IT’S A JUNGLE OUT THERE

A material package for supporting students with dyslexia in foreign language classrooms in upper secondary school

Master’s thesis

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Tiivistelmä – Abstract

Lukivaikeus on yksi yleisimmistä oppimisen vaikeuksista ja koskettaa myös suurta osaa lukiolaisista. Suuressa osassa lukioita ei kuitenkaan tarjota erillistä erityisopetusta, vaan tukimuodot rajoittuvat lukivaikeusdiagnoosin saaneilla lähinnä lisäaikaan kokeissa. Täten vastuu mahdollisen tuen antamisesta on tällä hetkellä aineenopettajalla. Aineenopettajakoulutukseen ei kuitenkaan sisälly kattavaa tietoa oppimisen vaikeuksista, ja siksi olemme koonneet tähän tutkielmaan ja materiaalipakettiin tietoa lukivaikeuden vaikutuksista vieraan kielen opiskeluun.

Tämän vuoksi tutkielmamme tarkoituksena on antaa lukion opettajille tiivis katsaus lukivaikeuteen sekä sen ilmenemiseen ja tukemiseen erityisesti vieraan kielen opiskelussa. Vaikka aineenopettaja ei tee diagnoosia lukivaikeudesta, tehokkaiden tukitoimien onnistumiseksi on tärkeää olla tietoinen lukivaikeuden tyypillisistä piirteistä. Tutkielma toimii täten johdantona tarjoamaamme materiaalipakettiin. Tutkielmamme ja materiaalipakettimme otsikko on metafora, joka kuvaa tämänhetkistä lukion erityisopetuksen tilaa. Sen lisäksi otsikko kuvaa aineenopettajien haasteita tukitoimien suunnittelussa riittävän tiedon ja konkreettisten keinojen puuttuessa. Otsikon voi myös tulkita kuvaavan vieraan kielen opiskelun näyttäytymistä tiheänä viidakkona oppilaalle, jolla on lukemisen vaikeuksia.

Materiaalipaketimme tavoitteet ovat antaa lukion kieltenopettajille tietoa lukivaikeuden vaikutuksista vieraan kielen opiskeluun ja tarjota konkreettisia, helposti käyttöön otettavia keinoja mukauttaa lukion kielten opetusta monikanavaisempaan ja lukivaikeutta huomioivampaan suuntaan, jotta kaikilla olisi tasapuoliset mahdollisuudet saavuttaa opetussuunnitelmassa asetetut tavoitteet. Materiaalipakettimme pyrkii herättämään opettajien tietoisuutta lukivaikeudesta, edistämään opiskelijoiden kielellistä tietoisuutta ja metakognitiivisia taitoja sekä kannustamaan opettajia huomioimaan lukivaikeus myös lukion vieraan kielen opiskelussa.

Asiasanat – Keywords Dyslexia, EFL, upper secondary school, curriculum
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1 INTRODUCTION

Dyslexia is one of the most common learning difficulties, and it is estimated to cause difficulties for up to 10% of the people in Finland (Mikkonen, Nikander, Voutilainen 2015). Thus, it is safe to assume that there are dyslexic students in every upper secondary school in Finland. In fact, as it is stated in a publication by the Trade Union for Education (OAJ 2015: 6), in estimate 5% of the upper secondary school students suffer from a diagnosed, specific learning difficulty. However, the existence of students with dyslexia has been downplayed for long and receiving any support requires a diagnosis and even with the diagnosis the support is often limited to receiving extra time in tests. This may very well be the cause of many students giving up on their academic career, and in fact, Holopainen and Savolainen (2006: 213) point out that dyslexic difficulties affect strongly the length of one's education and dyslexic students seem to stop their secondary education earlier than other students. For this reason, it is alarming that often the availability of individual support in upper secondary school depends on resources and requires a diagnosis by a specialist before educational adjustments can be made. Furthermore, the diagnosis is based on students' linguistic skills in their native language, which may leave out students who do not show dyslexic difficulties in it but instead struggle with foreign languages.

In basic education, the law and the curriculum guarantee special support, differentiated material and adjustments to the assessment. By contrast, the issue of learning difficulties has not been mentioned in the law for upper secondary school or taken into account in upper secondary school teaching materials. In other words, upper secondary school students do not have a legal right to receive special education (OAJ 2015: 6, the Finnish law for upper secondary school 21.8.1998/629, §29). However, it is stated in The Finnish National Curriculum for General Upper Secondary School (LOPS 2015: 20) that individual support should be given and that the support measures and solutions should cover the whole learning community and the physical surroundings. Because of this contradiction, it is unclear how the support should be organised and by whom, which is why the responsibility of carrying out the possible supportive measures lies still often on the shoulders of the subject teacher (Hällfors et al. 2006: 233). Thus, it would be extremely important that subject teachers had knowledge of the different types of learning difficulties and the possible support measures.

We chose to concentrate on dyslexic difficulties, because as said, dyslexia is one of the most common learning difficulties and dyslexia is rarely taken into account in study materials in upper secondary school. The results of the undertaking done by Holopainen and Savolainen (2006: 208-210) show that dyslexia has the greatest effect on learning foreign languages and that 85-90% of the students who struggle with dyslexic difficulties are less successful in foreign languages than average. We think that a learning difficulty should not be in the way of academic success. With individual support and suitable teaching materials the teachers can help the students overcome these difficulties. We discuss this issue from the perspective of English as a Foreign Language (EFL).

Thus, the aims of our thesis are the following. Firstly, to provide information and raise awareness of a common learning difficulty, dyslexia. Secondly, to explore how dyslexia manifests in foreign language learning. Thirdly, to present ways to support students with dyslexia in EFL classrooms. In addition to this, we provide a material package to enhance dyslexic students' linguistic and metacognitive skills in EFL classroom. The material package includes separate sections for different areas of language learning (reading, writing, listening, vocabulary and grammar) and provides tools for identification of dyslexia type difficulties in those areas. We provide general guidelines for creating a dyslexia friendly environment in classroom and concrete task suggestions designed to practice skills that students with dyslexia often lack. As the material package is a resource package, it is not tied to a specific course or language, but is suitable to be used throughout all foreign language courses in upper secondary school.

In this paper, we will discuss the possible explanations for dyslexic difficulties, the identification of dyslexia in foreign language classroom and the effective support measures. It is important to note here that although we will use the term dyslexia throughout this paper, we consider it as an umbrella term for all reading difficulties that arise generally from differences in information or phonological processing and we feel that it is unnecessary for the purposes of this paper to make a division between the diagnosed and undiagnosed students. For example, many students who are not specifically diagnosed as dyslexic in their native language, struggle with milder degrees of dyslexia, which manifest especially in foreign language classrooms. Some theories even suggest that it is possible that dyslexia or reading

difficulties can manifest only in foreign languages and not necessarily at all in one's native language (e.g. Martin 299: 92, Frith 1999: 210). Thus, taking also the undiagnosed students into account is important, and as Rief and Stern (2010: 8) state, many teens and even adults with dyslexia go through their school years undiagnosed, particularly those with mild degrees of dyslexia. These students must go through the system without receiving the specialised instruction they need.

There is a clear contradiction between the growing need for individual support, the subject teachers' knowledge of learning difficulties and the possibilities to receive support in upper secondary school. As a partial solution, we present the model of a dyslexia-friendly school and a whole school policy in addition to the materials provided in our material package. The main purpose of dyslexia-friendly approach, which was initiated in 1999 by British Dyslexia Association, is to create a supporting ethos to school and involve every teacher and student to participate in this. It is based on the idea that what is effective teaching for a dyslexic student, is beneficial for all learners (Pavey, Meehan, Waugh 2016: 4). For example, Reid (2012: 8) states that the successful teaching strategies for dyslexic students, such as multi-sensory and kinaesthetic strategies, are useful for all learners and should be elements of effective teaching in all classrooms. Furthermore, as Mackay (2004, in Rontou 2012: 141) states, one of the key criteria for successful dyslexia-friendly practice is, in fact, the availability of appropriate material, which is why it is important that the materials are more accessible and adaptable in teaching. Our material package aims to answer specifically to this need for appropriate material for upper secondary school.

As presented earlier, because of the insufficient legislation, it is unclear who has the responsibility for organising special support in upper secondary school. Additionally, the subject teachers can feel confused or lost without knowledge of supporting learning difficulties, especially when there is little adequate material for this purpose. Thus, the title of our thesis and material package is a metaphor for the "wildness" that prevails in upper secondary school special education. Furthermore, a jungle describes well how foreign language learning can appear to students with dyslexia.

We will first present the current definitions and possible explanations for dyslexia in Chapter 2, as the issue is complex and the underlying reasons of dyslexia have remained controversial.

To be able to give support, one should understand the roots and characteristics of dyslexia. That is also why we have included the key characteristics of dyslexia in the material package as well. We also want to highlight the variety of possible explanations to emphasise the fact that despite of the underlying reasons for dyslexia-type difficulties, there are certain support measures proven effective to a variety of students with dyslexia-type difficulties. In Chapter 3 we will discuss the issue of dyslexia from the perspective of foreign language learning. We will also give explanations why Finnish students may confront difficulties in learning English and compare these two languages. Chapter 4 in turn concentrates on presenting the characteristics of dyslexic difficulties in different areas of language learning. We aim to provide possible signs for identification of dyslexia in foreign language classroom in reading, spelling, writing, listening and learning skills. After giving the possible signs we will move on to discuss some effective teaching strategies in Chapter 5. We have divided the support into three categories: general, linguistic and metacognitive support, and we will follow this division also in our material package. In Chapter 6, we provide a short introduction to our material package.

2 DYSLEXIA - A CONTROVERSIAL PHENOMENON

Reid (2005: 4) describes dyslexia as a hidden disability. In other words, we can only detect it when a person with dyslexia is put into a situation that requires reading. Because of the nature of dyslexia as a hidden disability and, as Siegel (2006: 581) points out, there is no specific blood test or brain imaging result that can provide a diagnosis for dyslexia, it is no wonder that the notion of dyslexia has stirred up arguments for and against the whole concept and existence of dyslexia.

While dyslexia is a controversial phenomenon and indeed, there is a debate among the researchers on how to define dyslexia. However, there is still some consensus about the underlying nature of dyslexia. In this chapter, we will explore and present different definitions for dyslexia and the common characteristics of these different definitions. Moreover, later in this chapter, we will explain our own view of dyslexia, as it naturally functions as the basis of our material package and the rest of this paper; it explains why we have chosen to include particular features and why we have decided to exclude some issues. Finally, we will examine some explanations for dyslexia, that is, the main theories explaining the complex and diverse

nature of dyslexia.

2.1 Definitions of dyslexia

As discussed above, dyslexia is a controversial phenomenon and what makes it difficult to define is that the term can either be seen as a synonym to general reading difficulties or as a specific reading disability. Terms used as a synonym for dyslexia vary in a spectrum from a very medical *specific reading retardation* to a more vague *reading difficulty.* According to Elliot and Grigorenko (2014: 5), there are researchers who use various terms as synonyms and thus, do not differentiate them, while there are some researchers who use the term dyslexia to refer to a small and specific group of people with a specific reading difficulty. Siegel (2006: 581) raises another issue why defining dyslexia is difficult and states that it is hard to draw a line between a dyslexic and non-dyslexic person, and therefore, the whole concept is subjective and controversial. However, as Siegel (2006: 581) points out: "This relative uncertainty does not dispute the reality of dyslexia, but instead indicates that there is some subjectivity in the diagnosis." In other words, how dyslexia is defined and understood affects also the diagnosis of dyslexia.

Some researchers make a distinction between *acquired dyslexia* and *developmental dyslexia.* Acquired dyslexia implies that reading has been gained but lost due to a brain injury, while developmental dyslexia implies that reading is difficult because of neurobiological (and possibly hereditary) reasons (Wadlington, Jacob and Bailey 1996: 2). On the other hand, it can be argued whether making a distinction between acquired and developmental dyslexia is necessary at all, as the difficulties are the same regardless of the reasons behind the dyslexia. Indeed, it seems that many definitions do not make this distinction, but rather use the term dyslexia on its own. Similarly, in this paper we do not make a distinction between these two as it is not relevant for the purposes of this paper.

International Dyslexia Association (2014: 2) defines dyslexia as neurological in origin and the difficulties result from a deficit in the phonological component of language and they are not related to other cognitive abilities and the effective classroom instruction. Also, according to DiFino and Lombardino (2004: 391), dyslexia is the most common learning disability and that it is a specific type of reading disability, which arises from the difficulty in forming adequate

phonological representations of the sounds in language. Indeed, most definitions for dyslexia include the difficulties in phonological processing, which makes it neurobiological in origin.

However, Takala (2006: 66-67) presents a broader definition and describes dyslexia as a reading difficulty that manifests in slow and false reading. Takala emphasizes that a reading difficulty does not necessarily equal dyslexia, but dyslexia is one of the forms of a reading difficulty. Consequently, it is quite complex to define dyslexia or, for that matter, reading difficulties.

Similarly, Pavey et al. (2010: 4) point out that the definitions of dyslexia are so varied that it is impossible to aim to describe one phenomenon. For some researchers *dyslexia* is an umbrella term, while some consider dyslexia as a subtype and a specific disorder. In Finland, the term *dyslexia* is often replaced with *reading and writing difficulties* or *reading disorder*. These terms include more symptoms and reasons behind the difficulties (Takala 2006: 65). According to Takala (2006: 67), in Finland the term *dyslexia* is used only for medically diagnosed difficulties. Thus, the use of the term varies depending on the country. Takala (2006: 71) emphasises the complexity of defining dyslexia and states that it is difficult to distinct a dyslexic student from other poor readers. However, Frith (1995: 9) makes a distinction between *dyslexia* and *reading difficulties*. According to Frith, when we use the term *dyslexia* we are referring to a developmental disorder, which operates on all levels of dyslexia (biological, cognitive and behavioral), but when we talk about *reading difficulties*, we are not particularly interested in the causes behind dyslexia.

While some definitions emphasise the neurological basis of dyslexia, some definitions see dyslexia as a complex condition with sociological, psychological, environmental and biological factors. It can be stated that different definitions and theories behind these definitions are pieces of a puzzle which do not work on their own but together can help to understand the complex nature of dyslexia and the causes for it. Indeed, Nijakowska (2010: 33) presents that even though the predominant understanding is that dyslexia has neurobiological origins, she points out that there may be several causes of dyslexia in relation to a particular child. Similarly, Ramus et al. (2003: 844) argue that there is a possibility that different theories are true for different individuals; there indeed may be different subtypes of dyslexia that can overlap. The understanding of dyslexia continues to evolve and the debate

concerning its nature continues (Pavey et al. 2010: 3). However, to conclude, there seems to be some consensus among the researchers; all definitions above emphasise that dyslexia is a specific cognitive disorder with neurological origins, and that reading difficulties cannot be explained by any other factors such as inadequate schooling or visual impairment.

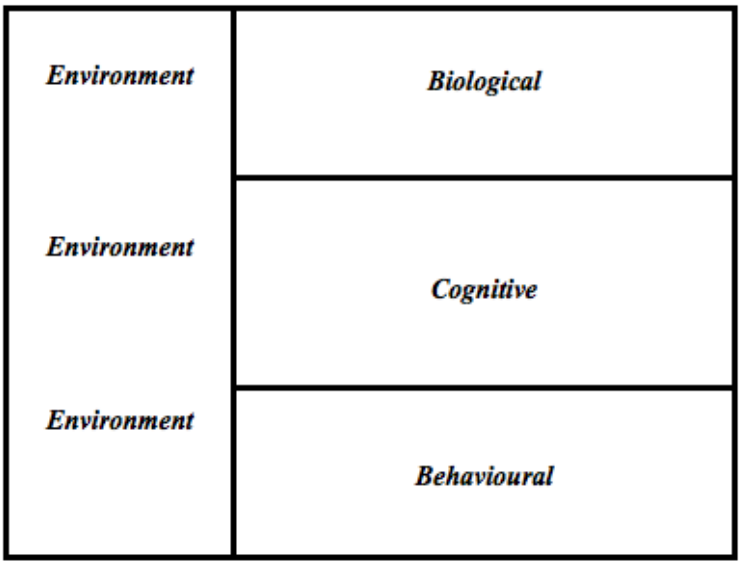
We also acknowledge the profound evidence for neurological origin of dyslexia and its developmental nature. However, we think that in this paper there is no need to make a distinction between dyslexia and reading difficulties; we think that for purposes of this paper and the following material package it is not necessary to define dyslexia merely as a consequence of neurobiological or socio-cultural reasons, but rather for us, the term includes variable causes and symptoms of the reading and writing difficulties. Furthermore, we have decided to use the term dyslexia rather than a specific reading disability or a reading difficulty or any other term used often as a synonym for dyslexia because it is the most used and studied of all different specific reading disabilities. For us, in our work, it functions as an umbrella term for all different (specific and general) difficulties. Additionally, we think that an overly strict definition might delimit students who need support outside. We argue that the most important aspect for the teachers to consider is that support is given to all students for their learning problems regardless of the causes behind the problem. However, we think that it is essential to be aware of the different explanations behind dyslexia in order to be able to understand its complex nature and to give effective support in learning.

