions and the chance to verbalise the rules themselves, as mentioned above, can raise student's awareness and help them to discover language aspects themselves (Schneider & Crombie 2003: 17). Moreover, explicit teaching is also about providing information on self-correction, study and test-taking strategies as well as helping them to comprehend graphs and charts in their foreign language books if necessary (Schneider 2009: 301).

Another crucial element of MSL is, for example, to teach in a very structured and sequential way. This means that language content is organised into smaller units, which are presented step by step from easy to more complex. An advantage of this is that new things can be built on the elements that have already been mastered. Moreover, the need of overlearning and repetition has been stressed in MSL (Nijakowska 2010: 126). Overlearning means that students are given the chance to repeat a language structure so often that automaticity is achieved. To avoid blind memorisation, the structures that need to be learned are practiced through a variety of tasks and different materials (Schneider & Crombie 2003: 50).

Overall, a multisensory teaching approach, consisting of all those elements, is assumed to be accommodative for dyslexic as well as non-dyslexic students (Kormos & Smith 2012: 127). Kormos and Smith point out two main reasons why the integration of different sensory channels, the central aspect of MSL, is helpful: First of all, it makes "the event of

learning memorable and enjoyable” for all learners. Secondly, including a variety of channels enables dyslexic students, for whom it is difficult to process and encode spoken information, to compensate their deficits in phonological processing (2012: 127).

It needs to be questioned, however, whether this kind of teaching is practicable and whether or how it can be realised. Teachers probably have to handle cases of mild to severe dyslexic students within the normal language classroom, which means that students will differ considerably in their pace of learning. Teaching according to the MSL approach, including vocabulary, metacognitive language skills teaching and overlearning, appears to be fairly time-consuming. Thus, the biggest challenge for teachers might be to adapt the teaching strategies and materials in such a way that all learners, advanced as well as slower ones, profit from them. Moreover, the limited amount of available material may be another burden. Nevertheless, it may be a good idea to include different aspects of MSL in the language classroom on a regular basis to support all language learners, not only dyslexic learners.

This chapter has not only described how the choice of the foreign language can have an impact on the manifestations of dyslexia but also how a foreign language should be taught according to researchers. The second part of this thesis will now present the empirical study that is concerned with dyslexia in terms of language acquisition and language teaching.

6. Research design and method

The empirical part of this thesis seeks to find answers to the research questions posed in the introduction. Hence, the study examines what experiences or observations teachers have made in their EFL classes. A further crucial issue addressed by the study is how or whether those teachers cater for the distinct needs of dyslexic language learners at all. It is, however, not the aim of this study to investigate if the teachers or the schools implement the recommendations by the Austrian school department mentioned in section 3. In addition, the study aims to show the challenges teachers face. This chapter explains the method employed for this study and presents reasons why conducting interviews were

chosen as a method. Moreover, details on the interview questions, the participants, the procedure and potential limitations of the study are presented.

6.1. Methodological Framework

For the above-mentioned purpose of the study, qualitative one-to-one interviews were conducted. Interviews have been asserted to be the “most often used method in qualitative inquiries” since they can be used and take place in so many different ways (Dörnyei 2007: 134). Typically, all interviews have in common that they involve one person, the interviewer, who wants to gather information and another person who provides this information (Cohen, Mansion & Morrison 2011: 351). More precisely, interviews can be defined as

a two-person conversation initiated by the interviewer for the specific purpose of obtaining research-relevant information, and focused by him on content specified by research objectives of systematic description, prediction, or explanation (Cannell and Kahn 1968 quoted in Cohen, Mansion & Morrison 2011: 351).

Interviews are, of course, not necessarily limited to two people. However, this definition indicates the important fact that an interview is different from an everyday conversation due to its clear purpose, its typically question-based nature and because it is “a constructed rather than a naturally occurring situation” (Cohen, Mansion & Morrison 2011: 349).

Interviews vary in their degree of structure, ranging from conversations with a fixed list of questions to ones without a detailed interview guide (Dörnyei 2007: 135). In structured interviews each person is asked the same questions in the same order and hence, this type can be compared to questionnaires or surveys, whereas in unstructured interviews the researcher “follows the course of the interview”, without any fixed set of questions (Loewen & Plonsky 2016: 91). Semi-structured interviews include the advantages of both extremes. They allow a comparison of the information gathered from several interviewees but enable the interviewer to be flexible at the same time. As Dörnyei explains:

[...] [T]he interviewer provides guidance and direction (hence the ‘-structured’ part in the name) but is also keen to follow up interesting developments and to let the interviewee elaborate on certain issues (hence the ‘semi-‘ part) (Dörnyei 2007: 136).

Consequently, an “interview guide” containing a number of questions, needs to be prepared in advance. These questions are posed to every participant, though not necessarily in the same way and order, which allows the respondent to elaborate further on issues raised in the interview (Dörnyei 2007: 136).

In relation to interviews as a research method, numerous drawbacks have been pointed out. One obvious disadvantage is that interviews are rather time-consuming compared to other methods. As a consequence of this, the number of participants is usually limited, which might hinder researchers from making generalisations from this data (Loewen & Plonsky 2016: 92). Furthermore, the interaction between interviewer and interviewee “is the source of both its advantages and disadvantages as a research technique” (Borg 1963 referred to in Cohen, Mansion & Morrison 2011: 352), since the interviewer might be biased (Cohen, Mansion & Morrison 2011: 352).

Likewise, Loewen and Plonsky point out that some possible effects of the interviewer on the participants and their answers needs to be considered. Interviewers might use leading questions or give the impression that one answer might be considered preferable to another one (2016: 92). Regardless of the interviewer, Dörnyei argues that participants might be influenced by “social desirability bias”. As he explains, this means that participants might only answer in a way that is in accordance with social conventions or norms, rather than saying what they really think (2007:141). Another drawback of interviews is the lack of anonymity of the interviewee (Loewen & Plonsky 2016: 92), which may even strengthen the above mentioned social desirability bias.

Despite those possible disadvantages regarding interviews, it is a highly appropriate research method for the specific purpose of this thesis. This study aims to give a sample of teachers’ personal experience with dyslexic students, their awareness of this topic and how they deal with it. Therefore, interviews which enable the interviewer to ask the participants for clarification or to encourage them to elaborate on aspects raised during the conversation, are preferable to other research techniques. Moreover, interviewees can raise topics or issues that seem important to them but have not been mentioned by the interviewer (Loewen & Plonsky 2016: 92). For these reasons, interviews were chosen to gather the necessary information for this study. In order to avoid the problems mentioned before, the interview questionnaire was piloted in advance to ensure that the questions are clear and not pointing the participants toward a certain answer. Furthermore, the

participants were told in advance that their names would not be mentioned in the analysis of the interviews to avoid any social disability bias.

A semi-structured interview, as Dörnyei explains, “is suitable for cases when the researcher has a good enough overview of the phenomena or domain in question and is able to develop broad questions about the topic in advance but does not want to use ready-made response categories that would limit the depth and breadth of the respondent’s story” (2007: 136). Since theoretical research had been done prior to the interviews, the questions were developed on this basis. The problematic fields in foreign language learning that are mentioned in the literature, for example, were addressed in the questions of the interviews. In addition, an interview guide supports comparability of the answers across participants (Dörnyei 2007: 135). Therefore, semi-structured interviews, rather than unstructured or structured interviews were chosen to carry out the research for this paper. This enabled me to compare answers and to find out whether teachers have any observations in common. Moreover, due to the nature of this type of interview, teachers were able to elaborate on a topic or to raise issues themselves.

6.2. Interview Guide

The questions for the interviews were developed based on the theory presented in the first part of this thesis and can be divided into four main themes. The first part of the interview was concerned with the teachers’ personal background. They were asked to provide some personal and school related information, such as how long they have been in service and whether the school offers remedial courses for dyslexic students. Initial questions like that have been suggested to be essential to “set the tone and create initial rapport” (Dörnyei 2007: 137) Thus, the aim of those questions is to create a friendly atmosphere, rather than to begin gathering highly relevant information. Nevertheless, their personal background and experience with dyslexia are, of course, interesting for the study. Moreover, one question was concerned with how they would themselves define dyslexia, which was, on the one hand, essential in order to avoid any misunderstandings, and, on the other hand, gave insight into their awareness of the topic.

The second part of the interview covered their general experience with dyslexic students. The questions were concerned with how often they have experienced officially diagnosed

dyslexic students and with their observations of non-linguistic aspects characteristic of dyslexic learners.

The third part of the interview guide focused on dyslexia in the EFL classroom. The teachers were asked, for instance, to explain in which of the four skills - reading, writing, listening, speaking - those students face problems, to describe the nature of the problems, and to mention other observations they have made of dyslexic language learners.

The last section was concerned with methods and educational adjustments for dyslexic learners and if the teachers being interviewed believe that it is necessary to employ modifications. Furthermore, the participants were asked how they mark the written tests of dyslexic students. As suggested by Dörnyei, the very last question included in the interview guide was a “final closing question”, which allows the participants to point out anything they consider important and has not been asked by the interviewer (2007: 138).

Throughout the interview, probe questions were posed, which were meant to “increase the richness and depth of the responses” as well as to clarify some answers (Dörnyei 2007: 138). The interview guide had been piloted three times in advance to ensure that the questions were unambiguous and to be able to estimate how long the interview would take. The interview guide is enclosed in the appendix.

6.3. Participants

For my research, I conducted interviews with six Austrian EFL teachers, two male and four female, from five different schools. The teachers work in diverse secondary school institutions in Vienna and have experienced dyslexic students in their EFL classes in lower secondary schools. Students, as pointed out in section 3, do not necessarily need to hold a document that certifies the official diagnosis in order to have their specific difficulties taken into account. For this research, however, only teachers who had officially diagnosed students in their classes were asked to take part. For reasons of anonymity, neither the name of the teachers nor the name of the schools is mentioned in the interviews. Instead, the teachers are referred to as T1, T2, T3, T4, T5 and T6.

The participants had disparate profiles in terms of age, years of service and knowledge about dyslexia. All of them but one pointed out that dyslexia was not a topic addressed in their teacher training. T4 stated that dyslexia was briefly mentioned in one of her courses at university. Although they had not received special training to become dyslexia trainers, T1, T2 as well as T3 pointed out that they had attended some kind of seminar in this field. T5 explained that dyslexia was not addressed in her teacher training or in any further training, but that she informed herself when she was confronted with it. One teacher (T6) noted that he does not know anything about the topic and that dyslexia was only addressed briefly by colleagues in his school.

The participants also vary in terms of how often they have had dyslexic students in their language classes. T1, with 34 years of teaching experience, explained that she experiences a number of dyslexic students every year in each level, from lower secondary school to the final classes of upper secondary school. T2, who has been in service for 29 years, estimated that in her school, two officially diagnosed dyslexic students can be found in every lower secondary class. T3 has been a teacher for 20 years and he reported that he has only had one student with this difficulty in his English classes so far. This boy attends his second year in grammar school at the moment. Similarly, T4 mentioned that she has only experienced two dyslexic pupils, a boy and a girl. She, however, started teaching only five years ago. T5, who has been in service for 12 years, stated that she has had overall approximately eight students in her classes who held an official diagnosis of dyslexia. T6, a male participant with 33 years of teaching experience, was not able to determine a concrete number of dyslexic students but stated that every year a small number of students show him a document that certifies the official diagnosis.

6.4. Procedure

The interviews were conducted between 25th May and 3rd of June 2016. Prior to the interviews, all the teachers involved were informed about the topic and the aim of the conversation, how the data will be used and how long the interview will approximately take. Since nonverbal cues are not essential for the findings of this study, audio, rather than video recording was used, which is also in accordance with Dörnyei's recommendation to only employ video if absolutely necessary (2007: 139). All of the

interviewees consented to be recorded. The interviews were carried out at offices in their schools, on the one hand, to minimise any possible distractions, and, on the other hand, to create an atmosphere that is comfortable to them. Only one of the teachers preferred to be interviewed in a coffee house in Vienna. All of the interviews were conducted in German, the native language of all participants. The length of the individual interviews varied from 20 minutes to approximately one hour. After all interviews were carried out, they were transcribed. The transcription conventions used are enclosed in the appendix of this thesis.

6.5 Coding and analysis of transcripts

In order to analyse the interviews and to compare the answers of the participants, the transcripts were coded. Six main themes, including awareness of the topic dyslexia, non-linguistic difficulties, difficulties in language learning, materials and teaching strategies, grading as well as critical voices on dyslexia emerged on the basis of the interview guide and the research questions. Each of these main themes comprises several subcategories, which derived mainly from the interviews themselves. Slow pace, for example, was mentioned several times and hence, this was established as one code. During the initial coding phase, the codes had to be slightly reorganised. The need to formulate additional codes emerged, whereas some other codes merged together. Moreover, some of the utterances fit into and were relevant to more than one code, thus they were assigned two categories. In the figure below (Figure 4), the thematically organised codes are shown.

Theme	Code
Awareness of the topic dyslexia	Personal definition and knowledge of dyslexia
	Awareness of school regulations
Non-linguistic difficulties	Behavioural problems
	Motivation
	Difficulties with motor skills/ handwriting
	Slow pace and need for more time
Difficulties in language learning	Impact on EFL learning
	Problems related to writing and copying
	Problems related to oral language
	Problems related to reading
	Problems related to listening
	Grammar

	Vocabulary
	Specific task types and other difficulties in language learning
Materials and teaching Strategies	Teaching strategies
	Textbook
	Adaptation of material and other educational adjustments
Grading	Grading written tests
	Grading in general
Critical voices on dyslexia	Is the problem really caused by dyslexia?
	Other students have this problem too
	Dyslexia as an excuse

Figure 4: Overview of the codes

6.6. Limitations

Conducting interviews is a qualitative research method and hence, usually does not allow for drawing any generalisations, in contrast to quantitative research (Loewen & Plonsky 2016: 77; Dörnyei 2007: 41). As Loewen and Plonsky put it, generalisation “is based on the idea that that taking a sample from a larger population will allow researchers to make inference about the population” (2016: 77). Clearly, the most important limitation of this study lies in the small sample size consisting of six participants only. It has been argued that there is no rule of thumb regarding how many people should be interviewed, but that the number “depends on the purpose of the interview” (Cohen, Mansion & Morrison 2011: 361). Albeit the interviews of this study clearly do not allow any inferences about dyslexic students or teachers, they can provide insights into the individual experiences of a small number of teachers.

7. Interview Analysis

This chapter outlines the results of the conducted interviews. The utterances were coded according to the categories shown in Figure 4 and the summaries are presented in this way in the followings subsections. A discussion about the results will follow in chapter 8.

7.1. Awareness of the topic dyslexia

This section presents a summary of the interviewees' answers about how they define dyslexia and about school regulations. The teachers were asked to define dyslexia, on the one hand, to learn what they associate with it and, on the other hand, because their knowledge about it might also have an influence on other interview questions. Thus, their definitions may be useful for the comprehension of other answers.

7.1.1. Personal definition and knowledge of dyslexia

Four of the participants defined dyslexia as a reading and spelling disorder (T1, T2, T4, T5), whereas T3 and T6 basically described it as some kind of problem with sequences of letters (*“das eine ist natürlich die verbuchstabelung, was alle leute immer sehen“* T3: line 39; *“ahm, aber es ist offensichtlich eine schwierigkeit, ahm, so auf, jedenfalls auf den ersten blick buchstabenfolgen richtig zu erfassen“* T6: lines 59-61). T1 also mentioned some problems with phonetics (T1: lines 193-194) and T2 was the only one who briefly addressed the distinction between the two distinct concepts of dyslexia (Legasthenie) and reading and spelling weakness (Lese- Rechtschreibschwäche) (T2: lines 43-47). In the course of the interview, T2 also emphasised twice that dyslexia is not a matter of being unintelligent (T2: line 363; 378). Two interviewees (T1, T5) also pointed out the individual differences of dyslexic people regarding the symptoms (T1: lines 36-37; T5: lines 39).

When T1 talked about strategies to compensate weaknesses, she touched upon the issue of overcoming dyslexia by stating that some of the students outgrow being dyslexic:

[...]manche kinder verlieren es in der pubertät, mache kinder verlieren es wenn sie älter werden, erwachsen werden, aber ich hab auch schon maturanten gehabt die dieses problem hatten (T1: lines 122-124).

Similarly, T2 pointed out that dyslexia often disappears or that the deficits at least decrease with the help of strategies (T2: line 181). The other interviewees did not raise this topic.

7.1.2. Awareness of school regulations

All of the interviewees but one (T4) were aware that official regulations on how to handle dyslexia in the classroom, as they are presented in chapter 3, exist. In contrast to the other participants, T4 pointed out that there are no regulations (T4: lines 39-40). T6, however, explicitly talked about an official document published in 2002, rather than the one sent to schools in 2014 (T6: line 319) and T3 was not sure whether regulations apply to English lessons as well (T3: lines 74-75). Those two interviewees also expressed criticism on the vagueness of the regulations (*“ja. die gibt es, die habe ich auch mit und die sind derart schwammig und unsinnig, dass, ah, ich damit nichts anfangen kann“* T6: lines 66-67; T3: lines 81-82). In addition, T3 strongly disapproved of the statement by the Ministry that students do not need to hold an official diagnosis in dyslexia (T3: lines 83-84).

7.2. Non-linguistic difficulties

As pointed out in section 2.2.3., dyslexic individuals may exhibit problems with behaviour or attention. Therefore, several questions were concerned with this topic and the teachers were asked whether they had noticed any problems in this field. The following four subchapters will present a summary of the results in terms of behaviour, motivation, difficulties with motor skills and slow pace.

7.2.1. Behavioural problems

From the interview data, it is apparent that behavioural problems have not been observed in the students in question by almost any of the interviewees. T6 even stated that he has neither noticed any behavioural, nor any learning difficulties (T6: lines 84-86). Only T4 described her dyslexic boy as displaying severe behavioural problems, which also distract other students in the class (T4: lines 179-181). She elaborated on his problems by explaining that he stands up all the time, habitually calling out answers and behaving in an intrusive way (*“ja also, sie nicht, das mädchen nicht, aber der junge ist schon SEHR (...) aufmerksamkeitsbedürftig und wahnsinnig hibbelig. der will die ganze zeit aufstehen und ja, und wenn er etwas zu sagen hat dann sagt er es halt einfach ohne aufzuzeigen und solche sachen“* T4: lines 58-61). In addition, she pointed out that he tends to get

distracted easily by other students (T4: line 67). The interviewee voiced doubts, though, as to whether this disruptive behaviour is interrelated with dyslexia (T4: lines 75-77).

7.2.2. Motivation

Regarding motivation, T1, T3, as well as T5 talked about feelings of frustration that they have noticed to be present in dyslexic students in their classes. All of them emphasised that it is extremely frustrating for their dyslexic students when they prepare themselves for tests and study a lot, but achieve bad grades (T1: lines 89-90; T3: lines 173; 203-205; T5: lines 382-385). Especially T3 pointed out that it rankles the dyslexic boy in his class, who is extremely ambitious, when he gets low grades on vocabulary tests (T3: lines 503-505). The other language teachers have not observed problems in this field.

7.2.3. Difficulties with motor skills/ handwriting

Another problem observed by some of the interviewees is that some dyslexic students have difficulties with motor skills or specifically with handwriting. Whereas T1 explained that she has observed that some of the dyslexic students have difficulties with orientation when they play with a ball during breaks and that handicraft teachers in her school have noticed motor deficits (T1: lines 90-97), T2, T3 as well as T6 stressed poor or illegible handwriting (T2: lines 292-293; T3: lines 63-66). T6, for example, emphasised that he does not know whether the poor handwriting is linked to dyslexia, but that he has observed this in dyslexic students (T6. lines 212-216). In addition, T2 pointed out difficulties with the layout when writing a text. As she specifies, she has frequently experienced that dyslexic students struggle to indent lines:

also, dass ihnen nicht in den kopf geht, dass ich sage eine fingerbreite, oder egal, ja, schreib nicht einen millimeter vom seitenrand schon weg. dort wo das loch kommt schreiben sie dann dort rundherum. man würde das nicht glauben, aber das ist eher sowas was speziell kinder mit diesen problemen glaube ich, fällt ihnen schwer. also layout, eigentlich layout, ja (T2: lines 297-301).

T5, however, explicitly asserted that her dyslexic students do not tend to have poorer handwriting skills than other students. According to her, some students basically write more beautifully than others, regardless of being dyslexic or not, and that some of the

dyslexic students even write more neatly than their classmates. Therefore, as she states, dyslexia cannot be seen as an excuse for illegible handwriting (T5: lines 242-246). Thus, her experience is opposed to what has been stated by some other interviewees.

7.2.4. Slow pace and need for more time

The interviews revealed that all of the participants have observed some problems with time. Especially T2 commented on the slow reading speed of one student:

ja also zeitproblem, die sind im allgemeinen sehr langsam. also ich habe jetzt eine schülerin das ist mir noch gar nicht so aufgefallen gewesen WIE langsam die ist. und zwar beim lesen. also sie ist beim schreiben langsam, aber das hat sie ganz gut trainiert[...] (T2: lines 113-116).

also sie versteht was sie liest, aber das dauert, ohne übertreibung zehn mal so lange, mindestens, wie beim durchschnittlichen leser (T2: lines 122-123).

As T2 elaborates, the slow pace also has an impact on learning, since the girl has problems to keep up when a text is read in class (T2: lines 118-120). She struggles, however, only with longer written texts, rather than with short instructions (T2: lines 126-128). On the one hand, due to the slow pace, the girl lacks time to do the exercises in school and also needs more time to do her homework, which might hinder her practising more at home, as the teacher assumed. On the other hand, the teacher has the impression that comprehension problems also arise from the slow pace (T2: lines 145-155). Similarly, T4 pointed out slow reading skills and again T2 as well as T5 noted a slow pace in general (T4: line 138; T2: lines 134; T5: lines 93; 70). T5, however, asserted that students who practice at home are able to increase their speed, for example, in writing (T5: lines 234-237). T1 explained that she assumes dyslexic children need more time to read, but emphasised also that children, in general, have different ways to handle time and work at their own pace (T1: lines 102-103, 187-188;).

Three interviewees, T3, T4 and T6, talked about the students' need for more time regarding writing. As T4 explained, in her experience dyslexic students need more time to copy a text from the board compared to other students, as they tend to write down one word and then look at the board again before copying the next word (T4: lines 158-161). Both T6 (T6 lines 139-140) and T3 perceived dyslexic students as slow when writing a text themselves, as T3 described in the following quote:

er hat gesagt eine stunde braucht er für einen text wo andere 10 minuten schreiben, 7 minuten. die schnellen schreiben das in 7 minuten runter. die sind unter 7 minuten fertig, das glaubst nicht wie schnell die sind. und er braucht extrem lange (T3: lines 343-346).

Overall, even though teachers' views and observations vary, slow pace was mentioned by each of them and hence, might be regarded as a common characteristic of dyslexia.

7.3. Difficulties in foreign language learning

One central part of the interview was concerned with the experiences the participating teachers have made with their students in terms of language learning. Thus, the following subsections will consider, first, the impact of dyslexia on EFL learning in general and later, difficulties with productive as well as with receptive skills. Moreover, struggles with grammar, vocabulary acquisition, specific task types and other problems will be summarised.

7.3.1. Impact on EFL learning

Both T1 and T2 stated clearly that they believe that dyslexia has a negative impact on EFL learning (T1: line 106; T2: lines 133-135) and, as T1 elaborated, that dyslexic students face more struggles in written as well as in oral language, compared to their non-dyslexic classmates (T1: lines 109-113). T5 confirmed this by emphasising that dyslexia has an influence on the acquisition of the foreign language, depending on the degree of severity of the learning difficulty (T5 line: 84). This teacher even recognised at least two students, as she stated, who had not been diagnosed, but because they displayed typical problems in the English lesson, she asked them to get tested (T5: lines 94-97).

T3, when asked this question, replied that dyslexia has indeed an impact on his student's English learning and that he faces serious problems (T3: line 164-169). Over the course of the interview, however, he claimed that nothing is extremely difficult for the boy and that he can do any exercise, given that he has prepared himself properly (T3: line 451-452). Later, the participant maintained that the boy was displaying severe problems right from the first day (T3: line 476-478), especially if he is under pressure (T3: line 499).

Hence, it seems as if dyslexia impairs the language learning of the student, but that he is able to compensate it in some situations with the help of strategies.

Somewhat surprisingly, two interviewees (T4, T6) claimed that they have not observed that dyslexia has any impact on English learning. T4, who has had two officially diagnosed dyslexic students in her class so far, argued that dyslexia does not affect the boy's language learning and that he, in fact, does not face any struggles (T4: line 91-93), whereas the girl encountered some difficulties in writing (T4: line 80-84). Throughout the interview, T6 stressed that he has not observed any problems (*“naja, nein. sie sind auch im beim englischlernen nicht aufgefallen“* T6: line 86; *“NEIN. mir ist das ÜBERHAUPT noch nie so irgendwie konkret aufgefallen“* T6: line 206). These replies, however, may be explained by the critical attitude of T6 towards dyslexia, as he stressed several times that he is not able to differentiate between dyslexic students and other poor performers (T6: lines 100-103; 165-168). This issue will be described in the section 7.6.2 in more detail. Nevertheless, in the course of the interviews, both T4 and T6 mentioned several difficulties that they have experienced.

The findings suggest that the impact of dyslexia on foreign language learning also depends on whether students have already developed strategies in their first language. As T5 described, sometimes dyslexic students can use the methods they have learnt in their first language and, as a consequence of this, do not face a lot of problems at the beginning. If they do not practice in their first language, they often exhibit problems right from the beginning of second language acquisition (T5: lines 124-127). However, not all students might be able to use the already developed strategies in the foreign language. T1 pointed out that dyslexic students sometimes even have more problems in a foreign language than in German, because although they have already developed strategies to compensate it in their first language, they are not able to apply them in English (T1: lines 134-137).