2.2. Explanations for dyslexia

According to Frith (1999: 192), there are three levels of dyslexia - *behavioural, biological and cognitive*, and at all three levels interactions with *socio-cultural factors* occur (Figure 1). The behavioural level examines the symptoms of dyslexia, such as poor reading or rhyming deficits. In other words, behavioural level of dyslexia examines merely factors that can be observed and thus, it is not interested in inner workings of the mind of a dyslexic person. However, the cognitive level is interested in the inner processes of the mind; it examines the underlying causes of dyslexia, for example, problems in phonological awareness, automatisation and slow processing speed. Finally, the underlying brain mechanisms lie at the biological level, with differences in language areas, magnocellular pathways, and the cerebellum. Hence, this level of dyslexia focuses on the observable differences in the

underlying brain mechanisms between a dyslexic person and a person without dyslexia. These underlying differences can be observed by using different medical imaging techniques such as Magnetic Resonance Imaging (MRI). These levels in Figure 1 - biological cognitive and behavioural - are not in a hierarchical order or do not function on their own, but are rather interdependent on each other. In other words, any explanation for dyslexia should include all three levels in order to be thorough and complete.

Figure 1. *Levels of dyslexia.* (Adapted from Frith 1995: 6)



Nijakowska (2010: 34) completes Frith's theory by summarising the interdependence of different levels; as for the hypothetical causal links between the levels, the indicated direction is from biological through cognitive to behavioural level. In other words, a genetic difference causes brain abnormality, which in turn is responsible for a cognitive deficit, which in turn brings about certain observed patterns of behaviour. This is in line with Frith's three component model. However, Frith (1999: 192) points out that environmental factors have a major influence on the manifestation of dyslexia, on the experience of the student, and on the possibilities for learning. Therefore, we decided to acknowledge different social-cultural explanations for dyslexia and explore them in this paper as we agree with Frith that they may have a major role in the manifestation of dyslexia. As the behavioural level is linked to one's behaviour and includes mainly secondary reactions, it does not offer any theories or explanations for dyslexia. Thus, we have decided to focus on the two levels of dyslexia,

cognitive and biological, which in turn offer possible explanations. We will discuss the behavioural signs later in relation to the identification of dyslexia in the classroom. Hence, the next chapters will introduce and discuss the cognitive and biological levels of dyslexia and different theories linked to these levels and lastly, we will explore some social factors that have been linked with reading difficulties. However, we want to note that for the purposes of this paper we think that it is not necessary to present all the theories concerning dyslexia in depth but we have rather chosen the current, most prominent and versatile versions of each theory.

2.2.1 Biological level

As discussed before, there is a great deal of evidence of the genetic origin of dyslexia. According to Scarborough (1990, cited in Shaywitz and Shaywitz 2005: 1301), even up to 65% of children with a dyslexic parent have this specific reading disability too, which indicates heritable nature of dyslexia and its basis in the brain. Similarly, Ramus et al. (2003:841) claim that the neurological and genetic origin of dyslexia is a well-known fact. The recent advances in imaging technology, such as MRI, enable researchers to study the structure and the function of the nervous system. Brain imaging has provided information on the reading process of a dyslexic person; it seems that there is dysfunction in the left hemisphere during reading tasks (Shaywitz and Shaywitz 2005: 1307).

According to Ramus et al. (2003: 841), there are three major theories explaining developmental dyslexia; *the phonological theory*, *the magnocellular theory*, and *the cerebellar theory*. The phonological theory falls into the cognitive level of dyslexia and that is why it is introduced better in the next chapter. However, the magnocellular theory and cerebellar theories are linked to the biological level explaining dyslexia, and therefore, they are explored here.

The cerebellar theory's hypothesis suggests that a person with dyslexia has a somewhat dysfunctional cerebellum, which leads to difficulties in cognitive processes. According to the supporters of this theory, a dysfunctional cerebellum causes problems in speech articulation, which can be seen in the behavioural level as deficient phonological representations. Moreover, as the cerebellum has a major role in the automatization of processes in general, it

can be assumed that a dysfunctional cerebellum will lead to problems in tasks which require automatization such as reading. Even though brain imaging has offered some proof for the hypothesis of dysfunctional cerebellum, the cerebellum theory has been criticised for its inability to explain why some dyslexics have motor problems and why some do not. (Ramus et al. 2003: 843).

The magnocellular theory operates also in the biological level of Frith's (1995: 6) framework. According to Frith (1999: 194), the magnocellular deficit theory assumes that a dyslexic person has magnocellular abnormalities. According to Ramus et al. (2003: 843), the magnocellular is an inclusive theory for explaining dyslexia as it takes all the different manifestations of dyslexia into account: visual, auditory, tactile, motor and phonological. However, unfortunately, there is not enough support for this theory as it fails to explain why so many dyslexic people do not have sensory or motor disorders as the theory claims (Ramus et al. 2003: 844).

2.2.2 Cognitive level

The cognitive level of Frith's (1995: 6) framework for causes of dyslexia examines the inner processes of the mind. The cognitive level works as a mediator between the brain and the behaviour. There is a clear gap between what happens in the brain and how dyslexia is shown in the behaviour; that is why we need cognitive theories of dyslexia to explain what happens in-between (Frith 1999: 195).

The phonological theory, also known as Phonological Deficit Hypothesis, explains that dyslexia causes problems in phonological processing (Martin 2007: 97). According to Schulte-Körne et al. (1998: 337), phonological processing requires phonological awareness, which includes the following features: phoneme identification, phoneme discrimination, and verbal short-term memory. A phoneme is an elemental particle of speech (Shaywitz and Shaywitz 2005: 1301). Similarly, according to Frith (1999: 194), the theory claims that reading difficulties arise from problems in speech processing. The phonological theory postulates that in order to be able to read successfully, a reader needs to be aware of the relation between graphemes and phonemes, in other words, the relation between letters and sounds (Ramus et al 2003: 842). This knowledge of the relation of graphemes and phonemes

and knowing how to use this knowledge is called decoding (Takala 2006: 69).

There is a clear consensus among researchers about the causal and central nature of problems in phonological processing in dyslexia (Ramus et al. 2003: 842). However, the phonological theory has been criticized because it fails to acknowledge the motor and sensory disorders that are often linked to dyslexia. Despite of this, several studies support the central and causal role of dyslexia, one of which is by Ramus et al. (2003). In their study, they examined the three central theories of dyslexia; the cerebellar, magnocellular and phonological theories, all of which have been introduced and discussed also in this paper. The data of their study found little evidence for the magnocellular and the cerebellar theory, but it supported the phonological theory. However, Ramus et al. (2003: 841) call for the acknowledgment of additional sensory and motor disorders as part of dyslexia rather than dismissing them. Additionally, Frith (1999: 195) states that in order to successfully explain dyslexia, cognitive theories need to be linked with the current knowledge of brain function while also acknowledging the environmental factors affecting reading difficulties.

2.2.3 Environmental level

Frith (1999: 198) suggests that we use the term dyslexia only when we refer to the neuro-developmental disorder instead of referring to reading problems in general. The cause of reading difficulties may be due to the syndrome of dyslexia, but there are multiple other causes too. These may be simple, such as insufficient teaching, or complex, involving an interplay of external and internal factors. Frith (1999: 192) clarifies that there are three levels of dyslexia - behavioural, biological and cognitive, and at all three levels interactions with socio-cultural factors occur (see Figure 1). Frith (1999: 192) also points out that these environmental factors have a major influence also on the manifestation of dyslexia, the experiences of the student and the possibilities for learning. Also, Shaywitz and Shaywitz (2005: 1301) point out that one needs to acknowledge the importance of the social factors that might enhance the manifestation of dyslexia. Additionally, these factors should be taken into account especially when considering the students who are not diagnosed as dyslexic but indicate dyslexia-type difficulties in foreign language learning. Taking the undiagnosed students into account in teaching is important, as learning difficulties can also be explained with other factors than biological differences and the reason behind reading difficulties can

also lie in the external factors such as socioeconomic status, inadequate teaching or limited learning opportunities.

Takala (2006: 78) also brings up environmental reasons related to previous experiences and poor teaching. She (2006: 78) explains that dyslexia itself is not something that can be inherited, but the genes that enable the outbreak of dyslexia are inheritable. The environment affects strongly the realisation and the manifestation of dyslexia. This is supported by Westwood (2008: 2) who explains that learning difficulties may not result from specific physical impairments, but may be completely due to external factors, such as socio-cultural factors, lack of support from home, limited learning opportunities or insufficient teaching during the early years. Holopainen and Savolainen (2006: 212) have also stated that the external factors are risk factors for reading and spelling difficulties. They mention factors such as low income, poor educational services and inadequate linguistic support from home. Similarly, the results of the latest PISA-report show that low socio-economic status of the family has a strong influence on the literacy of the child (Arffman and Nissinen 2015: 46). The results in their report reveal that teenagers with low socio-economic background have clearly lower literacy skills than teenagers with higher socio-economical background and that 11% of all 15-year-olds have serious difficulties in reading skills. However, British Dyslexia Association (BDA) reminds that low socioeconomic background may not necessarily constitute for the development of dyslexia by itself, but studies show that there is often a clear connection between the low socioeconomic background and the early linguistic support from home.

As mentioned earlier, external, school-related factors such as insufficient teaching, overloaded curriculum or unrealistic goals can also be potential risk factors for reading difficulties (DiFino and Lombardino 2004: 393). For example, Nijakowska (2010: 6) and Lyytinen, Erskine, Hämäläinen, Torppa and Ronimus (2015: 330) clarify that inadequate teaching can lead to intense difficulties in reading skills. Conclusively, even though the student does not have severe difficulties in cognitive processing, s/he may still struggle with dyslexia-type difficulties, which is why our material package aims to help teachers to give adequate and efficient support for all students with reading difficulties. Furthermore, as the fast pace of the courses in upper secondary school and the amount of information can cause accumulation of difficulties for all students, not to mention at-risk dyslexia students, giving adequate and early

support is vital.

However, as Thomson (2008: 3) points out, most secondary teachers are less interested in the debate about the definitions of dyslexia than in learning about how dyslexia affects students' learning in foreign language classroom and what they can do to minimise its effects in the classroom. In the next chapter, we will discuss how dyslexia affects foreign language learning.

3 DYSLEXIA IN FOREIGN LANGUAGE LEARNING

Often one's linguistic skills in native language predict academic success in foreign languages (Ganschow, Sparks and Pohlman 1989, in Downey et al. 2000: 102). However, as Björn and Leppänen (2012: 1) discuss, the learner may have learned to compensate deficits in the native language, but has difficulties in learning foreign languages. Moreover, according to some theories, dyslexia can be visible only in foreign languages. This is why it is crucial that the teachers are aware of the possible difficulties that manifest specifically in foreign language learning. However, DiFino and Lombardino (2004: 397) state that there lies a contradiction in that foreign language teachers, who should often be the first persons to observe reading and writing difficulties, are often not trained to detect problems associated with learning difficulties. In Finnish subject teacher training, it is not compulsory to take courses in special education and instead the knowledge on learning difficulties depends on the teacher's own interest.

Next, we will explore how dyslexia affects foreign language learning in general. Later, we will discuss how dyslexia manifests specifically in learning English as a foreign language. As we concentrate on examining dyslexia from the point of view of foreign language learning, we think it is necessary to discuss cross-linguistic issues and study the differences between the native language and the foreign language. Therefore, in Chapter 3.2, the focus is on the comparison of Finnish and English, as the orthographic and phonological differences may explain some of the difficulties that the students with dyslexia confront.

3.1 Dyslexia in foreign language learning

Foreign languages are estimated to cause difficulties for up to 15-20% of students in comprehensive school (Moilanen 2004: 11). This figure is supported by Ganschow and Sparks (1989, in Nijakowska 2010: 68), who have studied students who experience difficulties in foreign language learning. They divide students into learning disabled/dyslexic and low-achieving/at-risk students without diagnosis towards a learning difficulty. Additionally, Björn and Leppänen (2012: 1) explain that the linguistic deficits in one's native language can become less visible by the time the learner goes to upper secondary school but the deficits can remain in foreign language learning. This can mean that the dyslexia is more difficult to detect or diagnose as the learner does not show signs of linguistic difficulties in his/her native language. Because of this, it is highly likely that there might be undiagnosed students with dyslexia in EFL classrooms in upper secondary schools. Due to the above-mentioned reasons, it is important that language learning problems are supported already in comprehensive school as it is likely that otherwise they will multiply when proceeding to upper secondary school. It is no surprise that the problems multiply as the amount and the difficulty of information increase rapidly in upper secondary school.

According to Siegel (2006: 584), in all languages, alphabetic and non-alphabetic, such as Chinese and Japanese, dyslexia manifests the same way and it has proven that the primary deficit is phonological. Thus, one can detect that if a student has learning problems in one's mother tongue, the same problems are present also in the foreign or second language. Indeed, many studies have shown that foreign language learning difficulties can be traced back to one's own native language learning deficits. Ganschow and Sparks (1986, in Nijakowska 2010:67) have presented detailed case studies of four college students who faced foreign language learning problems related to their native language learning deficit. Ganchow, Sparks and Pohlman (1989, in Downey et al. 2000: 102) argued that when students have difficulty learning a foreign language, it is their native language abilities which are impaired. Thus, they suggest that individuals who are poor readers in their native language are very likely to read poorly in the foreign language, while conversely good readers apply their competencies equally well in the native as well as foreign language. Moilanen (2004: 13) gives an example of difficulties in word recognition; if the learner finds it difficult to recognise *pseudo-words* (non-words) in his/her native language, the difficulty will be highlighted in foreign language

word recognition.

Many theories that are related to reading difficulties emphasise the major role of the deficit in phonological awareness and phonological processing. Moreover, Martin (2009: 97) explains that the deficits - such as processing phonological information and segmenting phonological representations of words at the level of syllables and speech sound sequences - are in fact nonlinguistic cognitive skills and thus, not language specific. Consequently, phonological processing skills are likely to affect the child's skills across different languages - as mentioned before.

In addition to phonological processing deficits, Ganschow, Sparks and Pohlman (1989, in Downey et al. 2000: 102), have studied learning difficulties specifically in foreign language learning and have observed that the students with learning difficulties in foreign language classes show weaknesses in other levels as well. The students experience difficulties in phonological, syntactic and semantic aspects of language. This is explained in more detail in Linguistic Coding Hypothesis (LCDH) (Sparks and Ganschow 1993: 58), which is a model for explaining difficulties in foreign language learning. The model explains that poor foreign language learners share a disability in linguistic coding. The coding deficits show in a of the three aforementioned levels: *phonological* (identifying speech sounds and processing sound/symbol connections), *syntactic* (understanding grammatical and structural concepts of a language system) and *semantic* (understanding meanings). Conclusively, LCHD also suggests that foreign language learning difficulties are based on one's native language skills.

Some of the theories, however, suggest that it is possible that dyslexia or reading difficulties can manifest only in foreign languages and not necessarily in one's native language. Martin (2009: 92) explains that children's dyslexia may only become obvious when they start learning a foreign language in school. For example, Ganschow and Sparks (1993, in Martin 2009: 95-96) researched students in higher education who were learning a second language. Students who demonstrated no difficulties in their first language, English, could however show dyslexic difficulties in tasks in the second language. Also, Frith (1999: 210) presented the case of a dyslexic boy, bilingual in English and Japanese, whose reading and writing difficulties were confined to English only. Some of the reasons why dyslexia can be visible only in foreign language learning are discussed later in this chapter. Because the tendency to

dyslexia is assessed in Finnish upper secondary schools based on one's native language, the aspect of specific foreign language learning difficulties is often left without consideration.

However, it should be noted that the learning problems can vary greatly between individuals, and that there is no specific set of symptoms that occur in each student with a reading difficulty. As mentioned before, Ganschow and Sparks (1995, in Nijakowska 2010: 69) have expanded their interest onto a wider group of students without specific diagnosis but who still face difficulties in foreign language learning. They use the term 'at-risk foreign language learners'. Interestingly, Nijakowska (2010: 72) states that it has been shown in studies that students with a diagnosed learning difficulty do not differ significantly from low-achieving students without a learning difficulty in terms of the severity of the foreign language learning difficulties. Hence, the division that Ganschow and Sparks (1989, in Nijakowska 2010: 68) make between dyslexic and low-achieving students is unnecessary.

We want to point out that there are a variety of symptoms that commonly occur among these two groups, which is one of the reasons why we do not make a division between dyslexic and low-achieving students. To set an example, Ganschow and Sparks (1995, in Nijakowska 2010: 69) introduce an interesting theory of differences in linguistic coding abilities. The theory explains the variable nature of a language learning difficulty. They suggest that difficulties may occur only in one part of language skills, and present four prototypes of poor foreign language learners with different linguistic profiles:

1. Weak phonology, average or strong syntax and strong semantics
2. Strong phonology, average or strong syntax and weak semantics
3. Weak phonology, syntax and semantics
4. Average to strong phonology, syntax and semantics, but low motivation and/or high anxiety.
5.