Despite the difficulties, from the data it is apparent that dyslexia is not seen as an insurmountable obstacle that necessarily hinders students to acquire English. Both T2 and T5 considered the role of the parents as an important aspect that influences how much effect dyslexia has on learning (T2: lines 131-135; 427-429). As T5, for instance, pointed out, the difficulties depend greatly on whether parents take on a supportive role. Given that they practice with their children at home, obstacles can be overcome or at least the

deficits become fewer (T5: line 113-118). Two teachers also stated explicitly that they have seen improvement in different skills (T4: lines 279-280; 285-287; T5: lines 119-120; 274-275). Moreover, as has been pointed out in 7.1.1, two teachers are convinced that students can overcome their deficits (T1: lines 122-124; T2: line 181)

7.3.2. Problems related to writing and copying

As regards writing, various aspects were mentioned in which, according to the participating EFL teachers, dyslexic students have displayed problems. The figure below (Figure 5) provides an overview of the different aspects and shows the number of teachers who pointed out the various problem areas in their interviews.

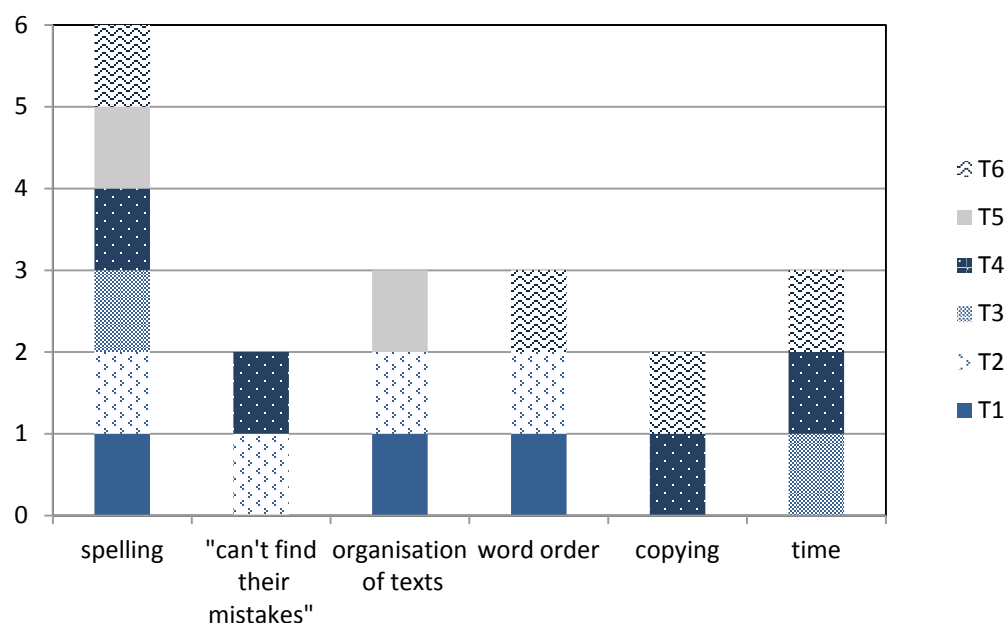


Figure 5: Perceived problems in writing

As the figure demonstrates, all of the interviewees mentioned, as expected, spelling problems. T1, for instance, described mixing up and reversing letters as typical for dyslexia (T1: lines 155-156), whereas T4 defined the omission of letters in the middle or at the end of a word as common mistakes (*“naja, ich finde so so letzte buchstaben vergessen. so watched und dann macht man das d nicht [...]“* lines 123-124; *“ja. oder in der mitte von wörter also, dass man length oder sowas, dass man das gth irgendwie durcheinander mischt“* lines 125-128). The problem, however, as she explains, is to

sometimes differentiate between slips due to carelessness, and grammar or spelling mistakes because the students simply do not know it better (lines 124-125). T2, T5 and T6 also reported spelling difficulties with dyslexic students, but could not explain them more precisely.

Especially the spelling of single words was emphasised by T3 as well as by T4 (T4: lines 131-134). Even though T3 described his dyslexic student at one point as a talented writer when it comes to longer texts (T3: line 234), he stated that writing single words is extremely difficult for the boy (T3: lines 216-217; 231). In order to illustrate this, the interviewee pointed at several vocabulary tests by the boy with the following mistakes: battel (battle), hith (heat), siensist (scientist), complied (complete). In the section 7.3.7. on vocabulary, problems in this field will be discussed in more detail.

As Fig. 4 illustrates, two interviewees described students' problems with spotting mistakes. T2 mentioned that spelling mistakes tend to increase towards the end of a longer text (T2: lines 278-283) and that she has noticed that dyslexic students often have more problems to find their spelling mistakes than other students (lines 285-289). T4 experienced this likewise. She explained that the dyslexic girl she used to have in her class made an enormous amount of spelling mistakes, but was incapable of spotting any of them in written texts (T4: lines 88-91).

From the data, it is apparent that some of the students being discussed also demonstrate difficulties in the organisation of texts.. Three teachers (T1, T2, T5) argued that sometimes dyslexic students struggle to write a story in the right order, as the following utterances demonstrate:

naja, ich glaube, dass sie manchmal einfach mit dem roten faden ein problem haben. und so, nicht genau sehen ist da jetzt, das eben ein neuer absatz beginnen müsste. also so ganz banale dinge wie, ich habe jetzt eben eine einleitung, erklär einmal nur warum die jetzt dort sind, wie kamen dort hin. eine kurze einleitung. sondern sie wollen dann gleich mit dem weitermachen was da jetzt spannendes passiert ist (T2: lines 257-262).

also das zum verstehen ist offensichtlich schwierig. das zieht sich schon ein bisschen weiter in die oberstufe dann. bei gedanken, ich glaube, dass die gedanklichen strukturen zu ordnen, schwierig ja (...) (T2: lines 264-266).

[...]auch dieses, ein gewisses ordnungsproblem. durchaus auch in der organisation von von texten, dass dann auch sätze irgendwo auftreten, die eigentlich, sieht man vor allem bei den kleineren, die können ja noch nicht so viel schreiben, wo plötzlich

ein satz steht der da eigentlich so gar nicht reinpasst, der eigentlich am anfang gehören würde, ja. ja also das kommt auch vor, mhm (T5: lines 158-163).

Although T5 added that other students might face this problem with organisation as well, she argued that in her experience, dyslexic students have this problem more often (T5: lines 202-205). Similarly, T1 mentioned struggles with chronological order (T1: lines 158-160). T4, in contrast, asserted that the texts of her dyslexic boy are comparable to those of other students and that his texts do not show any specific problems with the progression of ideas (T4: lines 118-120).

When the participants talked about difficulties in the field of writing, three teachers (T1, T2, T6) briefly mentioned troubles with word order (T1: lines 156-157; T6: lines 135-136). Sentence structure, in general, is a problematic aspect, T2 argues, since dyslexic students tend to translate from their native language (*“bei der satzbildung, ahm, fällt mir auf, dass die oft das nicht wegbringen, also diese (...) strukturen der muttersprache, das die nicht weggehen.[...]also das fällt mir auf das die wortstellung problematisch ist“* T2: lines 308-314). T1, however, only mentioned one girl with this problem and hence, this does not seem to be something this teacher has experienced regularly with dyslexic students. Moreover, she was uncertain whether the student’s struggle with word order is really due to dyslexia (T1: line 157-158). The other interviewees either did not mention or have never observed a dyslexic student having a similar problem with word order in their classes.

Students are frequently asked to copy a text or words from the board, which, according to T6 as well as to T4, presents a major challenge to dyslexic students. To T4, copying creates a problem mainly with regard to time (T4: lines 157-161). This has already been described in the section 7.2.4. T6, in contrast, stressed the huge amount of spelling mistakes when dyslexic students copy a text from the board, as the following quote suggests:

ah, selbst das abschreiben auch nur weniger worte oder zeilen von der tafel bereitet manchen schon schwierigkeiten. [...] also ich weiß nicht, fünf zeilen abschreibt und aber wirklich ABSCHREIBT von der tafel und auch genügend zeit dafür hat und ah, das kommt schon gelegentlich vor, dass dann 20 rechtschreibfehler in diesen fünf zeilen sind (T6: lines 264-271).

It needs to be pointed out, however, that T6 questioned whether only dyslexic students face this problem and if the spelling mistakes are in general due to a lack of attention (T6:

lines 266-268). Another interviewee (T2) also argued that dyslexic students do not tend to have more mistakes in what they copy from the board than other students, if, as she emphasised, they make an effort (T2: lines 338-340).

As Fig. 4 displays, three interviewees (T3, T4, T6) addressed the slow speed of dyslexic students when they were asked about struggles in the field of writing. Even though this is a non-linguistic problem, it has, of course, an impact on learning and needs to be considered by the language teachers. The problems have been described in detail in a previous section which focused on slow pace and the dyslexic students' need for more time.

7.3.3. Problems related to oral language

Since dyslexia can also have an impact on oral language skills, such as on pronunciation, as has been described in chapter 4.3., it might have been assumed that some of the interviewees would mention weaknesses in speaking as a further problem. Nevertheless, with one exception, none of the participating language teachers has observed any problems with oral language. In fact, the interviewees stated explicitly that the dyslexic students they know do not have any struggles or at least no more struggles than other students with speaking in the EFL classroom (T2: lines 238-243; T3: lines 422-424; T4: lines 147-152; T5: line 204; T6: lines 160-162).

T1 is the only interviewee who described deficits with phonemic awareness. As she explained, she has experienced students with problems in recognising, reproducing, and manipulating individual sounds. But T1 added that this problem is not limited to dyslexic students, because she has observed it in other students as well (T1: lines 192-196). However, she has not experienced any difficulties in the students in question with speaking in general. Overall, it can be summarised that oral language skills do not seem to be perceived as causing significant problems to dyslexic learners.

7.3.4. Problems related to reading

The interviews revealed that reading comprehension as well as slow reading have been the most prevalent reading issues with the students in question. Two language teachers (T1, T2) stated that the comprehension of texts causes considerable problems (T1: lines 169-175). T2 argued that this can be observed especially in reading tasks in which students have to find sentences that express ideas that have nothing to do with the text topic and hence do not belong in the text, or tasks in which they are asked to find the appropriate headings for paragraphs. The students have to concentrate on the reading process itself and, as a consequence of this, often do not understand the common theme or do not notice the incorrect sentences, she assumed. While other students usually quickly understand how such reading tasks work after some practice, dyslexic students tend to have more difficulties (T2: lines 142-169). Even though T5 agrees that dyslexic students might struggle even more with comprehension tasks, she suggested that almost all students have difficulties with such exercises and that this exercise type simply needs to be practiced (T5: lines 177-184; 188-191). Thus, it seems that she ascribes the difficulty with comprehension mainly to a lack of practice.

To T4, the slow pace of dyslexic students when reading is the main problem (T4: line 138). T2 also emphasised the slowness several times; both she and T5 perceived their dyslexic students to be extremely slow readers (T2: line: 329; T5: line 93).

Another reading issue that has been mentioned is problems with the size of the letters on the page (T1: line 175). Although dyslexia is not due to vision problems, a small font might make reading even more difficult, as it has been suggested in section 5.2. So this might explain what T1 has experienced. As opposed to the other interviewees, neither T3 nor T6 had observed any problems with reading. When T6 was asked about reading difficulties, however, he commented that problems in this field are difficult to detect, since students might be making guesses in multiple choice reading comprehension exercises (T6: lines 147-154).

None of the interviewees observed any problems with reading out loud, except T5, who addressed struggles with fluency, more precisely with reading aloud without adding or leaving out words (T5: lines 176-177). T2 pointed out that her students frequently practice reading out loud, but that they do not exhibit any problems with pronunciation or

any other difficulties (T2: lines 320-329). Another interviewee, however, stated that in her class texts are seldom read out loud (T1: line 169).

7.3.5. Problems related to listening

As regards listening, the interviewees' experiences varied considerably. Whereas T2 argued that dyslexic students struggle to maintain concentration during listening tasks (T2: lines 209; 231-232), another teacher (T6) criticised statements like that and considered them to be unfair (*“NEIN. nein, ich glaube, das wäre für mich ein hineininterpretiere, wenn ich sage legastheniker sind da unaufmerksamer. ich glaube da würde ich jeden der so diagnostiziert ist unrecht tun. weil da gibt es auch andere, die nicht aufpassen“* T6: lines 157-159). To him, as to T3, listening tasks do not cause specific problems. T5, in contrast, noticed that dyslexic students encounter difficulties doing listening tasks in which they have to fill in single words. Although it is often absolutely clear to other students what word is missing, dyslexic students often fill in, as she pointed out, “weird answers”. The interviewee, however, could not think of any explanation for this. (T5: lines 137-145).

An important fact mentioned by T1 is that listening comprehension tasks often require students to read instructions and questions. Hence, she assumed that listening as such probably does not cause difficulties, but dyslexic students might need more time to read the questions (T1: lines 183-189).

7.3.6. Grammar

None of the interviewees considered grammar to be a specifically problematic field for dyslexic students. Even though one teacher (T3) mentioned that his dyslexic student has serious problems with the use of tenses, especially when writing a text, this might be seen as a fairly common difficulty among all language learners (T3: lines 356-358).

7.3.7. Vocabulary

The interviews revealed that four of the participating teachers (T1, T2; T3, T4,) perceived the acquisition, the memorisation or the active use of new lexical items as problematic. One interviewee (T5), however, stated that those who study hard do not face any obstacles (T5: line 230). Hence, it seems that to her, difficulties with learning new words is due to a lack of effort, rather than to dyslexia and that dyslexic students can overcome this problem with diligence. One problematic field mentioned by T1 is spelling, since the acquisition of new words is, of course, inextricably linked with spelling. Thus, writing the words, rather than memorising, recognising or using them in speaking, can cause problems, as T1 explained (T1: lines 199-209).

Both T3 and T4 considered the translation of single words, for example in vocabulary tests, as particularly difficult for their dyslexic students (T3: lines 216-217; T4: lines 165-168). As T3 reported, especially when his dyslexic student is in a testing situation and under pressure, the struggle with new words becomes worse (T3: lines 499-501). On the one hand, T4 appeared to be not utterly convinced that the problems with vocabulary are due to dyslexia, since she pointed out that the student in question might not have studied the words (T4: line 169). On the other hand, she mentioned that the boy may have problems with memorising the words (T4: lines 171-175).

Problems with memorising words were also addressed by T2, who stated first that she has not experienced any problems with her students, but later pointed out that she believes that these students are often not capable of demonstrating their vocabulary knowledge, as she pointed out in the following utterance:

TEACH 2 beim beim abprüfen. bei schriftlichen wiederholungen oder so, ja. also da, da habe ich das gefühl, dass das auch irgendwie schwierig ist, dass sie ihr vokabelwissen nicht so gut zeigen können. also, dass sie oft nicht draufkommen, nicht. weil sie (...)

INTER also dass die rechtschreibung ihnen nicht einfällt oder das wort ihnen nicht einfällt?

TEACH 2 das wort. dass sie keine idee haben was für ein wort da hingehört.

INTER und von wo kommt das, glauben sie? oder warum fällt das ihnen schwer, dass ihnen das wort einfällt?

TEACH 2 naja, ich glaube, dass ist wieder dieses kombinieren. (...) also ich denke das gerade, das bei dieser leseschwäche schon eine gewisse, eine gewisse logik fehlt. also DIESE, das muss eine bestimmte logik sein, weil es heißt ja nicht, dass nicht ein mathematik beispiel rechnen können (T2: lines 459-471).

As this excerpt implies, dyslexic students may not only display problems with spelling but also with retrieving words from their memory.

7.3.8. Specific task types and other difficulties in language learning

In the course of the interviews, some of the teachers described specific task types which they have observed to be a great challenge to dyslexic students. To successfully complete these exercises, skills are required that have already been described as problematic, such as reading, vocabulary retrieval or a knowledge about word order.

Two different kinds of reading comprehension tasks that were mentioned by T2 have already been described in a previous section concerned with reading issues. In addition, this interviewee also addressed tasks in which the responses are provided and the students have to formulate appropriate questions. To her, the struggles of dyslexic students doing this kind of exercise is not due to a low proficiency in English but is a symptom of their specific learning difficulty (T2: lines 94-99). Another challenging exercise for those students, as she pointed out, is when they have to order dialogues in a chronological order (T2: lines 436-439).

Both T1, as well as T5, stated that the students in question experienced difficulties with a specific type of vocabulary task, one which asks students to choose words from a box and fill them into a text with blanks (T1: lines 337-343; T5: lines 210-214). As T1 suggested, the reasons why tasks like that are so enormously difficult might be because they require several skills to finish them successfully. Students not only have to read and comprehend the words in the box without any context, they also need to read the text, recognise language chunks and then link the words with the content of the text (T1: lines 345-347).

Further tasks that have been observed to present a serious challenge are matching sentence halves (T5: lines 131-145) and any tasks concerned with word order (T4: lines 228-231). One language teacher (T3) also mentioned contrastive grammar exercises, in which students have to, for instance, choose between two different tenses and fill the appropriate one into a text with gaps. Even though this kind of exercise is challenging for a great number of students, the interviewee argued that it is incredibly difficult for students with even a mild form of dyslexia (T3: lines 303-312).

Another problem observed by two interviewees is that dyslexic learners encounter difficulties with homophones, such as *where – were* or *there-their* (T2: lines 275-279; T3: lines 291-293). Troubles with such words are, however, not exclusive to dyslexic students, as T3 and another teacher pointed out (T3: line 292, T5: lines 358-359).

Regarding the textbooks used in the lessons, only two interviewees (T1, T5) mentioned aspects that cause difficulties. T5 perceived the presentation of contractions and the teaching of several related grammar aspects within one textbook unit as problematic (T5: lines 327-337). T1 described that a number of tasks are too complex for a few children and hence, they leave them out (T1: lines 306-309). Overall, however, all of the interviewees expressed that the books they use in their English lessons are appropriate to the needs of their dyslexic students or at least do not cause major problems.

7.4. Materials and teaching strategies

One part of the interview included questions was concerned with how the participating language teachers help their dyslexic students to succeed, and whether they consider it necessary make any adaptations in their teaching methods for these students. Teachers were also asked if any methods proved to be specifically beneficial for dyslexic learners. Therefore, teaching strategies as well as materials used in the English lessons will be discussed in this section.

7.4.1. Teaching strategies

From the data, it is apparent that the interviewees do not have a particular teaching approach in regard to weak students, nor do they implement strategies specifically for teaching English to dyslexic learners. Thus, the fact that dyslexic students are in their class does not have a major impact on the way they teach. As T2 and T5 argued, due to the small number of dyslexic students in a class, these students do not really affect teaching (T2: lines; T5: lines 254-255). Some of the interviewees, however, described a number of ways in which they support their students and which they have indeed experienced to be helpful for dyslexic learners.

Two teachers (T1, T2) pointed out that they try to incorporate a variety of methods to address the needs of different learners (T2: lines 393-398). As T2 explained, she frequently lets her students choose between reading and listening to a text (T2: lines 399-411). T1 reported that she makes use of different materials and includes tasks in which students have to become active and use different sensory channels (T1: lines 249-255).

According to T1, an essential aspect is teaching reading strategies, not only in English lessons but in every subject. That includes practicing how to deal with texts, finding key words and underlining parts of a text together (T1: lines 269-275). Moreover, she shows poor readers how to make use of simple aids to avoid skipping lines when reading, which is, as she emphasized, especially helpful for dyslexic students (T1: lines 176-179).

Another method that was mentioned in the interviews is the frequent repetition of what has been learnt. As T6 pointed out, he reduces speed, practices and explains aspects repeatedly if necessary (T6: lines 170-171). Similarly, T3 emphasised that he repeats a lot in a playful way (T3: lines 439-440). T2 as well as T3 stated that they avoid writing similar words, such as *were* and *where*, on the board together (T2: lines 274-275; T3: lines 326-327). As T3 pointed out, he never teaches homophones in one lesson, in order to avoid any confusion (T3: lines 326-327). One teacher stressed the need to motivate dyslexic students. To her, it is important to highlight the skills of the dyslexic students and also to give them positive feedback when they have improved (T5: lines 249-254).

When T1 was asked how she deals with dyslexic students and if it has an impact on her teaching, she explained that she often separates the class into two groups, since she always team teaches with another English teacher. Even though the pace of the students rather than dyslexia is the decisive factor for the division of the class, the dyslexic learners are, of course, often in one group. This enables her to work with the students who struggle separately (T1: lines 213-230). However, she did not mention any particular methods or strategies which she employs in the group with the weaker students.

7.4.2. Adaptation of material and other educational adjustments

The participating teachers expressed a strong opinion about adapting any teaching material specifically to the needs of dyslexic students. Two interviewees (T2, T5) stated

that preparing additional or separate worksheets would simply not be viable (*“ich meine, wir können nicht auf jeden schüler angepasst immer (...) das ist illusorisch“* T2: lines 391-392; *“ich glaube extra material, das ist nicht machbar“* T5: lines 266-267), whereas both T3 and T6 considered it to be unnecessary (T3: lines 438-439; T6: line 178). T1 reported that they do not have any specific material for dyslexic learners, but that they try to adapt the material to the needs of diverse learners (T1: lines 247-249).

One teacher (T4) stated that she believes that adapting the materials would be helpful, but did not mention any adaptive strategies implemented in her lessons. Instead, she pointed out that it would be great to have material modified for dyslexic EFL students so that they can repeat things at home when necessary (T4: lines 185-191). Another interviewee (T5) also voiced concerns that providing separate or additional worksheets for dyslexic learners could not be justified to other students (T5: lines 261-263). To her, it is important to provide support while teaching in her usual way, rather than modifying anything (T5: lines 269-273). Furthermore, when they were asked whether materials for dyslexic EFL learners exist, none of the interviewees were sure.

Nevertheless, some of the interviewees indeed make small adjustments, as the data of the interviews revealed. T2, for instance, who mainly had mentioned problems with the slow pace of reading, mentioned that she occasionally hands out not easier, but shorter texts to the students with reading problems. Even though this is not possible for exams, it is useful for reading tasks in class (T2: lines 382-384). Furthermore, she does not include tasks that require students to order dialogues in her exams, since she has observed that dyslexic students face problems with such tasks. Besides, she feels that these tasks do not really reflect students' language skills (T2: lines 437-446).

T3 also addressed some arrangements he makes in order to respond to the needs of his dyslexic student, whose most prevalent difficulty is the acquisition of new words. First of all, T3 began to correct the vocabulary tests of his dyslexic student in a different way. Due to the student's frustration when he failed, T3 wrote down the number of words that were entirely correct and, in addition, counted how many words were spelt almost correctly. But he admitted that he has now stopped this way of marking the student's vocabulary tests because it is too time-consuming (T3: lines 406-409). He added that different rules apply to the dyslexic student whenever they play a vocabulary game, to give him the chance to be part of the game for a longer time (T3: lines 191-198). Overall,

T3 felt that he has supported the dyslexic student, as he noted at one point towards the end of the interview (*“ich denke mir, wir haben ihm das leben auch halbwegs erträglich gemacht, weil er war wirklich verzweifelt wie er mitbekommen hat was er für schwierigkeiten hat“* T3: lines 494-496).

Other adjustments mentioned were that slow students are sometimes given more time to complete tasks (T1: lines 318-319), that the font of the reading is enlarged in order to facilitate reading (T1: line 176) or that these students receive slightly different tasks (T2: line 357). Another interviewee (T5) stated that she takes into account that her dyslexic student was not able to finish revisions due to a lack of classroom time (T5: line 259-260). Unfortunately, the teacher did not clarify how exactly she takes this into account.

It is also essential to point out that several interviewees stressed the parents’ or the students’ personal responsibility when they were asked how dyslexic students can be supported or what is helpful to them. T4, for instance, explained that it is their own decision to practice or not (*“phu, naja, ich meine, dass ist auch selbstverantwortung, ob man sich damit beschäftigen will oder ob es einem egal ist“* T4: lines 209-210). T2, as well as T5, emphasised that support needs to be provided at home:

[...] dass sie sowieso so daheim mehr unterstützung brauchen, das ist halt so, zumindest in der ahs. (...) dass die dann eine gute chance haben (T2: lines 427-429).

die schüler müssen sehr fleißig sein, wenn sie da etwas ausbessern wollen und etwas hinbekommen wollen, glaube ich gehört wirklich dazu, dass sie regelmäßig üben [...] ahm, immer mehr wahrscheinlich auch wirklich lesen üben. zuhause mit jemanden auf verständnis auch lesen üben (T5: lines 295-301).

As those utterances suggest, these two teachers seem to feel that a great responsibility lies in the dyslexic students and their parents themselves, rather than in the teachers.

7.5. Marking

Marking and correcting written exams are part of teaching and hence, some of the interview questions required respondents to give information on how they handle the learning difficulties of dyslexic students in this regard. Interviewees’ views varied about the necessity to take dyslexia into account when marking.

7.5.1. Marking written tests

As regards marking written tests, two interviewees (T5, T6) stated clearly that they do not correct or mark the exams of dyslexic students differently compared to non-dyslexic students (T6: lines 258-260). T5 is aware that dyslexia is a weakness, but feels that students can definitely compensate it. Therefore, dyslexic students do not receive any special treatment, as she explained (T5: lines 407-410). T1 pointed out that in her class dyslexic students are not graded differently, but get the chance to compensate tests orally and that they get more time (T1: lines 313-321). T2, in contrast, takes dyslexia into account when correcting spelling mistakes. If a word has been spelt correctly once, she counts it as a slip if the same word is written wrong later in the text. (T2: lines 477-486). Similarly, T4 and T3 take this into account, but, as T4 stressed, this does not mean that dyslexic students automatically receive a better grade (T3: lines 459-461; T4: lines 238-242).