Ganschow and Sparks (1995, in Nijakowska 2010: 69) point out that the first prototype is the most commonly occurring. This is partly in line with the previous research that shows that the strongest deficits are in phonological processing. Additionally, Frith (1999: 200) points out that even though roughly 80% of the potentially dyslexic students showed phonological impairments, 20% had no difficulties in phonological processing (prototype four). We find the

fourth prototype quite interesting, as difficulties arise from low motivation and language anxiety, and it is not a learning difficulty as such, but show that reading problems can arise from affective factors and that they can be supported with similar methods. In other words, this finding supports the theory of the effect of socio-emotional factors in the development of reading difficulties. Similarly to the findings of Ganschow and Sparks, Frith (1999: 200) explains that some children may suffer from serious socioemotional problems which interfere with learning.

Furthermore, DiFino and Lombardino (2004: 391) present a smaller group of students with learning difficulties in foreign language learning. Their difficulties are more pervasive language deficits than those with students with dyslexia. These students have greater difficulties with all aspects of foreign language learning and their learning difficulties are not specific to phonological processing problems alone. This is in line with the prototype three (Ganschow and Sparks 1995, in Nijakowska 2010: 69), in which the student has difficulties in all linguistic levels. These findings demonstrate well the difficulty of defining and assessing the severity of a reading difficulty.

Because of the above-mentioned reasons, it is extremely difficult to identify those students with specific foreign language learning difficulties, as there are no diagnosis or measures for identifying these specifically in foreign languages. Downey et al. (2000: 103) point out that even though measurements, for example language aptitude tests, were taken, it would not guarantee the identification of *all* students who experience significant difficulties in foreign language learning. Thus it is the subject teacher's responsibility to observe the student and identify possible learning difficulties. In order to be able to do this, the teacher should be aware of the orthographic differences and the most pitfalls in learning English as a Foreign Language.

3.2 Difficulties in learning English as a Foreign Language (EFL) from the perspective of a L1 Finnish learner

Learners' native language affects strongly their foreign language learning. This phenomenon is called *crosslinguistic influence* (Pietilä and Lintunen, 2014: 17-19). It means that some characteristics of one's native language are transferred to another language. The learner may

falsely use native language word order or sound system in a foreign language. The teacher can make use of this phenomenon by drawing the learners' attention to the similarities between languages. The transparency of the orthography and whether the languages are linguistically related or not affect what kind of connections the learner is able to draw. Additionally, enhancing the learner's linguistic awareness increases the learner's skills to recognise the linguistic characteristics and compare them. As students with dyslexia often have poor linguistic awareness, crosslinguistic references can enhance their comprehension of the target language. Examining these differences from the perspective of learning difficulties helps to see why the students may struggle with specific areas. Next, we will discuss these differences in more detail.

Phonological processing problems do not seem to be language-specific, and therefore, they usually cause difficulties also in second and foreign language learning (Martin 2009: 97). However, Martin (2009: 98) also points out that it is possible that one has difficulties in reading in one language, but not in another, especially when the other language has a deep orthography and the other a shallow one. According to Davis (2005: 4), a language with shallow orthography has a good phoneme-grapheme correspondence whereas a language with deep orthography is very inconsistent in its phoneme-grapheme relations. A very good example of a language with shallow orthography is Finnish; according to Aro (2006: 110), written form of Finnish and how it is spoken are close to one-to-one. On the contrary, English is an example of a language with a deep orthography and the most inconsistent deep orthography in the world (Davis 2005: 4). This difference between transparent and nontransparent orthographies is exactly why students can display dyslexic difficulties in foreign language learning.

According to Davis (2005: 4), a consistent phoneme-grapheme relation means that even a person without any knowledge or understanding of Finnish language would be able to read aloud a Finnish text and a Finnish person would understand it completely. However, this is not the case with English; when reading English one needs to be able to make orthographic segmentation, in other words be able to manipulate phonemic information of words. According to Aro (2006: 11), this difference originates from the number of phoneme-grapheme correspondences. To compare, in Finnish there are twenty-one phonemes and equal number of graphemes to match them, but in English there are forty different phonemes which

all have multiple possible grapheme combinations. In English, a grapheme often consists of two or multiple letters, which means that for the same phoneme there might be several different graphemes, which in turn means that the same sound might be written in many ways. For instance, the long vowel /i:/ is always pronounced the same, but written differently in words *me, sheep, sea, field* and *key*. Hence, the phoneme is the same in all of these words even though the graphemes differ. Similarly, the sound /s/ can be constructed by different letter combinations, thus, the phoneme /s/ is the same in these words: ce – as in *cent*, s- as in *sip*, ss as in *brass*, and sc- as in *scent*. Furthermore, an individual letter such as the letter a, can represent many different phonemes. For example, letter can be pronounced as /ei/ in *baby*, /uh/ in *sofa*, /a/ in *father* and /ae/ in *dad* (Guise, Reid, Lannen and Lannen 2016: 65). According to Goswami (2005: 274), the poor grapheme-phoneme correspondence in English causes learning about phonemes to be extremely difficult because this poor grapheme-phoneme correspondence is present even in highly familiar words, such as the examples given above demonstrate. This is never the case with Finnish language, so it is understandable that the poor phoneme-grapheme correspondence might cause problems for some Finnish EFL learners.

While in Finnish one can code the words letter by letter and deduct how the word is pronounced, English is more inconsistent in this relation, as there are multiple exceptions in the pronunciation. For example, the pronunciation of the following words need to be learned as distinctive patterns: *choir, people* and *yacht*. This raises another difficulty for a Finnish EFL learner; the learner needs to be aware of these different exceptions, and just learn the irregular patterns by heart as whole word chunks. According to Guise et al. (2016: 65), a L1 user of a transparent language such as Finnish, is less likely to use whole word recognition, and for this reason the distinct and irregular patterns will likely cause problems for these learners.

In a morphological level (=a morpheme is the smallest meaningful unit in a language), Finnish and English vary greatly, which naturally may cause problems for a Finnish student learning English as a foreign language. Finnish can be described as a rich inflectional morphology, whereas English has a poor inflectional morphology. This means that Finnish has more morphologically complex and derivational words than English. According to Vannest, Bertram, Järvikivi and Niemi (2002:84), in practice, English words can have just

few inflectional forms, whereas in Finnish there can be thousands of different forms for a given word. English grammar operates on lexical level, but in contrast, in Finnish grammar relations operate on morphological level. For example, in English locatives are expressed by prepositions, whereas in Finnish they are expressed with case-inflections. In other words, in Finnish one word can entail a huge amount of information, whereas in English the same information is expressed with several separate words. An example of this is a word form *auto/i/ssa/ni/kin*, which would be in English *also in my cars*. Thus, in Finnish words have a stem and information is provided with one or several suffixes, whereas in English the same word or meaning is expressed with several words. This can be difficult to grasp for a Finnish language learner. Related to this, especially translation exercises may be extremely difficult for learners with dyslexia as they often have problems in detecting and dividing different morphemes from words' stems. This is because one needs to be able to divide the different morphemes in a Finnish word before translating it to English. For instance, if a student misses the letter **i** in a word *auto/**i**/ssa/ni/kin*, the translation will not be correct, as the letter i is equivalent for a plural form, and thus, the student would give a translation "also in my car" although the right translation would be "also in my car**s**". Therefore, morphological awareness is something that students with reading difficulties need to practice. We will discuss this topic again in Chapter 5 where we explore how to enhance students' linguistic awareness as a part of giving linguistic support for dyslexic learners. However, before we can do that, we need to explore how to assess dyslexia and which signs or difficulties can indicate that a student struggling may indeed have reading difficulties. This will be done in the following chapter.

4 IDENTIFICATION

Subject teachers play an important role in the identification of students who are experiencing learning difficulties (Thomson 2008: 12). Some may consult a special education teacher and some may deal with the difficulties themselves, but the most important thing is that the subject teacher is sensitive to signs of reading and writing difficulty. In Finland, teachers work very independently and thus should have the necessary knowledge for assessing students in relation to their possible learning difficulties. Therefore, it is essential that the teacher is aware of the most common visible signs of dyslexia but at the same time acknowledges that the student is an individual, which is why Reid (2005: 7) reminds that the

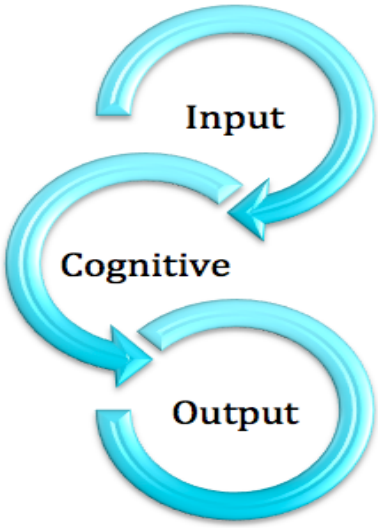
teacher should collect information about the learner's background, difficulties, strengths and the used strategies. Additionally, as Westwood (2008: 27) states, early identification of the difficulties through careful screening processes prevents secondary emotional reactions, which can lead to the loss of motivation or anxiety. Even though there is no specific list of symptoms that occur in dyslexia, it is reasonable to collect the most common symptoms mentioned in previous studies in order to understand the nature of the condition better (Peer and Reid 2001: 10-11, in Thomson 2008: 3). That is why this chapter concentrates on discussing the signs of dyslexic difficulties in a foreign language classroom.

Nijakowska (2010: 85) has divided the symptoms of dyslexia into word decoding (reading) and encoding (spelling). We will start by discussing these two areas, as they are closely connected and require the same processes. We have separated writing from spelling, as we think that the longer texts in upper secondary school require specific set of grammatical, organisational and metacognitive skills. In addition to reading, spelling and writing, we will present the identification of the problems in listening skills. Additionally, we have included a chapter that discusses other relevant aspects that affect learning a foreign language, such as emotional and behavioural aspects in learning. We have excluded speaking, as for the purposes of this paper we think that it is more relevant to concentrate on the areas where dyslexic students struggle the most.

We acknowledge that the symptoms occur in all levels (biological, cognitive and behavioural) but in this chapter we will discuss the behavioural symptoms specifically, as the teacher can assess students through monitoring his or her visible symptoms. Usually the cognitive symptoms are primary (poor short term memory) and behavioural are secondary (cannot remember the instructions). Thus, for clarification we will present a chart (Figure 3) with different factors/symptoms indicating dyslexia and operating in all different levels (biological, cognitive, behavioural) at the end of this chapter. In addition, we want to include here Reid's (2005: 9) proposal of dyslexia being an information processing difficulty, which consists of three main components; *input*, *cognition* and *output*. To clarify this model of information processing, we can think of a computer; input stage is when the computer codes and changes the information, cognition is when it organises, stores and uses the information, and output is when it retrieves it and produces an output. The teachers should be aware that problems occur in all of the three components during information processing. That is why Reid (2005: 9)

emphasises that when identifying the difficulties, one should acknowledge the different stages and include all of them to the diagnosis. It is important to note that although the symptoms of dyslexia change in the course of time and development, one never grows out of dyslexia (Nijakowska 2010: 350). However, it is possible to help students reach their goals through educational adjustments. To be able to make these adjustments, one needs to acknowledge and identify the need for adjustments by assessing the level of difficulties.

Figure 2. *Dyslexia as an information processing difficulty and the three main components.* (Adapted from Reid 2012: 9).



4.1 Reading (decoding)

Fluent reading requires automatic decoding skills. When a student reads a word, s/he should have a phonological representation of a sound in their mind, which they combine into words when reading. As mentioned earlier, this is one of the most difficult tasks for students with dyslexia. If the student has poor phonological awareness, s/he cannot conclude the pronunciation of the word from its written form, and hence cannot retrieve the word from his/her memory (Moilanen 2004: 93). Similarly, Takala (2006: 69) states that phonological awareness plays a key role in the fluency of reading skills. Problems in reading can be first noticed if the student is replacing words with similar words and misses letters when reading. In addition, the pace of reading may differ (Takala 2008: 69).

Moilanen (2004: 95) explains that there are two ways of technical reading: phonological and

orthographic. When reading phonologically, the student is decoding letters and phonemes and combining them into words. Orthographic reading is based on words as pictures, thus being the faster way. These skills may develop over the time. However, as we have discussed in Chapter 3, reading English and reading Finnish differ from each other; one can read Finnish correctly syllable by syllable, but in English one has to be able to recognise words as a whole. Even though the technical reading skills are acquired, there may still be difficulties in reading comprehension. Shaywitz and Shaywitz (2005: 1302) remind, that the deficits in lower-order linguistic functions affect the success in higher order processes, such as the ability to draw meanings from the text, because the reader cannot use the higher-order skills until the word has been decoded and identified. This is why the reading is slow and meaning can be misunderstood.

Furthermore, Nagy and Scott (2000, in Linan-Thompson 2014: 21) state that the level of reading comprehension is dependent on the extent of the vocabulary; the student should understand 90-95% of the words in a text to comprehend what s/he is reading. Moreover, it can be extremely tiring for students to read new texts with unfamiliar words, because instead of concentrating on making sense of the text and finding the main idea, they concentrate on decoding the difficult words (Goldfus 2001, in Martin 2009: 100-101). However, even though some of the vocabulary is familiar, it could still cause difficulties for students to differentiate between the various meanings of a word depending on the context. Students may even struggle understanding synonyms and semantic implications (Nijakowska 2010: 94), which are common in upper secondary school texts. This in turn causes gaps and misunderstandings in reading comprehension.

Complex and long sentences can also cause difficulties in reading comprehension. Students find it difficult to separate relative and subordinate clauses and consequently, , their reading comprehension decreases. It may be difficult for the student to identify the main plot, the setting, characters and the resolution of a story (Nijakowska 2010: 94), if s/he is unable to comprehend clause structures. The student may omit basic information in the story and neglect elements of spatial-temporal relations. Nijakowska (2010: 94) explains that these difficulties can be due to the deficits in cognitive functions, such as the linguistic processing and the organisation skills. The deficits can manifest in difficulties in placing events on a timeline, for example (Moilanen 2004: 10).

As a conclusion, we provide a list of some characteristics that the teacher can use to identify difficulties in reading skills (Moilanen 2004, Nijakowska 2010):

- Difficulties in placing events on a timeline
- Difficulties in separating the main characters
- Poor reading comprehension
- Get stuck on difficult words
- Slow technical reading
- Difficulties in understanding synonyms and semantic implications

4.2 Spelling (encoding)

As spelling (encoding) is the revised process of decoding (reading), it is another area where students with dyslexia often struggle, because of the deficits in cognitive processing. Even though Nijakowska (2012: 356) reports that often the spelling mistakes decrease with age and education, she claims that the problem prevails especially in deep orthographies. This explains why spelling mistakes may be common in a foreign language learning. Perhaps one of the notable signs of problems in the spelling process is the inability to distinguish between letters of similar shape. This especially is the case with letters similar in shape such as *a-o, m-n, l-t*, which means that a learner with dyslexia might confuse words such as *cat* for *cot* or *moon* for *noon*. Similarly, a learner with dyslexia might confuse letters *p-g-b-d*, which explains errors in words such as *bady* for *baby* and *brown* for *drown*. According to Pietras (2007, cited in Nijakowska 2010: 92), this is typical for visual errors. Another feature of visual errors is skipping tiny elements such as diacritical marks.

Other category for spelling errors, according to Pietras (2007, cited in Nijakowska 2010: 92), is language errors. These errors can be identified by inaccurate spelling in which phonology is also inaccurate. An example for this type of error is the spelling *definately* for the word *definitely*. In addition, there are errors, which are phonologically accurate but orthographically inaccurate. Pietras calls these kinds of errors as memory errors. In a way, mirror errors, one of the error types proposed by Pietras, are decodable as they entail the appropriate phonological information, but the grapheme-phoneme correspondence is inappropriate.

Examples for these kinds of errors are spellings *rein* for rain and *eeg* for *egg*. Similarly, according to Moilanen (2004: 112) even familiar words such as *table* or *very* are spelled as they are pronounced e.g. *thable* for table, *wery* for very and *sed* for *said.* This indicates that a learner has problems in phonological awareness.

In addition to the three error categories proposed by Pietras (2007), according to Nijakowska (2010: 92), skipping or adding or changing letters or even syllables in spelling is also typical for a learner with dyslexia. This means that often letters are missing (skipped) as in *tick* for *trick,* or added as in *walk* and *walking* or changed as in *merember* for *remember* or as in *tow* for *two.* Teachers should be aware of this issue when assessing dyslexic students as they might have provided semantically correct word in their mind but they have just spelled it incorrectly because of their difficulty. Furthermore, students with dyslexia have problems in dividing sentences into words and words into syllables. This may lead to following representations; *a nother* for *another*, *firstones* for *first ones* or *yoos* for *use* or *skchool* for *school.* Individual words may be so deformed and inconsistent in their spelling that it can be almost impossible for the teacher to decode what is meant.