7.5.2. Grading in general/annual report

Three interviewees (T1, T2, T4) reported that they take dyslexia into consideration when giving an overall grade to dyslexic students. According to one teacher, it is necessary to consider why a student fails or is weak, as she explains in the following utterance:

[...] auf jedenfall halt dass man es berücksichtigen muss und nicht einfach ignorieren und genau gleich bewerten, weil es ist trotzdem ein unterschied, ob man faul und schlampig ist oder nichts dafür kann (T4: lines 313-316).

Therefore, this teacher takes dyslexia into account, but not too much, as she emphasised, since they still have to do their work (T4: lines 247-253). T1 as well as T2 stated that they offer dyslexic students the chance to do an oral test, if necessary (T1: lines 324-326). Compared to other students who might be asked in an exam to write something on the board or to spell out words, T2 explained that she would never ask a dyslexic student to do this (T2: lines 515-523). In addition, T1 stated that it is possible to grade students in a different way for the first two years (T1: lines 323-324). One interviewee stated that he always considers how hard his dyslexic boy has to work compared to non-dyslexic students (T3: lines 482-484). Another teacher, however, stressed that he has never experienced the need to take dyslexia into account, neither for the overall grade nor when

marking an exam, since he has never had a dyslexic student fail the class (T6: lines 244-250).

7.6. Critical voices on dyslexia

Dyslexia itself and the difficulties of dyslexic students are also subject to critical discussion for various reasons. The participating teachers questioned whether some problems caused by the learning difficulty, emphasised that problems are not exclusive to dyslexic learners and argued that some utilise the diagnosis as an excuse. These issues will be considered in the following three subsections.

7.6.1. Is the problem really caused by dyslexia?

When the interviewees were questioned about the linguistic and non-linguistic difficulties of dyslexic students and whether dyslexia has an impact on English learning, doubts were voiced several times as to whether the learning difficulty is the cause of the students' problems.

TEACH 6 [...] aber die die die ursachen sind so, dass jemand gut, schnell und richtig lernt und ein anderer oder eine andere langsam, die sind so vielfaltig, dass jeder, dass ich das, dass ich nicht in der lage bin das in irgendeiner weise festzunageln (T6: lines 98-103).

As this quote suggests, it is rather difficult to attribute the problems of learners solely to dyslexia, even if they are officially diagnosed, since there are a great number of potential causes for learning difficulties.

In the course of the interviews, a variety of reasons for the mistakes and problems of dyslexic learners were proposed. One teacher (T4), who had stated that the last letters of words are frequently forgotten by the students in question, pointed out that a lack of knowledge or sloppiness might be the cause (T4: lines 123-125). Likewise, T2 was convinced that very often weaknesses in spelling may result from a lack of training and that it is often a matter of accuracy (T2: lines 535-540). Furthermore, she pointed out that it is difficult to differentiate whether a mistake is simply a slip or a mistake arising from dyslexia (T2: lines 333-336). Other possible causes for difficulties mentioned in the

interviews were, for instance, too much noise in the classroom and hence, difficulty concentrating (T4: lines 267-269) and struggles with copying due to a lack of attention (T6: lines 266-268). Moreover, T5 stated that reading problems at the beginning may be simply explained by the fact that the students are just beginning to learn a foreign language (T5: lines 70-71) and that non-linguistic difficulties with motivation and concentration can be ascribed to the personality of a student rather than to dyslexia (T5: lines 75-77).

7.6.2. Other students have this problem, too

A related matter to the above-mentioned issue is that dyslexic students are, of course, not the only learners who encounter difficulties. Therefore, the interviewees often added that other students have trouble with a specific activity as well. Especially T5 stressed this several times, as the following utterances exemplify:

[...]wobei natürlich auch andere das machen, da müsste man genau schauen wie oft macht so ein kind so einen fehler. unter umständen, bei denen an die ich denke, schon ein bisschen häufiger. allerdings muss man da immer die einschränkung treffen, auch andere machen das (T5: lines 344-348).

[...]ah, das tempo und da vielleicht schon die satzstellung auch, aber gut das machen andere im unterricht auch (T5: lines 400-401).

Further, T3 as well as T4 made similar statements concerning language learning difficulties (“[...] aber da ist er auch nicht der einzige” T3: line: 292; “ich glaube das geht vielen so” T4: line 302) T6 also emphasised repeatedly that a great number of students, not only dyslexic ones, have language learning difficulties as well as non-linguistic problems (T6: lines 106-107; 112-113) Moreover, this interviewee stated that he has problems differentiating between dyslexic students and other weak students (T6: lines 165-168).

7.6.3. Dyslexia as an excuse

Two of the interviewees felt that dyslexia is sometimes used as an excuse; not only by students but also by their parents. T6 strongly criticised that some students, according to

him, try to take advantage of their diagnosis (T6: lines 292-293), for example, as an excuse for not doing their homework:

ich meine, wenn jemand kommt, ja (...) zu mir und sagt ich habe die haustübungen nicht gemacht und ich naja das, naja ich bin ja legastheniker, dann ist das ein bisschen vielleicht ah (...) nicht? ich KONNTE die haustübung nicht machen, weil ich ja legastheniker bin, dann ist das vielleicht nicht im sinne des erfinders (T6: lines 253-257).

Moreover, the interviewee stated that sometimes parents try to get a better grade for their children, using dyslexia as the justification (T6: lines 294-297). Another teacher (T2) also pointed out that instead of practicing; dyslexia is often used as an excuse for problems with writing. (T2: lines 537). Statements such as “*those who are hard-working can do it*” “*If they want to improve, I believe that it is necessary that they practice regularly*” by T5 may also be seen as a hint that she does not accept dyslexia as an excuse for all problems (T5: line 230; 295-297).

8. Discussion of findings

In this section a discussion of the results is presented and the findings of the interviews are linked to the research questions posed at the beginning of this paper as well as to the relevant theoretical work. This thesis set out to answer the following questions:

1. Which difficulties do dyslexic students face in the EFL class, as perceived by their teachers?
2. How do English teachers help dyslexic students to succeed and cater for the different needs of these students within the mainstream classroom?
3. What problems have English teachers experienced themselves when dealing with dyslexic students?

This chapter is divided into four sections, each of which considers the results relating to one of the research questions.

8.1. What difficulties do dyslexic students face in the EFL class, as perceived by their teachers?

One central aim of this thesis was to investigate which signs of dyslexia EFL teachers have observed in their lessons. All of the interviewees have had officially diagnosed students in their classes but, as the interviews revealed, their experiences as regards the problems of dyslexic English learners vary considerably. This variation has several possible explanations. First of all, it has already been pointed out (in section 2.2 on the effects of dyslexia) that the symptoms can differ from person to person and may even be subject to change over time. Moreover, the way dyslexia affects language learning depends on the degree of severity and whether or not students have learnt ways to compensate their weakness. Thus, it is reasonable that dyslexic students will not all exhibit the same kinds of problems.

Another explanation for the differences in teachers' observations is that the teachers' knowledge of and attitude towards dyslexia may have a considerable impact on what they perceive as a problem caused by this specific learning difficulty. As the data demonstrates, whereas some teachers believe that a certain problem arises from dyslexia, others ascribe it to another cause, such as to a lack of knowledge or of attention. In addition, teachers' views varied as to whether a difficulty is a symptom of dyslexia at all, because non-dyslexic students often face the same problem. As has been pointed out several times in the interviews, it is not always apparent whether a dyslexic student makes more mistakes or faces more struggles than other students. Therefore, some problems might not be considered as the specific problems of dyslexic students. This may also explain why two teachers, when asked at the beginning of the interview if dyslexia has an impact on English acquisition, argued that it has not (T4, T6).

Overall, it is hardly surprising that the interviewees' experiences with dyslexic students vary. This does not mean, however, that the interviews do not provide a valuable insight into the difficulties of dyslexic EFL learners. The findings show that the teachers have indeed made some observations in common and hence, perceive a few similar problem areas as being generally difficult for dyslexic students. As the interview analysis shows, the most significant impacts on EFL learning were observed in writing, reading, as well as in vocabulary acquisition. In addition, slow pace seems to be a common problem.

Within this study, writing has been experienced as the main challenge for dyslexic learners. Thus, all of the teachers described observing some kind of difficulties in this area. This would indicate that dyslexic individuals often face more problems with writing, especially spelling, than with reading (Hulme & Snowling 2009: 50). Also teachers might become aware of writing difficulties more easily than other problems. The findings demonstrate that spelling and the organisation of texts are perceived as particularly challenging fields.

A common observation amongst the interviewees was the students' difficulty with spelling. All of them noticed that dyslexic students exhibit problems with the correct spelling in English. This comes as no surprise, since dyslexia is strongly associated with weak spelling skills. The examples of incorrectly spelled words in vocabulary tests that T3 pointed out (battle-battle, hith-heat, siensist-scientist, complied-complete) might be seen as typical mistakes, similar to those described in section 2.2.2., for example, with the right sequence of individual sounds. Consequently, it seems crucial that teachers find an effective way to teach spelling rules to enable dyslexic students to improve this feature.

Another important finding is that problems of dyslexic individuals in the field of writing are obviously not restricted to spelling. As the data shows, three teachers (T1, T2, T6) described problems with syntax and three teachers (T1, T2, T5) described difficulties with the organisation of texts; with ordering thoughts, as one interviewee defined it. This result is in line with previous observations, such as those of Nijakowska. She describes problems with word order and notes as well that "children with dyslexia can also show a subtle deficit on the semantic level of language processing" (Nijakowska 2010: 94). This can then be reflected in a "disordered organisation of the narrative utterances, their poor structure and content" (Krasowicz 1997 in Nijakowska 2010: 94). Thus, specific task types which require students to order utterances of a dialogue chronologically are likely to present a serious challenge, as one of the interviewees noted (T2).

Besides writing, reading issues appear to be the most apparent symptom of dyslexia experienced by interviewees, four of them having described different kinds of problems in this area. As the data shows, three teachers (T2, T4, T5) commented on the slow pace of reading, three teachers (T1, T2, T5) also remarked on difficulties with comprehension and one (T5) with fluency, which is in line with what has been suggested by researchers. Landerl, for example, describes dyslexic individuals as often spending at least twice as

long as other people on reading simple texts. The corollary of this is that those readers often face comprehension problems, since they concentrate on the reading process itself rather than on the content (2013: 10). Slow reading and fluency problems are definitely key symptoms, which can be traced back to deficits in decoding, as described in section 2.2.1.

This does not mean, however, that reading difficulties are always interrelated with comprehension problems. As pointed out in section 2.1, comprehension and reading problems can occur separately from each other (Snowling 2013: 8; Nijakowska 2010: 5). The fact that dyslexia does not primarily affect understanding might explain why T5, who described problems with speed as well as with comprehension, hinted that the struggles with comprehension tasks might arise from a lack of practice rather than from dyslexia. Since she pointed out that all students face problems with those task types and that she noticed improvements also of dyslexic students, it might be a problem common among a great number of language learners. However, it seems impossible to decide clearly whether this difficulty is caused by dyslexia or not.

In light of the fact that reading difficulties constitute a key symptom of dyslexia, it is somewhat surprising that two teachers (T3, T6) have not observed any reading issues in officially diagnosed dyslexic students in their classes. Whereas T3 has only had one dyslexic student in his class so far, T6 experiences a small number of dyslexic individuals every year. Therefore, it is rather unlikely that all of those students have managed to fully compensate their reading weaknesses, even though it has been stressed that with the help of strategies and much effort, reading problems can be overcome. A possible explanation for this might be that the teachers have not noticed the problems. As T6 argued himself in the interview, it is difficult to identify reading problems, since in reading comprehension tasks possible answers are provided, resulting in a task type which allows students to make guesses. Thus, in some cases it might be a matter of not noticing the reading problems, rather than of their not existing.

Within the literature on dyslexia, a “noticeably awkward intonation” was described as another potential problem when reading aloud (Nijakowska 2010: 88). This differs from the experience of the participating language teachers. Although one teacher includes reading out loud regularly in her lessons, she did not notice any intonation or pronunciation problems, nor did any of the other teachers.

As the findings demonstrate, the acquisition of new words has been perceived as problematic by four interviewees (T1, T2, T3, T4). Three of the teachers described particular difficulties with memorisation, which is in accordance with descriptions of researchers like Schneider and Crombie or Dal, as pointed out in section 4.3. Especially the translation of single words, hence without any context, seems to be challenging. This shows that not only spelling, but also storing and retrieving words may present a serious challenge to dyslexic students.

In contrast to earlier studies according to which dyslexic students also perform more poorly in listening and speaking skills compared to other students (e.g.: Ghazaleh 2011: 163), the findings of the interviews cannot confirm this. Even though one teacher noted concentration problems during listening tasks (T2) and another one, difficulties with filling in words in texts with gaps (T5), listening per se was not considered as problematic and neither was speaking. Furthermore, it has been suggested that the pronunciation and the grammar of a foreign language can cause difficulties for dyslexic students (Dal 2008: 440). However, this has not been confirmed by the interviewees of this study.