Due to difficulties in spelling and perceiving words, it is clear that students with dyslexia struggle with acquiring new vocabulary. Reid (2011: 68) also reminds that if a student cannot remember chunks, such as '*igh'* in '*fight'* or '*light',* every word will be unique, which will obviously hinder remembering new vocabulary. The same goes for learning affixes; if the student does not recognise common affixes, s/he will start coding the word letter by letter and not chunks by chunks (Moilanen 2004: 212). Furthermore, the dyslexic students often have deficits in working memory and in the processes required to convey words from short term memory to long-term memory, which may make it more difficult to increase one's vocabulary and to remember words. However, word formation is a rather neglected topic in upper secondary school course books (Moilanen 2004: 212) and thus, the teacher should guide the students in word formation.

As a conclusion, some characteristics that the teacher can use to identify difficulties in spelling skills (Moilanen 2004: 193, Nijakowska 2010):

- Mixing letters of similar shape

- Spelling words according to their phonological representation
- Difficulties in remembering words and learning new words
- Similar sounding words get easily mixed
- Remembering and recognising words is difficult and slow
- Inability to recognise affixes or suffixes
- Difficulties in separating the word stem

4.3 Writing

Writing and grammar can be extremely difficult for some students and due to earlier experiences, the students can even be terrified of producing their own text (Moilanen 2004: 111). However, as students in upper secondary school are expected to write longer compositions, it is important to note the pitfalls that the student may have in writing tasks. Writing longer compositions requires a variety of skills that most students with dyslexia lack: organisation of thoughts, technical and motoric writing skills, linking sentences and thoughts, using more complex sentences, correct spelling, recognising text genres, writing within a time restriction, proof-reading and many more. There are certain similarities in the most problematic areas in writing and the difficulties that the dyslexic students face can even start from fine motor skills. For example, Nijakowska (2010: 92) reminds that dyslexia often includes poor fine-motor skills, which causes an awkward pen grip. Poor fine-motor skills in turn lead to bad and slow handwriting. Additionally, in handwritten compositions, confusion between similar shaped letters can occur.

For a dyslexic student, some grammatical rules can be more difficult than others. In longer texts, students with dyslexia can show poor understanding of syntactic rules and consequently may produce mostly poorly structured, short sentences. The sentences are often short, positive, declarative and in the active voice (Nijakowska 2010: 93). Nijakowska (2010: 358) points out that the use of complex sentences, especially those that compose of multiple clauses, such as relative or subordinate clauses, causes difficulty for these students. Sundman (2014: 127) has listed three points that make a grammar rule difficult: (1) complexity of form, (2) complexity of meaning and (3) complexity of the form-meaning relationship. The complexity of form includes those categories, in which the same meaning is expressed in multiple forms. The meaning is complex when the topic is abstract and difficult to perceive.

For example, definite and indefinite articles (*the, a/an*) are complex in their meaning and are more difficult to distinguish than, for example, singular and plural. The relation between the form and the meaning is complex, when the same form expresses multiple meanings (*-s* expresses genitive, third person singular present tense marker and plural form). Additionally, categories that do not have an equivalent in one's mother tongue are often difficult to learn. For instance, there are no definite or indefinite articles in Finnish nor the concept of formal subject. Thus, the concept of a formal subject, for example, may be difficult to comprehend or one can easily forget to use articles in their own text. Moilanen (2004: 149) also points out that a student with dyslexia may find it difficult to see the connections between grammatical rules and between the reason and the consequence. Hence, crosslinguistic connections should be made visible to the students.

More specifically, Vogel (1983, in Nijakowska 2010: 94) has pointed out that the students with dyslexia struggle with the use of inflectional, grammatical morphemes more than good readers. For example, the progressive aspect marker *-ing*, tense markers, regular and irregular plural markers, comparative and superlative markers *-er* and *-est,* the adverb marker *-ly* and suffixes can cause difficulties for students who have dyslexia (Nijakowska 2010: 94). Moilanen (2004: 149) in turn explains that grammatical terms and abstract concepts cause difficulties and suggests replacing them if possible. One could come up with a suitable word to replace the grammatical term together with the student. The replacing term should be as concrete as possible. Additionally, grammatical mistakes and incorrect structures occur frequently and some vocabulary can be used inappropriately. For example, the student may over-use grammatical structures *(I will would have being*) or too many or too few words (Moilanen 2004: 111).

Grammar can also cause anxiety, because it includes so many unfamiliar terms. This may cause distraction from the actual issue at hand, as the student is concentrating on the unfamiliar and difficult terms. Moreover, if there are any new vocabulary introduced while learning grammatical rules, it may confuse students even more (Moilanen 2004: 17).

To conclude, we have collected a list for identification of difficulties in writing and grammar (Moilanen 2004: 144, Nijakowska 2010: 93)

- Little content, poor argumentation skills
- "Small words" (articles, prepositions) are missing or they are incorrect
- Problems with the letter combinations: *whit* (with), *peopel* (people), *litle* (little)
- Reflections from the pronunciation: *skie* (sky), *bee* (be)
- Inconsistent use of forms: *peopel, people*..
- Incorrect word order/syntax
- Weak logical connections and organisation of thought
- Incorrect use of vocabulary
- Tenses: *will came, have came* (will come, have come)
- Problems to see the connection between grammatical rules and their function
- Difficulties to compare one's native language and the foreign language
- Difficulties in understanding the relation between direct and indirect objects
- Passive voice difficult to comprehend
- Difficulties in understanding grammatical terms

4.4. Listening

As described earlier, previous research shows that students with dyslexia often have poor phonological skills and that a quintessential part of the difficulties that learners confront in foreign language classroom lie in this deficit. Thus, it goes without saying that students with dyslexia find processing and structuring auditory information difficult and need support in it. However, because the basic essence of dyslexia seems to lie in the phonological skills and deficits in processing sounds, the previous research has not extensively separated difficulties in listening skills that help to identify dyslexia. This may also be due to the fact that often students with dyslexia find listening easier than reading, because they do not have to code the written text to sounds. However, as Moilanen (2004: 48) points out, the biggest problem may lie in the short concentration skills. The student finds it difficult to concentrate on the intrinsic information in speech due to the poor short-term memory and because the auditory filter lets through disturbing noises. We wanted to include listening as a separate section, as it is considered as one of the key language skills among reading and writing.

Moilanen (2004: 46) describes the causes behind the difficulties that students with dyslexia have with processing auditory information; one cannot effectively receive, process and

organise auditory information fast. In other words, the difficulties are not due to a physical impairment in hearing, but instead, the difficulty lies in the processing of the input (Moilanen 2004: 13). Moreover, Nijakowska (2010: 47) presents that there is a strong causality between phonological processing and atypical brain activation patterns. This causes slow lexical retrieval and poor short term memory. Moilanen (2004: 10) also states that students with dyslexia have difficulties in listening comprehension and find it difficult to remember what has been said because of their poor working memory. Additionally, the students cannot remember details or answer multiple questions simultaneously, which should be taken into account when giving instructions. Moilanen (2004: 50) interestingly points out that short, frequent words, such as prepositions, can cause difficulties for students as their meaning is more difficult to grasp than the meaning of longer words.

Identification of difficulties in listening (Moilanen 2004: 45, Nijakowska 2010: 88, Crombie 1997: 28):

- Difficulties in concentrating when listening
- Cannot remember orally given instructions
- Reaction to what has been said is delayed
- Cannot filter the essential noises from the inessential ones and gets disturbed easily
- Cannot concentrate on listening and writing simultaneously
- Difficulties in perceiving the prosodic features in a language: intonation, stress, rhythm and separating words
- Poor auditory discrimination
- Faulty auditory sequencing
- Difficulties in separating the key information
- Difficulties in hearing differences in minimal pairs: /pig/ vs. /big/
- Difficulties in recognising and analysing sounds
- Cannot process multiple questions simultaneously
- Difficulties in dictation and taking notes
- Structuring and interpretation of the auditory information is faulty

4.5 Difficulties in metacognitive strategies

Camahalan (2006: 80) explains that as dyslexia has been described as a cognitive process disorder, it affects the basic psychological processes, which can hinder perception, memory and remembering and generalising the key concepts and defining what has to be learned. However, these skills are much needed when studying in upper secondary school. In fact, it is required in The Finnish National Curriculum for General Upper Secondary School (LOPS 2015: 14) that studying in upper secondary school should be self-directive and that students should be taught learning strategies and they should be guided to plan and assess their own learning. These skills are in a key role when studying in upper secondary school, as studying becomes increasingly independent. The skills one needs for self-sufficiency, self-assessment and planning one's own learning are called metacognitive skills. Metacognitive skills include the ability to be conscious of one's mental processes and ways of working and the most basic metacognitive strategies consider connecting new information to the existing one, selecting thinking strategies, planning, monitoring one's own progress and evaluating the process and the result (Rahimi and Katal 2011: 74). Many scholars consider the use of metacognitive skills as a prerequisite for academic success (Mehrdad, Aghar and Aghar 2012: 3758).

Although it has been proved in previous studies that students with good metacognitive skills tend to be the most successful learners, these skills are still not widely taught to students (Rahimi and Katal, 2011: 73). Similarly, in their analysis on research on metacognitive teaching strategies, Ellis et al. (2014: 4017) point out that using metacognitive teaching strategies is still rare compared to more traditional ones. Leutwyler (2009, in Ellis et al. 2014: 4017) even indicated that traditional curricula and instructional methods are insufficient for enhancing students' metacognition. There is thus a clear need for improvement for promoting metacognitive strategies and learning skills in all of the three aforementioned levels (input, cognition, output, see Figure 2). Improving these skills is essential for all students, but especially students with learning difficulties often struggle with choosing successful learning strategies and separating the most important information from the text. Metacognitive strategies guide one's learning and help choosing the correct strategies and processing information. For example, Tunmer and Chapman (1996, in Reid 2005: 23) have shown that dyslexic children have poor metacognitive awareness which in turn leads to inappropriate learning behaviours. Similarly, in the meta-analysis by Raoofi, Chan, Mukundan and Rashid

(2014: 40) it is shown that both metacognition predicts language performance and that metacognitive instruction significantly improves language learning.

The concept of metacognition was first introduced by Flavell in 1979 (Ellis, Denton and Bond 2014: 4016). Flavell divided metacognition into three sections: (1) *knowledge of strategy*, (2) *knowledge of task* and (3) *knowledge of one's own cognition*. These are considered to form the essential components of the whole learning process. (1) Knowledge of strategy includes knowledge of procedures to accomplish an academic task. Additionally, it contains knowledge of the cognitive processes that are needed for learning. Examples of this section are learning strategies such as self-assessment. (2) Knowledge of task includes knowledge about how, when, why and where to apply the learning strategies. The student can understand the goal of the activity and how to proceed. (3) Knowledge of self includes the knowledge of one's own strengths and weaknesses. Additionally, the students are aware of their cognitive processes and are able to choose a suitable learning strategy. (Ellis, Denton and Bond 2014: 4016-4017.)

In relation to the identification of difficulties in students' metacognitive skills, it is crucial for the teacher to be aware of the cognitive processes in learning and the possible problems in them. However, as metacognition is a cognitive process, it can be sometimes quite challenging to assess it. Reid (2005: 11) has mentioned a poor short-term memory, poor organisational strategies and poor organisation of materials, for example homework and items needed for studying, as signs for deficits in cognitive processing.

We think that teaching learning strategies and metacognitive skills should have a bigger role also in upper secondary school, as these skills are crucial for academic success. However, students with dyslexia often lack them, which is why we wanted to include metacognitive skills as one part of our material package, too. Ways to support students' metacognition are discussed further and in more detail in Chapter 5.

4.6 Other difficulties

In addition to the difficulties in reading, spelling and writing discussed above, there are other difficulties that can occur. These difficulties are often referred as secondary symptoms, as difficulties in reading and spelling are often seen as primary ones. One major issue we want to highlight is the different emotional-motivational factors that may indicate learning difficulties.

According to McLoughlin and Leather (2013: 12-13), learners with dyslexia have been reported and observed to have following affective characteristics: lack of confidence, low-self-esteem, anger and frustration, anxiety, and problems in social interaction. In general, learners with dyslexia have a low opinion of themselves as learners and this may affect their motivation and attitude towards learning.

McLouglin and Leather (2013: 12-13) report that learners with dyslexia may feel anger and frustration because of how they may have been treated in the past or how they are treated now and they may be anxious over the learning tasks in hand, but also anxious over tasks and examinations taking place in future. Similarly, Piechurska-Kuciel (in Nijakowska 2010: 99) investigated dyslexic students' anxiety towards language use. According to the results of the study, students with dyslexia indeed demonstrate higher levels of anxiety in all areas of language use i.e. in input, cognitive processing and output, when compared to their peers without learning problems. Moreover, as dyslexic students constantly struggle in learning situations, they may become discouraged due to a lack of success (Thomson 2008: 19, Shaywitz and Shaywitz 2005: 1302). Teachers may interpret this frustration and lack of success as inattentiveness or laziness, even though these students are probably trying harder than their peers. These findings indeed highlight why language teachers need to be aware of different affective factors related to dyslexia as they may have a major impact on students' motivation and attitude towards language learning.

Nijakowska (2010: 97) reports similar findings. In addition to the signs above, Nijakowska adds that learners with dyslexia have been reported to suffer from feelings of shame, fear and embarrassment. Furthermore, parents and peers may by their behaviour enhance these negative feelings causing even more stress and low self-perception. This may cause a vicious circle where negative feelings grow and cause deterioration in students' academic performance, and this in return will cause more negative emotions and a self-fulfilling prophecy is ready. This circle is linked to the concept known as the Matthew effect; the main idea is that difficulties tend to accumulate and this is also the case with dyslexia (Scarborough 2003: 48).

In addition to different emotional factors that may indicate learning difficulties, we will introduce some other factors, in other words, the spectrum of difficulties that teacher can

observe in the classroom that may indicate a reading difficulty. According to Thomson (2008: 23), students with dyslexia use often various coping strategies to mask their difficulty; they might be talking to their peers when they should be concentrating on the task at hand, or they might act as the "class clown". Moreover, Thomson reports that dyslexic students may be disorganised and forget things, and they also may seem very tired. The tiredness is something that we teachers may often see first, as many dyslexics compensate and hide their difficulty with hard work, which can show as good grades but also as dark circles under eyes. Especially in upper secondary school the workload can be too much for hard-working students, which may lead to a burn-out.

Moilanen (2004: 17) explores other signs that can refer to dyslexia-type difficulties. The most visible difficulties are in understanding directions and instructions, which are given orally or in written form (Moilanen 2004: 17). In other words, a student with dyslexia may often ask the teacher to repeat instructions just given or ask to repeat the page numbers where a certain task can be found. In addition, reading and understanding instructions in a test can be extremely difficult for dyslexic students, and they often ask a teacher to clarify what they are asked to do. The teacher can often misunderstand the students' need to hear the instructions again for a behavioural issue and interpret that the student is just not paying attention. However, the problem may lie in the complex instructions. Additionally, students with dyslexia often have a short attention span, in other words they cannot focus on the same exercise for a very long time (Moilanen 2004: 17). Indeed, according to Laasonen, Leppämäki, Tani and Hokkanen (2009: 512) several researchers report that attention deficit disorder may be linked to dyslexia or at least they share similar characteristics because of shared genetic influences. Thus it is essential for the teacher to use extensive screening procedures to avoid misinterpretations of the learning problem and to give appropriate support.

Next we will list some of the possible behavioural symptoms that can occur with students with dyslexia. However, we want to remind that these are often secondary symptoms and do not necessarily indicate reading difficulties as such, but together with other difficulties can help the teacher to understand the student better.

Identification of dyslexia from behavioural symptoms (Reid 2011: 9, 121, Reid 2009: 47,221,

Moilanen 2004: 17).

- Frustration
- Anxiety towards language learning and use
- Emotional-motivational issues
- Asking others/the teacher for clarification
- Short attention span
- Restlessness
- Stress
- Easily distracted by external stimuli
- Low self-esteem
- Acting out in front of people to get attention
- Can appear defensive or argumentative
- Forgets homework etc. easily
- May distract others
- Using humour to drive attention away from failure

To conclude, because of all the different areas where dyslexia may manifest, we want to highlight that when gathering data of difficulties that a student may experience, teachers need to use a spectrum of assessment methods. In other words, assessment of students' difficulties should be summative, formative and dynamic in order to get a holistic view of students' special needs. According to Dixson and Worrell (2016: 154), formative assessment's goal is to provide feedback to teachers about their students' learning but also the effectiveness of their teaching methods. Similarly, formative assessment provides information to the students on their learning, identify their weaknessess and strengths and helps students to learn more effectively. Thus, formative assessment provides information whether they need to adjust their teaching methods or form of instruction to maximise students' learning. However, according to Dixson and Worrel (2016: 155), there is a great distinction between formative and summative assessment; formative assessment is ongoing-assessment, which does not usually affect final grades of students as summative assessment does, as it is seen more as a way to provide information on the student's learning progress.

Indeed, Dixon and Worrel (2016: 156) report that summative assessment is usually connected

with giving final grades, and therefore it is assessing how much the students know. This makes summative assessment as very high-stakes assessment; the final grades are very important for students as they indirectly determine students' access to higher education. This fact may cause anxiety for students, and especially for those with special needs. Often summative assessment occurs at the end of a course, putting a strong emphasis on the final test or assignment rather than evaluating the ongoing learning progress throughout the course. Summative assessment can also be used to assess learning difficulties. Usually this kind of assessment is done with standardised tests where the results are compared with the results of peers. According to Reid (2005: 27), this kind of testing is not sufficient as it does not take into consideration the thinking processes of a student. The tests only reveal what they can do and how they perform, but they do not reveal their thinking and learning processes. This is why dynamic assessment, which focuses on the processes of learning, needs to be used alongside with summative and formative assessment. As students with dyslexia may have problems in metacognitive skills and how to fully access them, dynamic assessment provides information about which metacognitive strategies are already used by the learner. This information can be useful for a teacher when designing lesson plans and planning how to support a learner with dyslexia. To conclude, assessment of dyslexia should entail summative, formative and dynamic assessment to get a holistic picture of the difficulties of the learner. Having a holistic picture of the difficulty helps teachers to plan means of support and monitor their students' learning.

We have presented here some prominent signs that may indicate that a student struggling may indeed have a dyslexia or other learning problem. However, we want to highlight here again, that making an official diagnosis of dyslexia is not a language teacher's job or the goal of this material package; the most important thing is that learners' diverse needs, whether they have special needs because of a learning problem or not, should be paid attention to and teachers should offer adequate support the very instant they see that a student is struggling. Thus, extra support should be given immediately in order to enhance students' learning and to prevent students to fall behind. The diagnosis can wait; support given without a proper diagnosis does not harm anyone. How to support students with dyslexia is discussed further in the following chapter. However, before we get there, we wanted to include a chart summarizing this chapter and the spectrum of signs we have presented that may indicate dyslexia.

Figure 3. *Different elements of dyslexia.* (Adapted and modified from Phillips, Kelly and Symes (2013: 15) and combined with Frith's (1995: 6) framework (see Figure 1. Levels of Dyslexia).

<table>
<tr><td colspan="5">Behavioural</td><td rowspan="8">Environmental factors</td></tr>
<tr><td>Reading</td><td>Spelling</td><td>Writing</td><td colspan="2">Other:
General / Affective</td></tr>
<tr><td>Word recognition /decoding
Grapheme-phoneme correspondence
Missing letters
Reading speed
Comprehension</td><td>Mixing letters of similar shape
Inappropriate grapheme-phoneme correspondence
Familiar words are spelled as they are pronounced
Skipping, adding, changing letters
Problems in dividing sentences into words and words into syllables</td><td>Letter formation
Grammar
Organisation
Speed
Short sentences
Poor fine motor skills
→ bad handwriting</td><td>Fatigue
Fine/gross motor skills
Concentration problems
Attitude to learning
Listening comprehension
Coping strategies
Difficulty in following instructions</td><td>Lack of confidence
Low-self-esteem
Anxiety
Stress
Social interaction
Negative feelings</td></tr>
<tr><td colspan="5">Cognitive</td></tr>
<tr><td>Memory:
Short-term memory
Working memory</td><td>Phonological Awareness:
Blending
Segmenting
Manipulation</td><td>Reasoning Ability:
Verbal
Non-verbal</td><td colspan="2">Processing skills:
Auditory
Visual
Speed of processing
(Including rapid naming)</td></tr>
<tr><td colspan="5">Biological</td></tr>
<tr><td colspan="5">Family history</td></tr>
</table>

5 SUPPORTING STUDENTS WITH DYSLEXIA

In the Finnish National Curriculum for General Upper Secondary School (LOPS 2016: 20) it is stated that the teaching should be individualised according to students' needs and that the support in upper secondary school should concentrate on preventative actions and early identification. The issue is yet controversial as special education is not widely used or available in upper secondary schools and subject teachers do not necessarily have the knowledge of different learning difficulties and the ways to support them. Thus, there is a clear gap in between the requirements and the reality. In order to be able to concentrate on preventative action, the subject teachers should have knowledge not only of the characteristics and signs of a learning difficulty, but also of the concrete measures and tools to support the student.

However, too often the availability of individual support in upper secondary school depends on resources and often requires a diagnosis by a specialist before educational adjustments can be made. Furthermore, as Nijakowska (2010: 73) points out, many educational officials seem to think that only students with a diagnosed learning difficulty experience problems in foreign language learning and are entitled to educational accommodations. Nijakowska states that some educators may also assume that non-diagnosed students do not encounter severe difficulties in foreign language learning and thus do not need support and would not benefit from educational adjustments. In relation to who is entitled to receive support, the Finnish law for basic education (16§ 24.6.2010/642) divides the support for special educational needs into three-tiered model: general support, identified support and special support. The law states that general support should be given to those who encounter any difficulties despite the reason behind their difficulties and hence, also to the students who struggle with learning difficulties but are not diagnosed with a specific learning difficulty. General support includes individualised instruction and moderate educational adjustments which the teacher will decide based on the students' need. However, the Finnish law for upper secondary school (21.8.1998/629) does not have a paragraph that would state that those who encounter learning difficulties are entitled to specialised support, which is why we want to emphasise the importance of the schools and teachers' own initiative to provide support.

We also want to demonstrate that adjusting teaching to suit the needs of dyslexic students

does not require major changes or hours of work. Instead of planning a different style of teaching for each skill level separately, we suggest that the teacher uses the three aspects of support presented in this chapter as the basis of his/her teaching for all students and modifies e.g. the content according to the students' skills. We have included three aspects: *general*, *linguistic* and *metacognitive*. As discussed in Chapters 2 and 4, dyslexia affects not only one's linguistic skills but also the metacognitive skills, which is why we provide supportive measures to enhance the learning skills as well. By general support we mean the adjustments to the teaching and the environment that one can adopt to create a dyslexia-friendly environment to the classroom. Linguistic support concentrates on explaining the different parts of language which dyslexic students can find confusing and provides suggestions to improve their linguistic awareness.

Thus, we begin this chapter by discussing some educational adjustments that can be utilised in every school and classroom and which benefit all learners, especially dyslexic students. Then we move on to explain the concept of linguistic awareness and the ways to enhance it. Finally, we present metacognitive strategies as a part of supporting students with dyslexia because dyslexic students often lack effective metacognitive strategies and learning skills, which are much needed in studying in upper secondary school.

5.1 General support

General support can be seen as a part of the three-tiered model for organising special education presented earlier. However, general support for purposes of this material package means different elements and methods that teachers can use to enhance their students' learning progress. Thus, we present here different ways how to support students' learning, and which certain aspects should be included in dyslexia-friendly teaching. However, we want to emphasise here that supporting students in upper secondary school should not concentrate only on learning the content but also provide effective learning strategy instruction. In addition, we want to underline that all the different supportive actions discussed and explored in this chapter are beneficial for all students with special needs or without, and thus, it is hard to argue against why these actions should not or could not be implemented in every EFL classroom. We have divided general support into two different sub-categories; supportive actions promoting sense of community and effective teaching practices for students with

dyslexia. Thus, first we will explore ways how to support dyslexic students with creating a sense of community and later, we will concentrate on concrete ways to promote dyslexic students' learning.

5.1.1 Promoting sense of community

It is very human to want to belong and be a part of a group. This group can be a family, a school, a workplace or some other group. In order to feel as a true member of a group, one needs to feel sense of belonging. Feeling sense of belonging enhances sense of community, and thus, the teachers need to enhance the sense of belonging of our students in order to make them feel accepted and gain the benefits that promoting the sense of belonging and the sense of community bring about.

Indeed, Pesonen (2016: 1) reports some of the benefits of enhancing students' sense of belonging include higher academic achievement, positive behaviours and constructive social results. Teachers promote the sense of belonging when they ensure dynamic social relationships with their students. The results of Pesonen's (2016) study are in line with previous studies; it seems that when the adults in the school are creating a positive ethos, the students will feel the sense of belonging. Creating this positive ethos to the school calls for collaboration and positive philosophies from teachers but also from other staff and administrators (Pesonen 2016: 40-41).

Indeed, the main purpose of dyslexia friendly approach, which was initiated in 1999 by British Dyslexia Association (BDA), is to create a supporting ethos to school and involve every teacher and students to participate in this. In fact, it is encouraged in the National Core Curriculum for Upper Secondary School (LOPS 2015: 16) that the school should be considered as a *learning community*, in which the core idea resembles the dyslexia-friendly approach:

> The educational institution is a learning community promoting the learning of all of its members and challenging them to work in a goal-oriented manner. The construction of the learning community requires a dialogical approach and pedagogical leadership. -- Thematic

> implementation of periods can create preconditions for integrative instruction. (LOPS 2015: 16)

Furthermore, the dyslexia-friendly approach is based on an idea that what is effective teaching for a dyslexic student, is beneficial for all learners (Pavey, Meehan, Waugh 2016: 4). Moreover, as the main purpose of dyslexia-friendly approach is to ensure that a school is a supportive and dyslexia-friendly environment enhancing learning to happen, it demands teachers to share and evaluate their teaching practices with their colleagues (Pavey, Meehan, Waugh 2016: 5). In other words, dyslexia-friendly approach demands involvement of the whole educational and administrative staff. This issue is also highlighted in Pesonen's (2016: 40-41) report.

Dyslexia-friendly approach can be seen as a whole school policy, as it embraces the need to meet the needs of all students in the school. According to Reid (2005: 74), the term *whole school policy* entails that it is every teacher's responsibility to try to answer the diverse needs of special needs students rather than leaving this responsibility for trained special education specialists only. Reid (2005: 74) reports that implications of whole school policies are the following. Firstly, monitoring certain identification and assessment practices need to be established in order to identify students' learning difficulties as early as possible. Secondly, there needs to be a selection of teaching materials targeted for learners with special needs and enough training offered for the educative staff to meet the diverse needs of their students. Reid (2005: 74) claims that every teacher in a school need to have at least some training on how to understand and meet the need of students with special learning difficulties and in this case, dyslexia. This creates a demand for teacher training and available teaching materials concentrating on learning difficulties, and hence, we try to meet this demand with our material package.

Even though dyslexia friendly approach and whole school policies concentrate on how the school staff can create a positive ethos in school, we should not forget different teaching methods which try to do the same. Especially cooperative learning and the use of peer tutors have been reported to be beneficial for learners with special needs (Mitchell 2014). As they require collaboration from students in order to work, they may enhance the sense of belonging, and therefore, the sense of community.

According to Mitchell (2014: 36), cooperative learning is based on the idea that in everyday life we learn a great deal from others. There are many types of cooperative learning activities and different kind of grouping may affect how cooperative learning operates. For instance, according to Mitchell (2014: 36), students can be divided into groups based on their abilities; using ability grouping where all the students are on the quite same level or using mixed-ability grouping, which is more beneficial for students with special needs and enhancing the sense of community in the classroom. Using mixed-ability grouping does not mean that the more able learners are providing support or assistance for the less able students, but rather true cooperative learning acknowledges that we all have strengths that we can use to achieve the common and shared learning goal of the group. Thus, achieving the goal requires interdependence and the use of different sets of individual skills that every member of the group possess.

Peer tutoring is another method that can be used for enhancing the sense of community in the classroom. In addition to the increased sense of community, peer tutoring is effective for students with dyslexia. According to Mitchell (2014: 47-48), tutees have been reported to benefit from following issues. Firstly, they get more individual instruction, as they are participating in one-to-one instruction. Secondly, they benefit from repeated practice and immediate feedback. Thirdly, tutees feel supported by their peers. And finally, peer tutoring has been reported to enhance the academic and social skills, both tutee's and tutor's. In addition, tutors will gain a boost for their self-esteem and their own skill are reinforced, as tutoring requires a high level of understanding the concept that students are currently working on. Moreover, skills required for enhancing sense of community are expanded, such as, the sensitivity to others, giving feedback effectively and problem-solving. However, too often peer tutoring is organized by the more able learner being the tutor and the less-able learner being the tutee. This can cause problems, as it blocks students with special needs from experiencing the benefits of being a tutor and gaining the boost for their self-esteem. If one is always the tutee, the less-able, it may feel unmotivational. Thus, Mitchell (2014: 48) proposes that the best option is to use class-wide tutoring which provides opportunities for everybody to experience the both roles. This can truly enhance the sense of community in the classroom. With this chapter, we wanted to emphasise that supporting students with dyslexia needs to start from acknowledging the issue at a whole school level and carrying the

responsibility for supportive measures as a community. We presented some concrete ways to promote the sense of community also in the classroom. Next, we will present some concrete and practical ways how to support students with dyslexia in foreign language classrooms in other words, what issues need to be considered when planning lessons for a class including students with dyslexia-type difficulties.

5.1.2 Effective teaching practices for students with dyslexia

Finnish upper secondary schools are very curriculum-focused. This means that the learning goals set in the curriculum should be achieved, and this can cause a great deal of pressure for both students and teachers. Moreover, the matriculation examination in the final year increase this pressure and can even cause anxiety to the students as the matriculation examination are very high-stake as the results affect their access to higher education. It is vital that teachers plan how they can organise their teaching and instruction in a way that also students with special needs achieve the goals mentioned in the curriculum and are able to succeed in matriculation examination. Differentiation can be seen as a key for enabling the students with special needs to access the curriculum and to achieve the learning goals mentioned in it.

Indeed, according to Reid (2009: 53), differentiation can be used as the means to access the learning targets. One can differentiate instruction, the teaching materials and assessment. Tomlinson and Eidson (2002: 2) argue that differentiated instruction is really just common sense; even parents know that their children are unique and that they may have to differentiate their parenting to respond the individual needs of their children. Furthermore, Tomlinson and Eidson (2002: 2) suggest that differentiated instruction is responsive teaching, as it tries to respond to the needs of students. The students may either need more help to access curriculum or the needs can require a teacher to provide more challenges and extra activities for students. Every student should be treated as an individual and hence the teacher should be aware of the students' skill level and possible difficulties.

According to Rontou (2012: 41), differentiation seeks to show what student can do, but it also promotes them to experience satisfaction in their learning. As mentioned earlier, teachers can differentiate their materials, instruction or assessment or providing special arrangement during examinations. Crombie (2000, in Rountou 20121: 41), gives an example on how to differentiate for example a listening comprehension task in a foreign language class.

According to Crombie, teachers should provide opportunities for students to produce a response in a way that seems the most natural for them; one can write, one can record his/her answer on an audiotape (or nowadays we suggest that students can use their phones or other modern gadgets) while some students may want to draw the answer.

One of the most visible signs of differentiation in Finnish upper secondary school is the allocated extra time for dyslexic students when they are taking their matriculation examinations. Indeed, several edicts regulate the special arrangements provided for dyslexic students when they participate in matriculation examination (Finnish Matriculation Board 2016: 3). However, in order to get these special arrangements for the exams, which usually means just getting extra time for taking the exam, one needs to have a diagnosis for dyslexia. Furthermore, the Finnish Matriculation Board (2016: 3) divides diagnosis into four different levels according to the severeness of the condition; no dyslexia, mild dyslexia, moderate dyslexia and severe dyslexia. According to the Board, the special arrangements for the examinations are only provided if a student has a moderate or severe difficulty. This seems little harsh to us, as it is very hard to distinct where the line goes between mild dyslexia and moderate dyslexia. As discussed earlier in Chapter 2, defining dyslexia is always subjective and thus also the diagnosis is always subjective. This means that teachers need to differentiate and use other suitable methods and tools for supporting and enhancing dyslexic students' learning so that they can achieve the learning goals that the matriculation examination requires. However, allocating extra time is better than nothing; many studies recommend this as an effective way to support students with dyslexia. According to Crombie (1997: 41), teachers need to provide more time for dyslexic students as processing information takes more time for them, and therefore, they will require more time for thinking in order to finish a task than a student without learning difficulties. Moreover, also students with dyslexia see themselves benefiting from extra time; according to the study by Thomson and Chinn (2001, in Rontou 2012: 141), students with dyslexia perceive allocated extra time to be beneficial for their learning.

Another method that has been proven to be beneficial for students with dyslexia is called *multisensory approach*. Originally, it was developed to support students with native language learning problems in reading and writing (Nijakowska 2010: 124). However, according to Nijakowska (2010: 125) it has been proven to be a successful method also in supporting

students with dyslexia in EFL classrooms. The name of the approach gives us a clue what multi-sensory approach is about; learning with using different senses. In other words, multi-sensory approach requires using of visual, tactile, auditory and kinesthetic elements in teaching input (Reid 2005: 33). It is extremely important that a teacher acknowledges and uses all of these different elements in order to meet the needs of different learners. According to Reid (2005: 33), especially kinesthetic activities are beneficial for students with dyslexia, as kinesthetic activities provide an opportunity to learn by doing. In addition, Pavey, Meehan and Waugh (2016: 6) study the use of dyslexia-friendly approach and kinaesthetic activities in higher education. They suggest that doing activities which require movement can be seen as an effort to enhance dyslexia-friendly atmosphere which benefits older students as well. This is an important point to make as often studying in upper secondary school becomes extremely content-centered, possibly neglecting the need for multi-sensory methods.