In the current study, slow pace was perceived as a serious problem for the students in question by all of the interviewees. Even though it is a non-linguistic problem, it has, of course, an impact on different skills, resulting in slow reading and writing skills. The later was described by three teachers (T3, T4, T6) and matches the description of Nijakowska, who argued that the “rate of writing tends to be unnaturally slow“ (2010: 88). One teacher (T1) noticed her student’s need for more time in activities, but was not sure whether dyslexia was the cause. Two teachers (T2, T4) also specifically stressed slow reading as a problem and two interviewees, (T2 T5) slow pace in general. Hence, it seems essential that teachers find a way to handle the problem of pace within the mainstream classroom.

As the results show, illegible handwriting (T2, T3, T6) as well as problems with frustration (T1, T3, T5) were described by three participants. Whereas difficulties with handwriting might not affect English learning, poor motivation definitely does. Teachers need to be aware that a lack of motivation is often a consequence of the problems dyslexic students face in language learning, as has been pointed out in a previous section (Schneider & Crombie 2003: 5).

Other non-linguistic difficulties such as behavioural problems, as described by different researchers, do not appear to be a common problem experienced by the interviewees. In this study, behavioural problems were only mentioned by one teacher (T4).

8.1.1 Summary of first research question

To sum up, the question of what difficulties EFL teachers have experienced in dyslexic students is extremely broad and different aspects need to be considered. Overall, the participating language teachers have observed numerous symptoms, which are in line with deficits described in the literature. In this study, spelling, organisation of texts, reading, vocabulary acquisition and slow pace were perceived as the main problem areas. It needs to be pointed out, however, that the interviewees did not always agree on problems and sometimes even had opposing experiences. Furthermore, not all of the possible deficits described in the literature were confirmed by the findings of this study. Nevertheless, what is most important is that all of the teachers have indeed observed various problems of dyslexic students and that these problems are not restricted to spelling and reading. Although the participating teachers did not regard dyslexia as an obstacle that necessarily hinders affected learners in acquiring the language, it needs to be stressed that the problematic aspects that have been identified are crucial aspects of a foreign language. Hence, these difficulties should not be ignored.

8.2. How do English teachers help dyslexic students to succeed and cater for the different needs of these students within the mainstream classroom?

With respect to the second research question, which focuses on teaching, different aspects need to be addressed. First of all, teaching methods and the adaptation of materials will be considered. Furthermore, any other adjustments in teaching techniques, as well as grading, will be discussed. All of these aspects play a central role in understanding how teachers handle dyslexia in their EFL classrooms. In addition, the interviews provided valuable insights into what might prevent teachers from implementing any adaptations to support dyslexic learners. Even though this was not part of the initial research question, this unexpected finding is inextricably linked to it and the results are therefore presented in section 8.2.1.

This study shows that although dyslexic students are in the class, this does not appear to have any impact on the way the participating interviewees teach. One of the teachers (T1) pointed out that she employs a few strategies that are likely to be beneficial for dyslexic students, such as teaching reading strategies and trying to include different materials that utilise all various senses. Thus, the latter corresponds with the suggestions of the multisensory teaching approach, described in section 5.3. Other methods mentioned by the participating teachers were, for example, frequent repetitions (T3, T6) and a slower progression through the coursebook if necessary (T6). Furthermore, two teachers (T2, T3) stated that they avoid writing similar words on the board. In the interviews the same teachers described the problems of dyslexic students with homophones and hence, this can be seen as a response to their experience with dyslexic students. One teacher (T5) emphasised the need to motivate affected students, an aspect that was also stressed by Dal (2008: 442). The findings show that even though some strategies are employed, no specific teaching approach is used as a reaction to the difficulties of dyslexic students.

Similarly, in terms of classroom materials and worksheets used in the English lessons, the results indicate that the majority of the participating teachers do not make any major accommodations. Only two teachers (T1, T2) stated explicitly that they sometimes adapt teaching material; one utilizes shorter texts and the other, larger font. Larger font may sound surprising but is in line with Nijakowska, who suggests that using texts with “large, widely spaced print” can be “beneficial” for dyslexic students (2010: 121).

In addition, three of the teachers implement a few additional educational adjustments in order to help their dyslexic students to succeed, such as giving dyslexic students more time to complete tasks (T1) and providing them with slightly different tasks (T2) or applying difficult rules in vocabulary game (T3). This shows that even some small adjustments might be helpful to strengthen the motivation of affected students or to handle tasks successfully..

As regards marking, the views varied considerably. Three teachers (T2, T3, T4) apply slightly different rules for dyslexic students or take the learning difficulty into account somehow for written tests as well as for the annual report. One teacher stated that dyslexic students are given additional time for tests and, if necessary, are allowed to compensate tests orally, but in terms of grading are not treated differently (T1). Both T5 and T6 stated that they do not take dyslexia into account, neither for marking written tests

nor for the annual report. Surprisingly, T4, who was not aware of any official regulations, takes dyslexia into account in contrast to T5, who is familiar with these documents.

It is interesting to point out the interviewees' reasons for their decisions on marking. T6, for example, believes that considering dyslexia when grading is not necessary, since he has never experienced a dyslexic student who failed in his English lessons, whereas T5 argues that affected students are able to compensate weaknesses and therefore should not receive special treatment. Another teacher (T3), in contrast, expressed the view that dyslexic students have to study harder than other students, and that needs to be taken into consideration in marking. In the same vein, T4 pointed out that to her it makes a difference if a student is weak due to laziness or due to a learning difficulty. This shows that the attitude of a teacher towards dyslexia can have a great impact on how they deal with it in their classroom.

In light of the fact that only minor accommodations towards learners with dyslexia are carried out, the question as to what prevents teachers from doing more needs to be raised. This aspect will be discussed in the following subsection.

8.2.1 Reasons for not making any accommodations

As the results demonstrate, the participating teachers do not seem to apply any specific teaching principles or methods in order to help dyslexic learners to succeed. Due to the nature of semi-structured interviews, the participants were able to elaborate on topics and hence, their answers provide possible explanations for this result.

One issue that emerged from the data is that three teachers do not consider it to be necessary to adapt their way of teaching or any classroom materials. As one teacher argued, it is essential to know that a student is dyslexic, but there is no need for a specific way to handle dyslexic individuals. Instead, affected learners should be supported within her usual way of teaching like any other student (T5). Of course, we do not know what her *usual way* of teaching is, which might include aspects that are assumed to be beneficial for dyslexics anyway. Likewise, two more teachers stated that it is not necessary to provide any materials or worksheets adapted to the needs of dyslexic students (T3, T6).

As regards additional or separate classroom materials for dyslexic students, two participants stated that it is impossible to cater for all children in an individual way (T2, T5). Hence, whether any modifications for students with specific learning difficulties can be incorporated into teaching is, of course, also a matter of the time a teacher is willing to spend. Furthermore, one teacher raised the issue of fairness. She argues that other students might find it unfair if dyslexic students receive other, additional or easier tasks and worksheets (T5). Consequently, this teacher did not make any modifications.

Another possible explanation for the result could be that teachers may feel that the primary responsibility for compensating weaknesses lies in the affected students and their parents, rather than in the teacher. In this study, both T2 and T5, who also pointed out that it is not possible to respond to the individual needs of every student, emphasised the role of the parents, stating that if students receive support at home, they will be successful (T2, T5). In addition, one of these teachers stressed several times that dyslexic students need to be hardworking and practice regularly, in order to improve their skills (T5). It can thus be proposed that the motivation to create a dyslexia-friendly classroom or to help affected students also depends greatly on whether teachers feel responsible.

It has been suggested that “[i]t is highly likely that teachers’ abilities in dealing with different forms of learning difficulties will be affected by their knowledge about and attitudes towards those difficulties“ (Gwernan-Jones & Burden 2010: 66). In this study, no significant correlation between handling dyslexia in the classroom and the participation in further training in dyslexia could be identified. Four of the participants learnt about dyslexia in further training or in their teacher training and one teacher informed herself about it. However, as the findings show, the way they cater for dyslexic students varies considerably and none of them seems to apply any specific approach. T6, who has not taken part in any further training, had obvious difficulties in describing the problems of dyslexic students and admitted himself that he does not know what to do with dyslexic students. Overall, the knowledge of teachers about dyslexia certainly has an impact on how they handle it in their classroom, but awareness of the issue does not necessarily guarantee a dyslexia-friendly classroom.

8.2.1 Summary of second research question

This study was not able to demonstrate any specific methods used. However, the findings indicate a few pedagogical adjustments employed by the participating teachers in their English lessons to respond to the needs of dyslexic learners, such as to slow down, to repeat aspects and to keep them motivated. As was shown in the literature review, these are undeniably essential features to cater for dyslexic students. Furthermore, it was mentioned that dyslexia is taken into account for marking and that students are given the chance to do oral exams by some of the interviewees. Thus, all of these aspects can be seen as a way to help dyslexic students succeed and to cope with these students within the mainstream classroom.

One obvious finding to emerge from the analysis is that although teachers have observed specific difficulties, such as spelling and vocabulary acquisition, they do not seem to really respond to those struggles. Handing out shorter texts or adapting rules for vocabulary games are, undeniably, a way to help students to cope with dyslexia. However, it seems as if only a few methods are employed which might help dyslexic learners to *reduce* or *overcome* their specific deficits. Only one of the teachers mentioned that she teaches reading strategies and incorporates activities using the different senses. Overall, in this study, no other specific methods, such as those presented in section 5.2 or suggested in the Multisensory Structured Learning Approach could be identified. It needs to be stressed, however, that it is not the aim of this study to evaluate whether any accommodations for those students *would be necessary* or if the way the participating interviewees teach is appropriate for dyslexic students. The findings only provide an indication that the majority of the participants do not incorporate specific teaching strategies as a reaction to the difficulties of their students with dyslexia.

The analysis of the interviews provided valuable information that may explain the above-mentioned finding. On the whole, data indicates that the teachers might not consider the needs of dyslexic students to be different compared with those of other students. Reasons for not making any accommodations towards the needs of dyslexic students also include a lack of time on the part of the teacher and the attitude that the responsibility lies on parents and students. In addition, the issue was raised that adjustments simply might not be necessary.

8.3 What problems have English teachers faced themselves when dealing with dyslexic students?

Another objective of this study, as proposed by research question number three, was to identify what challenges teachers face when they have to handle dyslexia in their classroom. In the course of the interviews, some issues have been raised that might be problematic.

A major difficulty for teachers, as the interviews revealed, is the nature of dyslexia itself – as a matter of fact, the symptoms vary, as well as the degree among affected individuals, and the problems are often similar to those of non-dyslexic students. Therefore, the issue that non-dyslexic students face the same difficulties was raised several times in the interviews. Crombie and Schneider address this matter, by stating that “while some difficulties in reading, writing, listening and speaking in an FL are normal and to be expected for all FL learners, the dyslexic student is likely to experience much more severe difficulties in all task areas” (2003: 7). However, it is, of course, difficult to differentiate between dyslexic and normal struggles. Consequently, in four of the interviews, various difficulties were ascribed to other causes, rather than to dyslexia. Hence, in the view of some interviewees, spelling problems, for instance, may not be caused by dyslexia, but arise from a lack of training. On the whole, it is extremely challenging for teachers to recognise and to react to the struggles of dyslexic students.

One interesting finding of this study is that teachers may also face the problem that both students and their parents might try to take advantage of being diagnosed dyslexic. In this study, two interviewees stated explicitly issues in this field (T2, T6).

Another challenge for teachers is clearly the vague regulation that is provided by school authorities. One aspect, related to the above-mentioned problems, is that students do not need to be officially tested to have their dyslexia taken into account. This issue was criticised by one interviewee (T3). In addition, the same teacher and another one expressed dissatisfaction over the vague formulations of the Ministry for Education that leave a lot of room for interpretation (T3, T6).

8.3.1 Summary of third research question

Obviously, dyslexia does not only present a serious challenge to affected students but often also to their teachers who have to cope with the situation in their classes. The complex nature of dyslexia may make it difficult to react to students' problems or to recognise them. However, heightened awareness among teachers may help them to respond to the needs of dyslexic students. Furthermore, the lack of clear regulations seems to be a problem to some teachers. Finally, in some cases, the way dyslexic students and parents themselves deal with the diagnoses can be the cause of problematic situations.

9. Conclusion

This paper attempted to investigate the situation of dyslexic students and their teachers in the EFL classroom. The aim of the study was to identify the kind of difficulties that dyslexic students have and which English teachers have experienced in their EFL classroom, what methods or strategies EFL teachers employ to cater for the needs of those students, and what challenges teachers face when they have to deal with dyslexia. For this purpose, the study focused on six Viennese teachers who have been in the situation of teaching English to students with dyslexia.

The first part of this thesis provided a theoretical background on dyslexia, including a number of controversial issues to show how complex the nature of this learning disability is. Moreover, the Austrian policy on dyslexia was critically examined. Finally, dyslexia was discussed with regard to foreign language learning as well as teaching. This preliminary discussion of the topic was necessary to base the empirical study on the theory.

Even though dyslexia was not considered to be a major obstacle, preventing affected students from becoming successful language users, the participating teachers pointed out several problematic aspects. In this study, all participants have experienced problems which these students have with spelling and slow pace. In addition, difficulties with reading as well as with vocabulary acquisition were mentioned.