Among other issues that Pavey, Meehan and Waugh raise (2016: 6) regarding effective teaching practices for students with dyslexia and creating a dyslexia-friendly environment is that teachers should *look for quality rather than for quantity*. This is something we encourage teachers to do with our material package. However, students with dyslexia have been reported to benefit from overlearning, which requires repetition and reinforcement (Reid 2005: 33, Nijakowska 2010: 123). This creates a controversy; on one hand repetition and reinforcement requires quantity and drilling, but on the other we should value quality rather than quantity. We argue that it is possible to have both; yes, students with dyslexia benefit from overlearning, and thus drilling may be efficient. However, when asking students to produce something, for instance an essay, we should then look for quality rather than quantity.

Earlier in Chapter 4, we introduced Reid's (2005: 9) proposal of dyslexia being an information processing difficulty, which consists of three main stages; *input*, *cognition* and *output*. Related to this, Reid (2005: 32-33) presents ways how teachers can support their students with dyslexia in each stage. At the input stage, it is important to present the information in small units, provide opportunities for overlearning, use a range of materials and strategies, present the key points of a new learning material, and furthermore monitor that the student is comprehending the teacher's instruction.

At the cognition stage a teacher should firstly encourage students to use organisational strategies to help with learning. Secondly, chunk the tasks and new information in a meaningful and clear way. Thirdly, connect the new information to what students know already about the topic to ensure that concepts are clearly understood. Fourthly, favour the use of memory strategies such as mind mapping and mnemonics. Lastly, monitor and assess learning frequently. Similarly, at the cognition stage, Pavey et al. (2016: 6) propose that when lecturing, teachers should give the big picture before linear progression.

At the output stage, teachers should use headings and subheading to help to provide a structure as students with dyslexia often have problems with the writing process. Moreover, teachers should encourage the use of summaries whenever they are suitable for identifying the key points. And finally, again also in this stage, teachers should assess and monitor learning. Thus, assessing and monitoring should be used at each stage of the Reid's model. Moreover, Pavey et al (2016: 6) suggest that teachers should find ways of instruction and activities that do not expects students to do long copying tasks or tasks that do not depend on pencil and paper.

Next, we will explore ways how to support students with dyslexia linguistically. This is a very important perspective in our paper, as we are concentrating on the manifestation of dyslexia in the EFL classrooms and on how teachers can support students with dyslexia. Thus, it is crucial that we dedicate the next chapter to linguistic support; what it is and why it should be given.

5.2 Linguistic support

It is stated in the Finnish National Curriculum for General Upper Secondary Schools (2015: 107) that foreign language learning should aim to improve students' metalinguistic skills. This means that in order to learn to communicate in another language, students' should have linguistic knowledge of the language itself. Sundman (2014: 120) describes metalinguistic knowledge as mastering the grammatical terminology and being able to understand grammatical rules. However, students with dyslexia often find the grammatical terms vague and unclear, which in turn can cause anxiety towards learning the language. This can be prevented by making the students conscious about the structures without using difficult terms

but instead favoring the use of concrete examples. Furthermore, the fundamental deficit that students with dyslexia have, poor phonological awareness, is a part of linguistic awareness. As Nijakowska (2010: 153) predicts, mastering phonemes will improve spelling and reading skills. However, in addition to phonological awareness we will discuss linguistic awareness further and include orthographic awareness, morphological awareness and syntactic awareness, because improving all of these metalinguistic skills will not only improve learners' language skills, but also ease comprehending the system of language by dividing it into smaller units.

Improving students' linguistic awareness is beneficial for foreign language learning, because in order to be able to reproduce the patterns correctly in a foreign language, students must first notice them. Without making these linguistic patterns and forms visible for students, it is impossible to expect them to produce them independently. Martin (2008: 108-109) states that there are two routes to language learning: '*knowing how*' and *'knowing what'*. 'Knowing what' includes for example knowing vocabulary or grammatical rules in general. 'Knowing how' includes these metalinguistic strategies, in other words, noticing language patterns and knowing how to apply them. To give an example, one needs to notice definite articles in a foreign language - their shape, sound and orthography and where and when they occur - before one is able to apply that knowledge into their own language.

It is estimated that up to over one-third of the children starting school lack phonological awareness. (Westwood 2008: 21). As previously discussed, dyslexic students have a neurological deficit in representing phonology (Csépe 2003: 36). Shaywitz and Shaywitz (2005: 1302) states that phonological awareness is vital for spelling, word recognition and reading. In other words, the students find it difficult to combine letters or morphemes to sounds and phonemes and vice versa. According to Moilanen (2004: 13), the reasons behind a poor phonological awareness lie in the abnormal phonological processing. The process includes receiving, comprehending and coding the data and placing it to the correct place in the sound system. The complex process makes it difficult for some people to separate single sounds from each other. In the case of foreign language learning, the phonological process can cause even more difficulties, as the sound system is different to one's native language. Davis (2005: 6) states that the differences in sound-letter correspondence cause differences in reading development across languages. For example, English has quite irregular sound-letter

correspondence, which can confuse Finnish students.

In order to improve phonological awareness, Westwood (2008: 22) suggests that the teacher should provide the students with tasks that require segmenting (sentences to words, words to syllables, syllables to sounds) and blending syllables (combining a sequence of sounds into syllables), and comparing and matching sounds and identifying sounds with visual hints. Phonological training also needs to move from bigger chunks within words to individual phonemes (Nijakowska 2010: 153). This way the learner will learn to discriminate between sounds and to identify initial, medial and final sounds. Suggestions and exercises for improving the learner's phonological awareness will be found in more detail in our material package.

Being a fluent reader requires the ability to not only decode sounds but also recognize familiar letter patterns. Recognising bigger chunks of letters makes reading faster and more fluent. Westwood (2008: 24) also reminds that there are 26 letters of the alphabet but 44 speech sounds that need to be represented in print. These combinations include not only digraphs (sh, th, ph etc.), consonant blends (tr, bl, sw, cr), diphthongs and vowel digraphs (ai, ea, ie etc.) but also units like prefixes and suffixes, which are called morphemes. Havas, Waris, Vaquero, Rodríguez-Fornells and Laine (2015: 1426) explain that when learning a native language (L1) and later on when learning a second language (L2), it is vital to learn the linguistic representations that carry semantic information (lexical units) and to understand the relationships between these units (syntax). Morphemes are the smallest units of language with meaning, which means that they can modulate the meaning of the word stem or even change its syntactic class (Havas et al. 2015: 1426). Being able to divide the word into morphemes decode these meanings is thus crucial. This in turn requires *morphological awareness.* Deacon and Kirby (2004: 224) explain that morphological awareness means "conscious awareness of the morphemic structure of words and their ability to reflect on and manipulate that structure" and that it is vital in a range of reading tasks. Consequently, Deacon et al. (2008, in Reid 2009: 21) state that there is clear evidence that readers with dyslexia demonstrate morphological difficulties. Reid (2009: 23) states that the probable primary cause is a deficit in the phonological awareness which causes morphological deficit and reading difficulties, but he also reminds that morphological awareness predicts successful and fluent reading skills. However, there is some evidence that morphological processing is not

dependent on phonological processing. According to Kuo and Anderson (2006, in Smith 2008: 180), morphological awareness plays a key role in word decoding, reading comprehension and vocabulary extension. For example, it is easier to conclude a meaning of an unfamiliar word if one is able to divide the word into its root and affixes. Morphological meanings are not obvious for many upper secondary school students, not to mention those with reading difficulties. In fact, many words contain more than one morpheme and recognizing them can help with not only understanding the meaning of the word but also extending one's vocabulary.

The last part of linguistic awareness we are going to introduce is syntactic awareness. Herriman (1991, in Guo et al. 2011: 162) has divided syntactic awareness into these three aspects:

> (a) awareness of the sentence as a basic unit of written language, (b) an awareness of grammatical acceptability and well-formedness as it [sic] relates to sentences or word strings, and (c) judgments about the relations between syntactic structure and semantic properties of sentences, e.g., synonymy and ambiguity. (Herriman, 1991: 330, in Guo et al. 2011: 162)

Conclusively, syntactic awareness includes the knowledge of grammatical structures and syntactic relations. Sometimes the functions of word categories can be unclear to the students, which can be stressful. When the students learn to recognise the function of the word - for example, with the help of morphological awareness - it will be easier to understand and create sentences. Thus, all of these four awarenesses are parallel and tightly connected with each other, as can be seen in Figure 5. Syntactic awareness can be improved by making the students aware of the different functions of the words and their relations. Moilanen (2004: 42) suggests for example visualising different functions with different colours: noun as red, verb as green etc. This way the teacher can also demonstrate to students how grammatical structures, such as word order, works. The teacher can also help the student to deduct the function of the word by asking the student to replace a word with another word with the same grammatical function. For example:

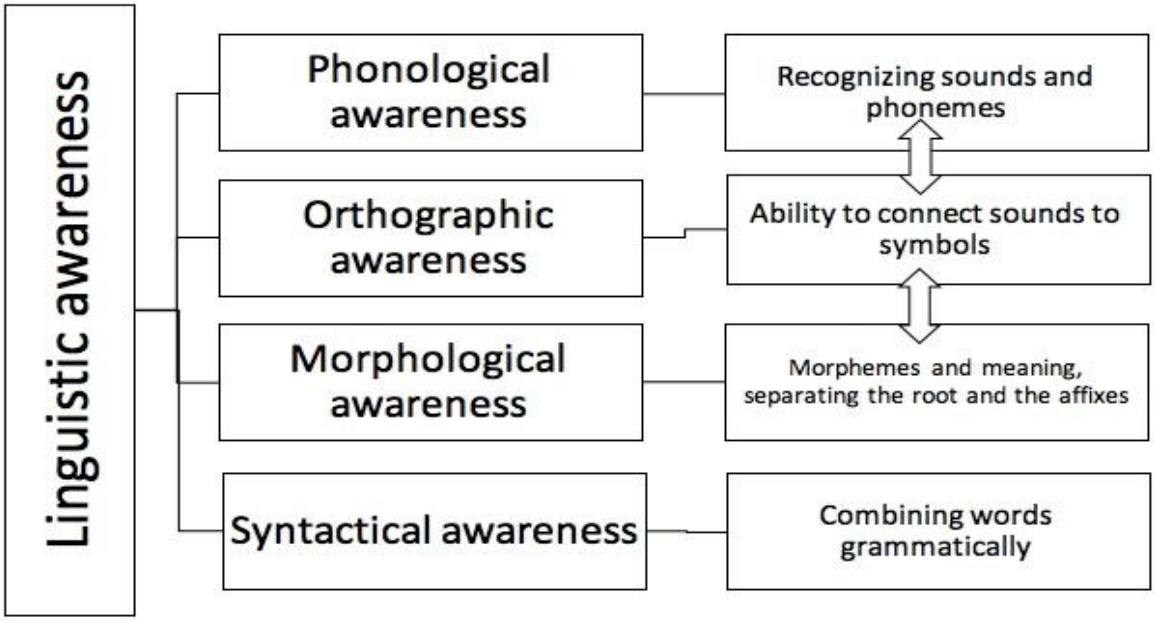
1. Replace the verb/noun/indirect object/object with another word from the same word class:

Ben bought her mom flowers.
S P iO O

As can be seen from the example above, the visualisation with, for example, colours and the separation of words according to their grammatical function can clarify the structure of words to a dyslexic student. As presented in Chapter 5, using multisensory methods in raising linguistic awareness is arguably beneficial.

To conclude, all the abovementioned parts of linguistic awareness are shown in Figure 5 below. The parts are parallel and support each other, but can be practiced separately. With this chapter, we wanted to introduce these different parts of linguistic awareness in order to explain their effect and importance in language learning and to be able address them in the exercises in our material package. As mentioned, the Finnish National Curriculum for General Upper Secondary School (LOPS 2015: 107) also requires improving students' metalinguistic skills and linguistic awareness. We understand that the issue is much more complex than presented here, but by raising students' awareness in these areas will improve not only their literacy, reading fluency, segmenting and spelling, but also reduce their stress and anxiety as they will be able to see the language more like a system rather than like a meaningless chaos of foreign words and exceptions. Furthermore, linguistic awareness enhances the acquisition of all languages, and thus benefits the academic success in multiple areas.

Figure 5. *The structure of linguistic awareness and the key skills.* (Adapted from Roberts Frank, 2014).



5.3 Supporting metacognitive skills

As mentioned earlier, it is vital to enhance students' metacognitive skills in order to promote their self-directive learning. In fact, metacognition has been described as the 'seventh sense' in learning (Goh 2008: 193). In upper secondary school the amount of information is quite heavy and students are expected to acquire it in the same pace. Furthermore, Takala (2006: 80) reminds that as dyslexia affects learning holistically, teachers should not only concentrate on cognitive content alone, but also teach students how to set goals, find effective compensation strategies, recognise one's strengths and special skills. However, students' metacognitive strategies vary greatly, which may be one of the key issues in either acquiring or missing the new information. For example, Goh (2008: 194) states that skilled EFL readers demonstrate better use of metacognitive strategies and richer metacognitive knowledge about the nature of reading in a second language. Metacognitive skills - or the lack of them - are often left without special attention especially in upper secondary school. Even though some methods may be presented in school, they are not systematically promoted or concentrated on, which is why especially dyslexic students need help with building metacognitive skills. Moreover, Victori and Lockhart (1995: 224) state that students do not often know why they

use a certain strategy, which is why in addition to the actual strategy, the teachers should also explain a rationale why the strategies are helpful for their learning. This makes it also easier for the student to choose the suitable strategy him/herself later in independent work. The application of metacognitive strategies can be integrated in the foreign language classroom and some key strategies that can be used in language teaching are discussed below.

Anderson (2002: 2) has divided metacognition into five primary components: (1) *preparing and planning for learning* (e.g. setting goals, planning how to proceed), (2) *selecting and using the strategies* (e.g. word analysis, breaking word into its prefix and stem), (3) *monitoring strategy use* (e.g. asking whether the strategy used is effective), (4) *orchestrating between various strategies* (e.g. using both word analysis and contextual cues to find out the meaning of an unfamiliar word) and (5) *evaluating strategy use* (e.g. one can ask: Did I accomplish what I was trying to do? What else can I do?). These five stages describe the whole learning process from planning learning goals and thinking how to achieve them to pausing to think whether the selected strategy is effective. Afterwards the student assesses all the stages and reflects the use and effectiveness of the strategies. The teacher has a great role in presenting multiple strategies and asking relevant questions that help the student to see the process step by step, which is why it is also vital that the teacher is aware of the existence of metacognitive strategies and provides constant cues for the students instead of correcting the wrong answer immediately. This will also give the students a possibility to change their answer with the help of the cues and find the correct answer themselves. This is supported by Camahalan (2006: 80), who presents that metacognition develops when the students have successful experiences in tasks and feel that they are "agents of their own learning". Also Reid (2012: 42) states that the promotion of self-sufficiency in learning is vital for students with dyslexia.

As presented earlier, examples of metacognitive skills are finding and using a suitable learning style, recognizing one's strengths and weaknesses, being aware of different learning strategies, dividing a task into smaller pieces and setting goals for oneself (Moilanen 2004: 33). However, we cannot assume that the students master these skills, which is why the teacher must pay constant attention to providing learning opportunities for metacognitive skills. For example, Wray (2002, in Reid 2012: 41) presents the idea of teacher modelling, which means that the teacher demonstrates what s/he is thinking while reading or writing. This way the students learn strategies that they can utilize in a range of reading and writing

situations. Sneddon (1993, in Martin 2009:104) emphasises also the role of scaffolding across languages and using students' prior knowledge in different languages to develop the target language. For example, the teacher can promote linguistic awareness (see Chapter 5.2) to build connections between languages.

Additionally, metacognitive strategies help students to correct errors, analyse effectiveness and select suitable learning strategies. Reid (2005: 6) presents that a teacher can help the student to enhance metacognitive skills through *teacher-student interaction.* By providing cues, structure and help the student to connect the new information to the previous knowledge, the teacher can create learning patterns, which eventually become automatized and lead to critical self-questioning and metacognitive strategies. This process is also referred to as *scaffolding* (Reid 2005: 48), The teacher gives support by clarifying and questioning, and later withdraws support gradually to let the student achieve the goal independently.

Compensation strategies are also important cognitive skills for fluent communication in a foreign language. When the student does not know a word, s/he can compensate the gap by using for example direct translation, word formation, literal translation, description or paraphrasing. Similarly to other cognitive strategies, it is important to be aware of the variety of strategies in order to be able to use them when necessary. Compensation strategies can be divided into *conceptual* and *linguistic* strategies (Tornberg 2009: 57).