Interestingly, the study was only able to point out a few general adjustments and strategies employed by the teachers. Instead, motives for not implementing more modifications in the EFL classroom were described. For the participating teachers, dyslexia does not seem to have a dramatic impact on language learning skills and hence, one crucial issue addressed was whether any modifications are necessary at all.

The findings of this research provide insights not only into dyslexic students and their problems, but also shed some light onto the challenges for teachers. The fact that other students also face the same difficulties or that a problem might be caused by other factors, such as lack of practice, has been raised several times. On the one hand, this might be challenging for teachers, since they may not be sure how to respond to the problems or know if a dyslexic student needs more support than other students. On the other hand, it should not be seen as a reason for not implementing any specific teaching strategies for dyslexic learners. Teaching approaches that have been acknowledged to be beneficial for dyslexic students might also be helpful for other weak students.

It needs to be pointed out that the study does not allow any generalisation due to the small sample size of teachers. Furthermore, the conducted interviews provide insights into what teachers *perceive* as problems. This means that the problems they have outlined in the interviews are based on their personal observations, rather than on tests that compare competences of dyslexic and non-dyslexic students. Therefore, no objective conclusions or generalisations as to what difficulties dyslexic English students exhibit and how teachers handle the problems can be made on the basis of this data.

The analysis of the interviews raises a number of questions, such as how teachers can detect signs of dyslexia in their students. Therefore, it might be necessary to address dyslexia or learning difficulties in further trainings. Moreover, more research in this field is necessary, for example, to determine the effectiveness of certain teaching strategies. Another possible area of research might concentrate on the attitudes of teachers towards specific learning difficulties and how this affects the way they handle learning difficulties in their classrooms.

In conclusion, dyslexia is a learning disability that, depending on the degree of severity, can cause various problems in language acquisition. Given the high prevalence rate and the number of dyslexic students in Austria according to official estimates, every language

teacher is likely to experience the situation of having to cope with affected learners. In addition, dyslexia is only one learning disability among many others. Therefore, it might be necessary not only to raise teachers' awareness about learning disabilities, but also to show them how they can cope more effectively with affected students within the mainstream classroom. The methods and adjustments that have been suggested for dyslexic students are likely to be beneficial not only to dyslexic students, but also to other students who struggle.

10. References

- Augur, Jean. 1993. *Early Help: A Better Future*. Reading: British Dyslexia Association.
- Birsh, Judith. 1999. *Multisensory Teaching of Basic Language Skills*. Baltimore: Paul Brookes Publishing.
- Bishop, Dorothy V. M; Snowling, Margaret J. "Developmental Dyslexia and Specific Language Impairment: Same or Different?". *Psychological Bulletin* .130(6), 858-886.
- BmBF - Bundesministerium für Bildung und Frauen. "Lese-Rechtschreibschwäche oder Legasthenie bei Schülerinnen und Schülern".
<https://www.bmbf.gv.at/schulen/service/schulinfo/legasthenie.html> (19.02.2016).
- Bogdanowicz, Marta. 1997. *Integracja percepcyjno-motoryczna: Teoria _ diagnoza _ terapia [Perceptual-motor Integration: Theory _ Diagnosis _ Therapy]*. Warszawa: Centrum Metodyczne Pomocy Psychologiczno-Pedagogicznej Ministerstwa Edukacji Narodowej.
- Borg, Walter. 1963. *Educational Research. An introduction*. London: Longman.
- Brunswick, Nicola. 2010. "Unimpaired reading development and dyslexia across different languages" In McDougall, Siné; Brunswick, Nicola; de Mornay Davis, Paul (eds.). *Reading and Dyslexia in different orthogrpahies*. East Sussex: Psychology Press.
- Cannel, Charles; Kahn, Robert. 1968. "Interviewing". In Lindzey, Gardner; Aronson Elliot (eds). *The Handbook of Social Psychology*. Vol. 2: Research Methods. New York: Addison Wesley, 526-595.
- Cohen, Louis; Manion, Lawrence; Morrison, Keith. 2011. *Research methods in education*. (7th edition). London: Routledge.
- Dal, Michael. 2008. "Dyslexia and Foreign Language Learning". In Reid, Gavin; Fawcett, Angela; Manis, Frank; Siegel, Linda (eds.). *The SAGE Handbook of Dyslexia*. London: SAGE Publications Ltd, 439-454.
- Dörnyei, Zoltán. 2007. *Research methods in applied linguistics : quantitative, qualitative, and mixed methodologies*. Oxford: Oxford Univ. Press.
- Dörnyei, Zoltán; Skehan Peter. 2003. "Individual Differences in Second Language Learning". In Doughty, Catherine J; Long, Michael H. (eds.). *The Handbook of Second Language Acquisition*. Oxford: Blackwell.: 589-630.
- Downey, Doris M; Snyder, Lynn E; Hill, Barbara. 2000. "College students with dyslexia: Persistent linguistic deficits and foreign language learning". *Dyslexia* 6, 101-111.
- Elliott, Julian G; Grigorenko, Elena L. 2014. *The Dyslexia Debate*. Cambridge: Cambridge University Press.
- Fawcett, Angela J; Nicolson, Roderick I. 2008. "Dyslexia and the Cerebellum". In Reid, Gavin; Fawcett, Angela; Manis, Frank; Siegel, Linda (eds.). *The SAGE Handbook of Dyslexia*. London: SAGE Publications Ltd, 77-98.
- Friend, Angela; Defries, John C; Olson, Richard K. 2008. "Parental education moderates genetic influences on reading disability". *Psychological science* 19(11), 1124-1130.
- Frith, Uta. 1999. "Paradoxes in the Definition of Dyslexia". *Dyslexia* 5, 192-214.
- Gabrieli, John D. E. 2009. "Dyslexia: A New Synergy Between Education and Cognitive Neuroscience". *Science* 325(5938), 280-283.
- Galaburda, Albert M; Loturco, Joseph; Ramus, Franck; Fitch, Holly R; Rosen, Glenn D. 2006. "From genes to behavior in developmental dyslexia". *Nature Neuroscience* 9(10), 1213-1217.

- Ghazaleh, Esfandiari Baiat. 2011. "A Study of Developmental Dyslexia in Middle School Foreign Language Learners in Iran". *Argumentum* 7, 159-169.
- Gooch, Debbie; Hulme, Charles; Nash, Hannah M; Snowling, Margaret J. 2014. "Comorbidities in preschool children at family risk of dyslexia". *Journal of Child Psychology and Psychiatry* 55(3), 237-246.
- Gwernan-Jones, Ruth; Burden, Robert. 2010. "Are They Just Lazy? Student Teachers' Attitudes About Dyslexia". *Dyslexia* 16, 66-86.
- Hallahan, Daniel P, Mercer, Cecil D. 2001. "Learning Disabilities: Historical Perspectives. Executive Summary".
<http://www.idaofky.org/LD/LD%20Historical%20Perspectives.pdf>. (10.03.2016)
- Handler, Sheryl M; Fierson, Walter M. 2011. "Joint Technical Report - Learning Disabilities, Dyslexia, and Vision". *Pediatrics* 127(3), 818-856.
- Helland, Turid; Kaasa, Randi. 2005. "Dyslexia in English as a second language". *Dyslexia* 11(1), 41-60.
- Hulme, Charles; Snowling, Margaret J. 2009. *Developmental Disorders of Language Learning and Cognition*. London: Wiley-Blackwell.
- IDA - The International Dyslexia Association. <http://eida.org/>. (08.03.2016).
- IDA - The International Dyslexia Association. "Dyslexia and the Brain". 2015.
<http://eida.org/dyslexia-and-the-brain-fact-sheet/>. (12.04.2016).
- IDA - The International Dyslexic Association. 2013a. "Gifted and Dyslexic: Identifying and Instructing the Twice Exceptional Student". <http://eida.org/gifted-and-dyslexic-identifying-and-instructing-the-twice-exceptional-student-fact-sheet/>. (25.03.2016).
- IDA - The International Dyslexic Association. 2013b. "Dyslexia In the Classroom. What Every Teacher Needs to Know". Baltimore.
https://www.google.at/?gws_rd=ssl#q=IDA+What+every+teachers+needs+to+knwo. (06.07.2016).
- IDA - The International Dyslexia Association. 2012a. "Dyslexia Basics".
<http://eida.org/dyslexia-basics/>. (10.03.2016).
- IDA - The International Dyslexia Association. 2012b. "At-Risk Students and the Study of Foreign Language in School" <http://eida.org/at-risk-students-and-the-study-of-foreign-language-in-school/>. (28.04.2016).
- IDA - The International Dyslexia Association. 2011. "Spelling". <http://eida.org/spelling/>. (26.04.2016).
- IDA - The International Dyslexia Association. 2008. "Attention-Deficit/Hyperactivity Disorder (AD/HD) and Dyslexia". <http://eida.org/attention-deficithyperactivity-disorder-adhd-and-dyslexia/>. (29.03.2016).
- Kormos, Judit; Smith, Anne Margaret. 2012. *Teaching Languages to Students with Specific Learning Differences*. Bristol: Multilingual Matters.
- Kormos, Judit; Csizér, Kata. 2010. "A comparison of the foreign language learning motivation of Hungarian dyslexia and non-dyslexic students". *International Journal of Applied Linguistics* (20), 232-250.
- Kopp-Duller, Astrid. 2011. *Legasthenie und LRS. Der praktische Ratgeber für Eltern*. Freiburg: Verlag Herder.
https://issuu.com/dyslexics/docs/kopp_duller_2011?e=2175518/2617100
- Krasowicz, Grażyna. 1997. *Language, Reading and Dyslexia*. Lublin: Agencja Wydawniczo-Handlowa AD.
- Krzyżak, Anna. 2006. "Dyslexia in the language classroom: Practical guidelines for teachers." *The Internet TESL Journal*, 12 (1). <http://iteslj.org/Techniques/Krzyzak-Dyslexia.html>. (05.07.2016).

- Landerl, Karin; Haller, Beatrix. 2013. *Der schulische Umgang mit der Lese-Rechtschreibschwäche. Eine Handreichung*. Bundesministerium für Unterricht, Kunst und Kultur. Wien.
- Landesschulrat NÖ. 2007. *Lese- und/oder Rechtschreibschwäche/Rechtschreibstörung („Legasthenie“) in Deutsch und den (lebenden) Fremdsprachen*. http://www.schulpsychologie.at/fileadmin/upload/lernen_leistung/Legasthenie/lrs_e_rlass_deutsch.pdf. (14.04.2016).
- Lightbown, Patsy; Spada, Nina. 2013. *How languages are learned*. (4th edition). Oxford: Oxford Univ. Press.
- Loewen, Shawn; Plonsky, Luke. 2016. *An A-Z of applied linguistics research methods*. London: Palgrave Macmillan.
- Lundberg, Ingvar. 2002. “Second language learning and reading with the additional load of dyslexia”. *Annals of Dyslexia* 52(1), 165-187.
- McDougall, Siné; Brunswick, Nicola; de Mornay Davis, Paul. 2010. “Reading and dyslexia indifferent orthographies: An introduction and overview”. In McDougall, Siné; Brunswick, Nicola; de Mornay Davis, Paul (eds.). *Reading and Dyslexia in different orthographies*. East Sussex: Psychology Press.
- Morton, John; Frith, Uta. 1993. “What lesson for dyslexia from Down Syndrome? Comments on Cossu, Rossini and Marshall”. *Cognition* 48, 289–296.
- Nicolson, Roderick; Fawcett, Angela. 2008. *Dyslexia, Learning, and the Brain*. Cambridge: The MIT Press.
- Nijakowska, Joanna. 2010. *Dyslexia in the Foreign Language Classroom*. UK: St Nicholas House.
- Olagboyega, Kolawole Waziri. 2008. “The effects of dyslexia on language acquisition and development” (Doctoral dissertation, Akita University, Japan). Retrieved from <http://air.lib.akita-u.ac.jp/dspace/bitstream/10295/1439/1/koshi29-4.pdf>
- Pennington, Bruce F; 2006. “From single to multiple deficit models of developmental disorders”. *Cognition* 101(2), 385–413.
- Peterson, Robin L; Pennington, Bruce F. 2015. “Developmental Dyslexia”. *Annual Review of Clinical Psychology* 11, 283-307.
- Peterson, Robin L; Pennington, Bruce F. 2013. “Developmental Dyslexia”. *Lancet* 379(9830), 1997-2007.
- Ramus, Franck; Marshall, Chloe R; Rosen, Stuart; Van Der Lely, Heather K. J. 2013. “Phonological Deficits in Specific Language Impairment and Developmental Dyslexia: Towards a Multidimensional Model”. *Brain* 136(2), 630-645.
- Sagmiller, Girard J. 2005. “What is dyslexia”. available online www.dyslexiamylife.org. accessed on December 24, 2005.
- Schneider, Elke. 2009. “Dyslexia and Foreign Language Learning” In Reid, Gavin (ed.). *The Routledge Companion to Dyslexia*. Oxon: Routledge, 297-310.
- Schneider, Elke; Crombie, Margaret. 2003. *Dyslexia and foreign language learning*. London: David Fulton Publishers.
- SchUG - Schulunterrichtsgesetz. §16: *Fachliche Aspekte für die Beurteilung von Schularbeiten*. <http://www.ris.bka.gv.at> (14.04.2016).
- Selinker, Larry. 1972. *Interlanguage*. *IRAL* 10.2: 209–31.
- Snowling, Margaret J. 2013. “Early identification and interventions for dyslexia: a contemporary view”. *Journal of Research in Special Educational Needs* 13(1), 7-14.
- Snowling, Margaret J; Gooch, Deborah; Henderson, Lisa. 2012. “Dyslexia”. In Ramachandran, Vilayanur (ed.). *Encyclopedia of Human Behavior*. London: Academic Press, 732-739.