Figure 6. *Compensation strategies*. (Adapted from Tornberg 2009: 57)

Main strategies	Compensation strategies	Examples
Conceptual	Analytical	Description, paraphrase
	Holistic	Using super- or subordinate terms
Linguistic	Morphological Creativity	Word formation
	Strategy of Transfer	Borrowing, literal translation

Other strategies for utilising metacognitive skills are for example using pre-task activities to introduce the content to the students. According to Reid (2009: 203), learning is more effective when the content is familiar. The teacher can for example introduce the topic by providing the lesson plan beforehand, asking the students to familiarise themselves with the topic at home using a video to explain. After this the topic will be covered in more detail in the classroom. The teacher can also use pictures, music, guests, discussions and role play to make the topic more related to the everyday life (Moilanen 2004: 42).

Dyslexic students often struggle with organizing their thoughts (Reid 2005: 55). Hence, questions such as 'What was the text about?' may cause difficulties because students are not able to tackle the whole text at once, but instead need to approach it in smaller pieces. Easier questions would be for example 'What was the title?', 'Who were the main characters? Describe them'. The teacher can also give support in sequencing the events using a timeline or questions. The texts read in upper secondary school are rather long, so dividing the text into smaller components will help students to approach it with less anxiety. Additionally, taking notes can be extremely difficult for students with dyslexia, which is why the teacher can guide the student to write down the essential information: which piece of information is related to another piece, which parts to underline or circle, writing down translations and so on (Moilanen 2004: 42). While teaching the topic, the teacher can already make it easier for the student to see the most essential information using for example colours, bold text and arrows in addition to underlining it orally. The teacher can also suggest using a list for student's common errors. However, one should also remember to include a list of topics in which the student has succeeded in. This kind of list will not only help the student to revise the most difficult parts, but also to see that there are parts that s/he already knows. Moilanen (2004: 42) also suggests using a table of contents in the notes, which helps the students to find the correct topic when needed.

The abovementioned metacognitive methods are suggestions that can be adapted to foreign language classrooms. The most important point is to acknowledge different levels of metacognitive skills and help students to develop them, as mastering a variety of learning strategies will help them in all of their studies. We have included these skills also in our material package alongside other support measures.

To conclude, these three abovementioned categories of support are included in Reid's (2009: 203) model for effective learning. His model targeted for students with dyslexia has been divided into four categories: (1) *understanding the requirements for the task,* (2) *planning the task and choosing learning strategies*, (3) *action*, in which the learner needs to have the resources and the skills required in order to carry out the task and (4) *transfer of learning*, which means utilizing previous knowledge and strategies. Indeed, this division is quite well in line with our division into general, linguistic and metacognitive support. Reid's first (1) category calls for metacognitive skills and linguistic skills, the second (2) category requires metacognitive strategies, the third one (3) requires suitable resources, which can be provided with general support, teaching methods and classroom adjustments, and the fourth (4) requires metacognitive skills and linguistic skills again. Conclusively, effective learning can be achieved by considering all these three levels, and we aim to take these three aspects into account throughout our material package.

6 ABOUT THE MATERIAL PACKAGE

The purpose of our material package is to provide information about dyslexic difficulties in foreign language classroom and to give suggestions for effective supportive measures. The need for our material package stems from the requirements in the National Core Curriculum for General Upper Secondary School (LOPS 2016), where it is stated that the teaching should be individualised according to the student's needs and that the support in upper secondary school should concentrate on preventative action and early identification. Our material package aims to answer to both of these requirements; we have listed signs to help early identification and we provide general principles to make the classroom dyslexia-friendly, which not only supports the students who struggle, but also prevents the development of new learning difficulties. Thus our material package is suitable for all students.

Furthermore, Thomson (2008: 12) states that subject teachers play an important role in the process of identification of learning difficulties. If the subject teachers do not pay attention to possible signs of learning difficulties, it is possible that the students go through high school without receiving the adequate support that they would need (Thomson 2008: 12). The most important thing is that the subject teacher is sensitive to signs of these learning difficulties. However, there lies a contradiction between the knowledge that the subject teacher training

provides on learning difficulties and the reality in upper secondary schools. It would arguably be beneficial for the subject teachers to be aware of the signs and the supportive measures, as special education is not widely offered in upper secondary schools. Our material package provides a presentation of the most common difficulties in different language skills and a summary for the visible symptoms in that area. We also provide a checklist which the teacher can use when observing the possible difficulties and this way gather data about the possible learning difficulty.

Because of the fast pace and the amount of information, learning a foreign language in upper secondary school can cause stress for students with dyslexia-type difficulties. Using the supportive measures provided in our material package is essential especially in the beginning of upper secondary school studies in order to create a strong basis for the demanding and fast-paced language studies ahead. In other words, using dyslexia-friendly practises from the beginning of upper secondary school studies will prevent the accumulation of difficulties when moving on to the next course. However, as it is a resource package, it is not tied to any course or even a language, but instead it can be used throughout upper secondary school studies to prepare students not only for matriculation examination but also for life. In this chapter we will present the aims, the organisation and the target group for material package in more detail.

6.1 Aims

Dyslexia affects students' learning in a variety of ways. The primary aim for this material package is to give teachers information about this learning difficulty and to provide them with concrete tools to support students. The secondary aim is to give students with dyslexia equal chances to succeed in upper secondary school studies. This in turn requires some adaptations to the classroom practises, as they may need to be converted to a more multi-sensory and dyslexia-friendly direction. We aim to provide a guide that would encourage teachers to create a dyslexia-friendly environment at a whole school level. Additionally, we aim to prove teachers that these procedures can be easily applied in teaching and that using these adaptations do not require extra planning. To summarise, here are the most important aims for out material package:

- To provide information on dyslexia type difficulties in foreign language learning.
- To provide the teachers accessible material and activities to be used alongside other course materials.
- To give suggestions how to make upper secondary school classrooms more dyslexia-friendly.
- To give equal opportunities to succeed in upper secondary education and to provide a strong basis for language learning.
- To enhance students' linguistic awareness.
- To improve students' metacognitive skills and learning strategies.

6.2 Target group

The primary target group for our material package is upper secondary school language teachers. We aim to help teachers to support upper secondary school students who struggle with reading difficulties, as special education or supporting students with learning difficulties is not an obligatory part of subject teacher training, and hence we can conclude that there is a need for additional information on how to acknowledge these issues in foreign language classrooms. We think that all subject teachers should have the basic information of one of the most common learning difficulty, dyslexia, and of its effects on foreign language learning. As the aim is to give tools for supporting students with dyslexia, we define upper secondary school students as our secondary target group. There are a number of reasons for choosing upper secondary school students as our secondary target group. Firstly, there is a clear lack of differentiated teaching material for this age group. Secondly, the amount of information that the students are expected to acquire can be a handful and we think that in addition to linguistic awareness, students also need support in metacognitive strategies and learning skills in order to be able to acquire the great amount of information and to learn effectively. We aim to provide a holistic resource package for supporting students.

6.3 Organization of the material package

The Common European Framework of Reference divides language skills into listening, speaking, reading and writing. We decided to concentrate here on listening, reading and

writing, as speaking and communication skills are practiced in activities throughout all sections. Additionally, we have added a section for general guidelines, a section for vocabulary learning and a section for grammar. We acknowledge that these sections overlap, but we have selected the sections according to the areas which are predominant in language learning. Also, as teachers, we think that it is easier to find a suitable task when there are specific skill areas.

These six sections are all marked in different colours and each of them are divided into three categories: general guidelines, metacognitive skills and activities. We wanted to include metacognitive strategies as an important part of our material, as we think that they should be concentrated more on in upper secondary school, especially because students with dyslexia often lack effective metacognitive strategies and because enhancing metacognitive skills is proven to help students with dyslexia. We start each chapter with a summary of the difficulties and a list of the most common signs of dyslexic difficulties in that area. Next, we provide some general adaptations considering the classroom environment and the teaching. These adaptations will make the foreign language classroom more dyslexia-friendly. The third part of each chapter concentrates on explaining and providing some key metacognitive strategies. Lastly, we provide concrete example activities that can be applied to practice.

6.4 Task types

In addition to the introductory summaries of the key difficulties and lists for possible signs of dyslexia, we provide concrete examples of effective tasks and activities for students with dyslexic difficulties. We aim at providing multisensory, variable activities that encourage upper secondary school teachers to acknowledge learners as individuals and broaden the variety of task types used in upper secondary school language teaching. The activities also aim to improve students' metalinguistic awareness (LOPS 2015: 107), as it enhances academic success in multiple areas. We have divided metalinguistic awareness further into phonological awareness, orthographic awareness, morphological awareness and syntactic awareness and have tried to provide activities that enhance these skill areas. We chose not to mark the specific skill that the activity aims to practice as these skills often intertwine.

The tasks often require communication and interaction, problem solving, peer tutoring or

mixed-ability grouping and kinaesthetic activities, all of which in this paper are proven to improve students' language skills. We provide general suggestions for adaptations in teaching, such as the use of colours for indicating different grammatical items or concrete, separate activities, e.g. odd-one-out, where the student chooses the odd-one-out from similar looking words with different meanings. In addition, we present whole task cycles, such as process writing, including multiple steps. As we cannot provide a task for each topic to learn, we have tried to include tasks in variable topics demonstrating where students with dyslexia often struggle. Additionally, we wanted to include concrete suggestions for enhancing students' learning skills through metacognitive skills, because students with dyslexia often lack them and because they are much needed especially in upper secondary school studies. For example, we advice giving strategy instruction, which gives the student tools to guide their own learning and enhances their learner autonomy. At the end of our material package, there is a section for ready-to-use and printable handouts. Detailed instructions to their use are given in the related chapter in the material package. The handouts include, for instance, self-assessment sheets that make the use of metacognitive strategies visible, tips for revising, a guide to write essays and activities that practice linguistic skills. Conclusively, our material package aims to provide a range of multisensory activities in different language skill areas.

7 DISCUSSION

As discussed, dyslexia is one of the most common learning difficulties and according to the publication by the Trade Union for Education (OAJ 2016: 6), 5% of upper secondary school students are diagnosed with a learning difficulty. In reality, this number is higher as not all difficulties can be diagnosed with a dyslexia test in one's native language. For these reasons, the topic of our paper and material package is current, as there is still a call for a law which would secure the student's right to receive special education in upper secondary school (OAJ 2015: 6). At the moment the students do not have a legal right for special education and it depends on the subject teacher and the school resources whether the student receives support or not. The missing law also means that the official support given in the important matriculation examination is limited for a small group of students diagnosed with moderate or severe dyslexia in their native language. Thus, the students who have milder degrees of dyslexia or who only struggle in foreign languages are left without support, which may affect their success in matriculation examination. Hence, it is important to support the students by

other means throughout upper secondary school.

Even though the law does not recognise learning difficulties in upper secondary school, we want to emphasise that giving adequate support in upper secondary school is not too late. In fact, Rief and Stern (2010: 29) remind that it is never too late to help students with dyslexia in improving their skills. Similarly, Schneider and Crombie (2008: 3) state that although dyslexia cannot be completely cured, but through adjustments in teaching it is possible to provide the student successful strategies to overcome the difficulties. Therefore, we think that it is essential that the subject teacher not only has the necessary information about dyslexia, but also accessible tools for providing support in foreign language classrooms throughout upper secondary school. In fact, one of the strengths of our material package is that as it is a resource package, it is not tied to a specific course or a language. Thus, we hope that all foreign language teachers would adapt these methods to their teaching permanently and commit to creating a dyslexia-friendly environment to upper secondary schools. Our material package aims to help teachers support all students who struggle with dyslexia-type difficulties. We also want to prove that using these support measures does not add teachers' workload, but may in fact save time as the teachers do not need to search information from multiple sources and create suitable activities for differentiation. Conclusively, if no support measures are applied in upper secondary school language teaching, it is possible that the difficulties cumulate during studies and the academic success is jeopardised, which consequently affects the access to further education.

It is important to consider and acknowledge also the possible areas for improvement. One of the weaknesses of our material package lie in the limited amount of activities when comparing to the content of the whole EFL syllabus in upper secondary school. In addition, we cannot provide very specific activities, as there is a great amount of topics to learn. However, this can also be one of the strengths, as the activities are easily adapted and modified in multiple purposes. Another weakness may be the missing section for speaking and communication. We decided not to include them as a separate section in our material package, as we were not able to provide a recording to support it. The current teaching materials and course books often include good quality recordings for pronunciation activities, which is why there was no need for providing one here. This does not mean that our material does not take them into account, instead, speaking and communication skills are strongly

emphasised in the communicative tasks throughout all sections. Additionally, these materials have not as such been tested in practise. The next step could be testing the materials in foreign language classrooms and collect feedback from both the teachers and the students. However, because the suggestions and activities in our material package rely on the effective practises in previous research, it is safe to assume that applying our suggestions into practise indeed helps the students who struggle with dyslexia-type difficulties. Moreover, we argue that incorporating elements presented in the material package will be in fact beneficial for all learners with or without dyslexia.

Conclusively, this thesis and the following material package aims not only to help subject teachers to acknowledge dyslexia-type difficulties in language teaching but also to give the students with reading difficulties equal chances to success in their language studies. We want to emphasise that supporting dyslexia-type difficulties does not mean lowering expectations or learning goals. Conversely, the support measures function as means to achieve these goals. Our material package answers to the growing need for material designed for supporting students with learning difficulties in upper secondary school. Additionally, as we think that there is room for improvement in the suitability of teaching methods for students with dyslexia, we hope that this material package encourages teachers to use more multi-sensory methods and to create a more dyslexia-friendly atmosphere to upper secondary school classrooms.

BIBLIOGRAPHY

Anderson, N. J. (2002). *The role of metacognition in second language teaclıing and leaming.* ERIC Digest EDO. Washington, OC: ERIC Clearinghouse on Languages and Linguistics. [online] 1-7. http://files.eric.ed.gov/fulltext/ED463659.pdf (10 March, 2017)

Arffman, I. and Nissinen, K. (2015). Lukutaidon kehitys PISA-tutkimuksissa. In *Millä eväillä osaaminen uuteen nousuun? PISA 2012-tutkimustuloksia*. Opetus- ja kulttuuriministeriö. [online], 28-49. http://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/75126/okm6.pdf (17 April, 2017)

Björn, P. and Leppänen P. (2012) Onnistuiko ohjaus? Englannin kielen harjoittelu suomenkielisillä lukiolaisilla, joilla on lukivaikeutta. *NMI Bulletin. Oppimisen ja oppimisvaikeuksien erityislehti 4/12.* [online] http://bulletin.nmi.fi/article/onnistuiko-ohjaus-englannin-kielen-harjoittelu-suomenkielisilla-lukiolaisilla-joilla-on-lukivaikeutta/ (10 March, 2017)

British Dyslexia Association. http://www.bdadyslexia.org.uk/ (17 April, 2017)

Camahalan, F. M. G. (2006). Effects of a metacognitive reading program on the reading achievement and metacognitive strategies of students with cases of dyslexia. *Reading Improvement* [online] 43(2), 77-93. http://search.ebscohost.com.ezproxy.jyu.fi/login.aspx?direct=true&db=afh&AN=21711566&site=ehost-live (20 February, 2017)

Crombie, M. A. (1997). The effects of specific learning difficulties (dyslexia) on the learning of a foreign language in school. *Dyslexia* 3 (1), 27-47. doi: 10.1002/(SICI)1099-0909(199703)3:1<27::AID-DYS43>3.0.CO;2-R

Csépe, V. (2003). *Dyslexia: Different brain, different behavior*. New York: Kluwer Academic/Plenum.

Davis, C. (2005). A Report of the OECD-CERI Learning Sciences and Brain Research. *Shallow vs Non-shallow Orthographies and Learning to Read Workshop*. St. John's College Cambridge University UK [online]. https://www.oecd.org/edu/ceri/35562310.pdf (4 December, 2016)

Deacon, S. and Kirby, J. (2004). Morphological awareness: Just "more phonological"? The roles of morphological and phonological awareness in reading development. *Applied*

Psycholinguistics, 25(2), 223-238. doi:10.1017/S0142716404001110

DiFino, S. M., & Lombardino, L. J. (2004). Language learning disabilities: The ultimate foreign language challenge. *Foreign Language Annals* [online] *37*(3), 390-400. https://search.proquest.com/docview/216021580?accountid=11774 (28 January, 2017)

Dixson, D.D and Worrell F.C. (2016). Formative and Summative Assessment in the Classroom, *Theory Into Practice*. 55 (2), 153-159. doi: 10.1080/00405841.2016.1148989

Downey, D. M., Snyder, L. E. and Hill, B. (2000). College students with dyslexia: Persistent linguistic deficits and foreign language learning. *Dyslexia* [online] 6 (2), 101-111. http://www.ncbi.nlm.nih.gov/pubmed/10840510. (30 November, 2016)

Elliott, J.G. and Grigorenko, E.L. (2014) *The Dyslexia Debate.* Cambridge: Cambridge University Press*.* [online] https://books.google.fi/books?id=4lz2AgAAQBAJ&printsec=frontcover#v=onepage&q&f=false (10 March 2017)

Ellis, A.K., Denton D.W and Bond J.B. (2014). An analysis of research on metacognitive teaching strategies. *Procedia - Social and Behavioral Sciences* 116, 4015-4024. doi: //dx.doi.org/10.1016/j.sbspro.2014.01.883.