- Sparks, Richard L; Ganschow, Leonore. 1993. "The Impact of Native Language Learning Problems on Foreign Language Learning: Illustrations of the Linguistic Coding Deficit Hypothesis". *Modern Language Journal*, 77(1), 58-74.
- Stadtschulrat Wien. 2014. *Richtlinien zum Umgang mit Lese-/Rechtschreibschwächen (LRS) im schulischen Kontext der AHS*.
http://www.schulpsychologie.at/fileadmin/upload/lernen_leistung/Legasthenie/erlass_II_ahs_2014.pdf. (05.04.2016).
- Steinbrink, Claudia; Lachmann, Thomas. 2014. *Lese-Rechtschreibstörung. Grundlagen, Diagnostik, Intervention*. Berlin Heidelberg: Springer-Verlag.
- Su, I-Fan; Klingebiel, Kathrin; Weekes, Brendan. "Dyslexia in Chinese: Implications for connectionist models of reading". In McDougall, Siné; Brunswick, Nicola; de Mornay Davis, Paul (eds.). *Reading and Dyslexia in different orthographies*. East Sussex: Psychology Press.
- Temple, Elise; Deutsch, Gayle K; Poldrack, Russell A; Miller, Steven L; Tallal, Paula; Merzenich, Michael M; Gabrieli, John D. E. 2003. "Neural deficits in children with dyslexia ameliorated by behavioral remediation: Evidence from functional MRI". *Proceedings of the National Academy of Sciences*, 100(5), 2860-2865.
- Thapa, Komilla; Aalsvoort, Geerdina M. Van Der; Pandey, Janak. 2008. *Perspectives on learning disabilities in India : current practices and prospects*. New Dehli: SAGE Publications India.
- Vidyasagar, Trichur R; Pammer, Kristen. "Dyslexia: a deficit in visuo-spatial attention, not in phonological processing". *Trends in Cognitive Sciences* 14(2), 57-63.
- Vellution, Frank R; Fletcher, Jack R. 2005. "Developmental Dyslexia". In Snowling, Margaret J; Hulme, Charles (eds.). *The Science of Reading. A Handbook*. Malden: Blackwell Publishing, 362-378.
- Wagner, Richard K. 2008. "Rediscovering Dyslexia: New Approaches for Identification and Classification". In Reid, Gavin; Fawcett, Angela; Manis, Frank; Siegel, Linda (eds.). *The SAGE Handbook of Dyslexia*. London: SAGE Publications Ltd, 174-191.
- Willcutt, Erik G; Pennington, Bruce F. 2000. "Comorbidity of Reading Disability and Attention-Deficit/Hyperactivity Disorder: Differences by Gender and Subtype". *Journal of Learning Disabilities*, 33(2), 179-191.
- Williams, Joan A; Lynch, Sharon A. 2010. "Dyslexia: What Teachers Need to Know". *Kappa Delta Pi Record* 46(2), 66-70.

11. Appendix

11.1. Interview Guide/Interview Leitfaden

PERSÖNLICHER HINTERGRUND

1. Bitte erzählen Sie kurz wie viele Dienstjahre Sie schon unterrichten, welche Fächer und in welchem Schultyp.
2. Gibt es an Ihrer Schule Förderkurse für LRS/Legasthenie oder speziell ausgebildete Lehrer? (In welcher Form findet der Förderkurs statt? Glauben Sie, dass es eine Nachfrage nach einem solchen Kurs an Ihrer Schule geben würde?)
3. Wurde das Thema Legasthenie im Laufe Ihrer Ausbildung bzw. in Fortbildungen behandelt? (Wie? Glauben Sie, es wäre notwendig?)
4. Man findet ja sehr viele verschiedene Definitionen von Legasthenie. Was verstehen Sie persönlich unter Legasthenie, bzw. wie würden sie Legasthenie definieren?
5. Gibt es eigene Schulgesetze für den Umgang mit Legasthenie?

ERFAHRUNGEN MIT LEGASTHENEN SCHÜLERINNEN

6. Wie oft haben Sie bereits SchülerInnen, bei denen Legasthenie diagnostiziert wurde, im Unterricht erlebt? In welcher Schulstufe?
7. Haben Sie den Eindruck, dass noch mehr legasthene SchülerInnen in Ihrer Klasse sind/waren? Warum? Wie haben Sie das gemerkt?
8. Unabhängig vom Englischlernen, sind diese Schüler in irgendeiner Art und Weise aufgefallen?
9. Haben Sie Unterschiede im
 - Verhalten
 - in ihrer Motivation
 - Konzentration, im Vergleich zu den anderen Schülerinnen, beobachtet?
10. Haben Sie Zeitprobleme beobachtet?

BEOBSACHTUNGEN IM ENGLISCHUNTERRICHT

11. Haben Sie den Eindruck, dass Legasthenie einen Einfluss auf das Englischlernen hatte/hat? Wie? Warum, glauben Sie, ist das so? Haben sie mehr Schwierigkeiten im Vergleich zu anderen SchülerInnen der Klasse?
12. Sind Schwierigkeiten von Beginn an zu beobachten oder verstärken sie sich mit steigendem Schwierigkeitsgrad?
13. Glauben Sie, dass sich die Probleme in der Muttersprache auf das Erlernen der Fremdsprache ausgewirkt hat bzw. einen Einfluss hat/hatte bei Ihren SchülerInnen? Inwiefern, auf welche Art und Weise?
14. In welchen Bereichen – speaking, reading, listening, writing – hatten/haben diese SchülerInnen besondere Probleme? Warum fällt diesen SchülerInnen gerade dieser Bereich so schwer?
15. Wie hat sich das genau in den einzelnen Bereichen ausgewirkt?
 - **Reading:** Was genau war beim Lesen schwierig für jene SchülerInnen? (flüssiges lesen, lautes lesen oder das inhaltliche Verständnis) Warum?
 - **Writing:** Sind Ihnen irgendwelche Fehler aufgefallen, die typisch für die legasthene SchülerInnen sind/waren? Welche? Warum? Gab es eher Probleme im Bereich Rechtschreibung oder Wortbildung/Satzbildung?
 - Gibt/Gab es Probleme bei **listening tasks**? Welche genau? Warum? Fällt es ihnen zum Beispiel schwieriger der Listening zu folgen oder die genauen Wörter zu verstehen?
 - Sind Ihnen auch irgendwelche Probleme im Bereich **speaking** aufgefallen?
16. Sind Ihnen noch weitere Probleme in anderen Bereichen aufgefallen? (Grammatik, Vokabel lernen, beim Abschreiben von der Tafel oder Zeitprobleme bei Übungen) Welche? Warum? Wie hat sich das ausgewirkt?
17. Haben diese Schwierigkeiten irgendwelche Auswirkungen auf den Unterricht?

METHODEN

18. Glauben Sie, dass es notwendig ist Methoden oder Materialien (Übungszettel etc.) im Englischunterricht an die Bedürfnisse von legasthenen SchülerInnen anzupassen? Wie?
19. Gibt es spezielle Materialien?

20. Gibt es Bereiche/Kompetenzen die besonders gefördert werden müssen?
21. Wie gehen Sie persönlich in Ihrem Unterricht mit den speziellen Bedürfnissen von SchülerInnen mit Legasthenie im Englischunterricht um? Verwenden Sie bestimmte Materialien? Welche Probleme gibt es?
22. Haben Sie das Gefühl, dass das Schulbuch, das Sie verwenden, in der Art wie neue Inhalte präsentiert werden oder der Auswahl an Übungen, auf die Bedürfnisse von legasthenen SchülerInnen eingeht? Inwiefern?
23. Aufgrund Ihrer Erfahrung mit legasthenen SchülerInnen, glauben Sie, dass bestimmte Methoden besonders hilfreich/besonders ungeeignet für jene SchülerInnen sind? Welche? Warum (nicht)?
24. Profitieren alle SchülerInnen von diesen Methoden?
25. Nehmen oder wie nehmen Sie beim Korrigieren von Schularbeiten Rücksicht auf Legasthenie?

Herzlichen Dank für das Gespräch, ich habe keine Fragen mehr. Gibt es noch etwas, dass Ihnen als wichtig erscheint in Bezug auf Legasthenie und Englischunterricht oder dass ich vielleicht vergessen habe zu fragen? Vielen Dank. ☺

11.3 Abstract

Dyslexia is a language based disorder and acknowledged to be the most common learning difficulty worldwide. It manifests itself primarily in reading, writing and decoding deficits. The symptoms, however, vary from person to person and may even be subject to change over time. Hence, dyslexic individuals are able to compensate weaknesses, even though dyslexia, as such, cannot be cured. Within the literature on dyslexia, there is a widespread agreement that dyslexia does not only affect first, but also second or foreign language acquisition. Thus, dyslexic students might face serious challenges when studying English in school. Therefore, this thesis concentrates on dyslexia and English foreign language acquisition (EFL) in schools and how teachers cope with it in their classrooms.

For this purpose, interviews were conducted with six English language teachers who work in grammar schools in Vienna and who had experienced dyslexic learners in their classes. The interviews focused on what kind of difficulties they have experienced in dyslexic learners, how the teachers support these students and on what challenges the teachers face in this situation. The findings illustrate that the participants' experiences with dyslexic students vary considerably. Spelling, organisation of texts, reading, vocabulary acquisition and slow pace, however, have been perceived as the main problems. The data revealed that only minor accommodations are implanted in the lessons, for various reasons. The fact that the difficulties of dyslexic students are similar to those of other students and that it is often not clear whether a problem is caused by the learning difficulty or not presents a challenge for teachers.

This paper recommends heightening the awareness among teachers not only about learning difficulties in general, but also on possible teaching strategies and accommodations. Furthermore, further research in the fields of effective teaching strategies for dyslexic learners and about attitudes of teachers towards dyslexia might be helpful for the understanding of dyslexia.

11.4. Zusammenfassung

Legasthenie oder Lese- Rechtschreibstörung wird weltweit als eine der häufigsten Lernschwierigkeiten angesehen und zeigt sich primär durch Probleme in den Bereichen Lesen und Schreiben. Die Symptome variieren von Person zu Person und können sich zusätzlich im Laufe der Zeit verändern. Obwohl Legasthenie als eine dauerhafte Störung verstanden wird, können Schwierigkeiten durchaus kompensiert werden. Legasthenie wirkt sich nicht nur in der Muttersprache aus, sondern kann auch das Lernen von Fremdsprachen maßgeblich beeinträchtigen. Daher können legasthene SchülerInnen auch Probleme im Englischunterricht in der Schule haben. Diese Diplomarbeit behandelt das Thema Legasthenie in Bezug auf den Englischunterricht in der Schule und wie Lehrpersonen mit dieser Situation in ihren Klassen umgehen.

Für den empirischen Teil dieser Arbeit wurden sechs Interviews mit EnglischlehrerInnen durchgeführt, die an Gymnasien in Wien unterrichten und Erfahrung mit legasthenen SchülerInnen gemacht haben. Die Interviews konzentrierten sich darauf, welche Schwierigkeiten die Lehrpersonen bei legasthenen SchülerInnen beobachtet haben, wie sie die betroffenen SchülerInnen unterstützt haben und welchen Herausforderungen die Lehrenden dabei selbst gegenüberstanden. Die Ergebnisse zeigen, dass sich die Erfahrungen der TeilnehmerInnen stark unterscheiden. Rechtschreibung, die Organisation von Texten, Lesen, das Erlernen von Vokabeln und generell ein sehr langsames Arbeiten wurde als die häufigsten Probleme genannt. Die Ergebnisse zeigen, dass nur wenige spezifische Methoden im Unterricht verwendet werden, und zwar aus unterschiedlichen Gründen. Die Tatsache, dass sich die Schwierigkeiten von legasthenen SchülerInnen oft nicht von denen schwacher Schüler unterscheiden lassen und dass sich ein Problem nicht immer unbedingt auf Legasthenie zurückführen lässt, stellt eine Herausforderung für Lehrpersonen da.

Diese Diplomarbeit empfiehlt, ein erhöhtes Bewusstsein bei Lehrenden bezüglich Lernschwierigkeiten im Allgemeinen zu schaffen. Darüber hinaus ist weitere Forschung in diesem Feld notwendig. Erkenntnisse über die Effektivität von Lehrmethoden für legasthene SchülerInnen und über die Einstellung von LehrerInnen gegenüber Legasthenie könnten hilfreich sein, um Legasthenie besser zu verstehen.