Frith, U. (1995). Dyslexia: Can we have a shared theoretical framework? *Educational and Child Psychology*, [online] 12(1), 6-17. http://www.icn.ucl.ac.uk/dev_group/ufrith/documents/Frith,%20Dyslexia%20-%20can%20we%20have%20a%20shared%20theoretical%20framework%20copy.pdf (20 April, 2017)

Frith, U. (1999). Paradoxes in the definition of dyslexia. *Dyslexia 5*(4), 192-214. doi: 10.1002/(SICI)1099-0909(199912)5:4<192::AID-DYS144>3.0.CO;2-N

Goswami, U. (2005). Synthetic Phonics and Learning to Read: A Cross-language Perspective. *Educational Psychology In Practice 21*(4), 273-282. doi:10.1080/02667360500344823

Goh, C. (2008). Metacognitive instruction for second language listening development. *RELC Journal 39*(2), 188-213. doi:10.1177/0033688208092184

Guise J., Reid G., Lannen S. and Lannen C. (2016). Dyslexia and specific learning difficulties: Assessment and intervention in multilingual setting. In L. Peer and G. Reid (eds.) *Multilingualism, Literacy and Dyslexia: Breaking Down Barriers for Educators.* New York. Routledge. [online] 61-73. https://books.google.fi/books?id=nGmFCwAAQBAJ&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false (8 March, 2017)

Guo, Y., Roehrig, A. D. and Williams, R. S. (2011). The relation of morphological awareness and syntactic awareness to adults' reading comprehension. *Journal of Literacy Research* 43 (2), 159-183. doi: 10.1177/1086296X11403086.

Havas, V., Waris, O., Vaquero, L., Rodríguez-Fornells, A. and Laine, M. (2015). Morphological learning in a novel language: A cross-language comparison. *The Quarterly Journal of Experimental Psychology* 68 (7), 1426-1441. doi: 10.1080/17470218.2014.983531.

Holopainen L. and Savolainen H. (2006). Nuorten lukemisen ja kirjoittamisen vaikeudet. In M. Takala, E. Kontu (Eds.), *Luki-vaikeudesta luki-taitoon*. Helsinki: Yliopistopaino, 203-229.

Hällfors, A., Willberg, S. and Mynttinen, S. (2006). Lukion erityisopetus. In M. Takala, E. Kontu (Eds.), *Luki-vaikeudesta luki-taitoon*. Helsinki: Yliopistopaino, 231-250.

International Dyslexia Association. (2014). IDA Dyslexia Handbook – What Every Family Should know [online]. http://www.readingrockets.org/sites/default/files/IDA%20Dyslexia%20Handbook.pdf (16 December, 2016)

Laasonen, M., Leppämäki, S., Tani, P., and Hokkanen, L. (2009). Adult dyslexia and attention deficit disorder in Finland--project DyAdd: WAIS-III cognitive profiles. *Journal of Learning Disabilities 42*(6), 511-27. doi:http://dx.doi.org/10.1177/0022219409345013

Lewis, A. and Norwich, B. (2004). *Special teaching for special children : Pedagogies for inclusion*. Maidenhead: Open University Press.

Linan-Thompson, S. (2014). Understanding the needs of english language learners with dyslexia: Issues in assessment and instruction. *Perspectives on Language and Literacy* [online], *40*(4), 19-22. https://search.proquest.com/docview/1657548201?accountid=11774 (16 February, 2017)

Lukiolaki 21.8.1998/629. Finlex. [online] http://www.finlex.fi/fi/laki/ajantasa/1998/19980629 (17 April, 2017)

Lukion opetussuunnitelman perusteet. (2015). Finnish National Board of Education [online] http://www.oph.fi/download/172124_lukion_opetussuunnitelman_perusteet_2015.pdf (17 April, 2017)

Lyytinen, H., Erskine, J., Hämäläinen, J., Torppa, M., and Ronimus, M. (2015). Dyslexia : early Identification and Prevention: Highlights from the Jyväskylä Longitudinal Study

of Dyslexia. *Current Developmental Disorders Reports* 2 (4), 330-338. doi:10.1007/s40474-015-0067-1

Martin, D. (2009). Language disabilities in cultural and linguistic diversity. *Multilingual Matters.* Bristol: UK [online]. http://search.ebscohost.com.ezproxy.jyu.fi/login.aspx?direct=true&db=nlebk&AN=272965&site=ehost-live (22 November, 2017)

McLoughlin, D. and Leather, C. (2013). *The dyslexic adult: Interventions and outcomes : an evidence based approach* (2nd ed.). Hoboken: BPS Blackwell [online]. http://ebookcentral.proquest.com/lib/jyvaskyla-ebooks/detail.action?docID=1124434 (30 February, 2017)

Mehrdad, A., Aghar, M. and Aghar, M. (2012) The effect of teaching cognitive and metacognitive strategies on EFL students reading comprehension across proficiency levels. *Procedia - Social and Behavioral Sciences 46*, 3757-3763. doi: 10.1016/j.sbspro.2012.06.142

Mikkonen, K., Nikander, K., Voutilainen, A. (2015) Oppimisvaikeuksien tunnistaminen ja tukeminen. *Potilaan lääkärileht* 12/15 [online]. http://www.potilaanlaakarilehti.fi/artikkelit/oppimisvaikeuksien-tunnistaminen-ja-tukeminen/ (17 April, 2017)

Mitchell, D. (2014). *What really works in special and inclusive education: Using evidence-based teaching strategies* (2nd ed.). London: Routledge [online]. http://ebookcentral.proquest.com/lib/jyvaskyla-ebooks/detail.action?docID=1596944.

Moilanen, K. (2004). *Yli esteiden : Oppimisvaikeudet ja vieraat kielet*. Helsinki: Tammi.

Nijakowska, J. (2010). *Dyslexia in the foreign language classroom*. Bristol: Multilingual Matters.

Opetusalan ammattijärjestö OAJ. (2015). Nuorisonavigaattori. OAJ:n ehdotukset uudelle hallitukselle [online]. http://www.oaj.fi/cs/oaj/Nuorisonavigaattori (15 April, 2017)

Pavey, B. (2007). *The dyslexia-friendly primary school: A practical guide for teachers* London: SAGE Publications Ltd. doi: 10.4135/9781446212455

Pavey, B, Meehan, M & Waugh, A. (2010). *Dyslexia-friendly further & higher education*. London: SAGE Publications Ltd. doi: 10.4135/9781446221730.

Perusopetuslaki. 21.8.1998/628. Finlex. [online] http://www.finlex.fi/fi/laki/ajantasa/1998/19980628?search%5Btype%5D=pika&search%5Bpika%5D=perusopetuslaki (17 April, 2017)

Pesonen, H. (2016). Sense of belonging for students with intensive special education needs An exploration of students' belonging and teachers' role in implementing support [online]. Helsinki: Yliopistopaino Unigrafia. https://helda.helsinki.fi/bitstream/handle/10138/159852/senseofb.pdf?sequence=1 (15 March, 2017)

Phillips, S., Kelly, K. S. and Symes, L. (2013). *Assessment of learners with dyslexic-type difficulties*. Los Angeles: Sage Publications Ltd [online]. https://www.dawsonera.com/abstract/9781446287040 (14 March, 2017)

Pietilä, P. and Lintunen, P. (2014). Kielen oppiminen ja opettaminen. In P. Pietilä, and P. Lintunen (eds.), *Kuinka kieltä opitaan. Opas vieraan kielen opettajalle ja oppijalle.* Helsinki: Gaudeamus Helsinki University Press, 114-137.

Rahimi, M. and Katal, M. (2012). *Metacognitive strategies awareness and success in learning english as a foreign language: An overview*. doi: //dx.doi.org/10.1016/j.sbspro.2011.12.019.

Ramus, F., Rosen, S., Dakin, S. C., Day, B. L., Castellote, J. M., White, S., & Frith, U. (2003). Theories of developmental dyslexia: Insights from a multiple case study of dyslexic adults. *Brain 126* (4), 84,1 https://doi-org.ezproxy.jyu.fi/10.1093/brain/awg076

Ramus, F. (2014). Should there really be a 'Dyslexia debate'?. *Brain* 137 (12): 3371-3374. doi: 10.1093/brain/awu295

Raoofi, S., Chan, S. H., Mukundan, J. and Rashid, S. M. (2014). Metacognition and second/foreign language learning. *English Language Teaching* [online] 7 (1), 36. http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&xri:pqil:res_ver=0.2&res_id=xri:ilcs-us&rft_id=xri:ilcs:rec:abell:R04982164. (25 March, 2017)

Reid, G. (2005). *Dyslexia and Inclusion: Classroom approaches for assessment, teaching and learning*. London: David Fulton Publishers Ltd.

Reid, G. (2009). *Dyslexia. A Practitioner's Handbook.* (4th ed). Chichester: John Wiley and Sons Ltd [online]. http://onlinelibrary.wiley.com/store/10.1002/9780470745502.fmatter/asset/fmatter.pdf?v=1&t=j2kortcf&s=a7243a111aa36b9ed01b5f13b2f83589b53c9f6e

Reid, G. (2011). *Dyslexia: A complete guide for parents and those who help them* (2nd ed.). Chichester: Wiley-Blackwell.

Riddick, B. (2001). Dyslexia and inclusion: Time for a social model of disability perspective? *International Studies in Sociology of Education* 11 (3), 223-236. doi: 10.1080/09620210100200078.

Rief, S. F., and Stern, J. (2010). *The dyslexia checklist: A practical reference for parents and teachers* (Vol. 3). San Francisco: John Wiley & Sons [online]. https://books.google.fi/books?hl=fi&lr=&id=yEgxjLGIZXAC&oi=fnd&pg=PR7&dq=%22The+dyslexia+checklist+:+a+practical+reference+for+parents+and+teachers+:+J-B+Ed:+Checklist%22&ots=rIH6DU0YTd&sig=0JLxIgqfNOUQ3lJRdXsjDCMnuD4&redir_esc=y#v=onepage&q&f=false (16 March, 2017)

Roberts Frank, A. (2014). Teaching Students with Dyslexia and Related Language Learning Disabilities [online]. http://www.decodingdyslexiaor.org/wp-content/uploads/2014/10/Teaching-students-with-dyslexia-and-related-language-disabilities.pdf (4 December, 2016)

Rontou, M. (2012). Contradictions around differentiation for pupils with dyslexia learning English as a Foreign Language at secondary school. *Support for Learning* 27: 140–149. doi:10.1111/1467-9604.12003

Scarborough, H. (2003). Matthew effects in children with learning disabilities: Development of reading, IQ, and psychosocial problems from grade 2 to grade 8. *Annals of Dyslexia* [online] 53, 47-71. http://web.haskins.yale.edu/Reprints/HL1331.pdf (14 April, 2017)

Schneider, E. and Crombie, M. (2008). *Dyslexia and foreign language learning*. London: David Fulton.

Schulte-Körne, G. (1998). Auditory processing and dyslexia: Evidence for a specific speech processing deficit. *Neuroreport* 9 (2), 337-340. doi: 00001756-199801260-00029

Shaywitz, S. E. and Shaywitz, B. A. (2005). Dyslexia (specific reading disability). *Biological Psychiatry* [online] 57 (11), 1301-1309. https://doi org.ezproxy.jyu.fi/10.1016/j.biopsych.2005.01.043

Siegel, L. S. (2006). Perspectives on dyslexia. *Paediatrics & Child Health* [online], *11* (9), 581–587. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2528651/pdf/pch11581.pdf

Sparks, R., and Ganschow, L. (1993). The Impact of Native Language Learning Problems on Foreign Language Learning: Case Study Illustrations of the Linguistic Coding Deficit Hypothesis. *The Modern Language Journal 77*(1), 58-74. doi:10.2307/329559

Sparks, R. (2004). Orthographic awareness, phonemic awareness, syntactic processing, and working memory skill in hyperlexic children. *Reading and Writing* [online], 17 (4),

359–386, http://link.springer.com/journal/11145/17/4/page/1

Sundman, M. (2014). Kuinka kielioppia opitaan ja opetetaan. In Pietilä, P., Lintunen, P. (eds.) *Kuinka kieltä opitaan. Opas vieraan kielen opettajalle ja oppijalle.* Helsinki: Gaudeamus Helsinki University Press, 114-137.

Takala, M. (2006). Mitä on dysleksia? In M. Takala, E. Kontu (Eds.), *Luki-vaikeudesta luki-taitoon*. Helsinki: Yliopistopaino, 65-85.

Thomson, M. (2008). *Supporting students with dyslexia in secondary schools : Every class teacher's guide to removing barriers and raising attainment*. London: Routledge.

The Common European Framework of Reference [online]. http://europass.cedefop.europa.eu/sites/default/files/cefr-en.pdf (25 April, 2017)

Tomlinson C. and Eidson C. (2002). *Differentiation in Practice : A Resource Guide for Differentiating Curriculum, Grades K-5.* Alexandria, Va: Assoc. for Supervision and Curriculum Development [Online]. http://ebookcentral.proquest.com/lib/jyvaskyla-ebooks/detail.action?docID=3002039 (19 April, 2017)

Tornberg, U. (2005). *Språkdidaktik* (3rd ed). Stockholm: Gleerup.

Victori, M. and Lockhart, W. (1995). Enhancing metacognition in self-directed language learning. *System* 23(2), 223-234. doi: 10.1016/0346-251X(95)00010-H

Wadlington, E., Jacob, S., & Bailey, S. (1996). Teaching students with dyslexia in the regular classroom. *Childhood Education* [online] *73*(1), 2-5. https://search.proquest.com/docview/210394416?accountid=11774 (14 January, 2017)

Westwood, P. (2008). *What teachers need to know about learning difficulties*. Camberwell Vic.: ACER Press.

Ylioppilaslautakunta (2016). Luku- ja kirjoitushäiriön huomioon ottaminen ylioppilastutkinnossa [Online]. https://www.ylioppilastutkinto.fi/images/sivuston_tiedostot/Ohjeet/Sairaus/fi/fi_luki_maarays.pdf (10 March, 2017)

It’s a jungle out there

A material package for supporting students with dyslexia in foreign language classrooms in upper secondary school

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Foreword

Welcome to the jungle!

Learning foreign languages can feel like walking in a thick jungle for students who struggle with dyslexia-type difficulties. It is difficult to see the forest for the trees with all the grammatical terms and extensive vocabularies in course books. The material package you are holding is created to help these students to conquer the obstacles in upper secondary school courses and to prevent the cumulation of difficulties. As a language teacher, you have the keys to support the students individually and give everyone equal access to curriculum. In other words, dyslexia should not be in the way of academic success just because learning happens differently. Instead of lowering expectations, you can help the student to find the right path through the jungle. This material package offers ideas and adaptations to supporting students with dyslexia in foreign language classrooms. You can start with trying just one of them, the main thing is to acknowledge these difficulties in upper secondary school classrooms and to take a step (or a leap!) towards more dyslexia friendly teaching.

Table of contents

Introduction

What is dyslexia?

Dyslexia is a specific cognitive disorder with neurological origins, and the reading difficulty cannot be explained by any other factors such as, other cognitive abilities, inadequate schooling or visual impairment. The core deficit of dyslexia lies in phonological processing problems. In Finland, the term ‘dyslexia’ is often replaced with *reading and writing difficulties* (lukivaikeus) indicating that difficulties in reading are intertwined with difficulties in writing. Other synonyms include terms such as specific reading difficulties, reading disability and specific learning difficulties.

In this material package, the term dyslexia works as an umbrella term for all different (specific and general) reading difficulties. We think that an overly strict definition might lead to a situation where students who need supportive measures are not entitled to them and that is why we take both the undiagnosed and the diagnosed into account. We argue that the most important thing is that support is given to all students regardless of the causes behind the problem.

Why should I care?

Dyslexia is one of the most common learning difficulties and it is estimated to cause difficulties for up to 10% of the people (Mikkonen, Nikander, Voutilainen, 2015). According to Holopainen and Savolainen (2006: 208-210) dyslexia has the greatest effect on learning foreign languages and that 85-90% of the students who struggle with dyslexic difficulties are less successful in foreign languages than average. Furthermore, many students, who are not specifically diagnosed as dyslexic in their native language, struggle with milder degrees of dyslexia, which can especially be seen in foreign language classrooms. Some of the theories also suggest that it is possible that dyslexia can manifest only in foreign languages and not necessarily in one's native language (e.g. Martin 299: 92, Frith 1999: 210). As an EFL teacher, you might have already witnessed these difficulties in your classroom.

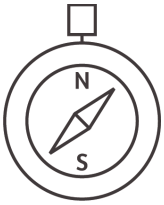
Moreover, The National Curriculum for General Upper Secondary School (LOPS 2015: 20) demands that individual support should be given for students and that the support measures and solutions should cover the whole learning community and its physical surroundings. As most upper secondary schools do not have their own consulting special education teacher, the responsibility of carrying out the supportive measures lies on the shoulders of the subject teacher (Hällfors et al. 2006: 233). Thus, it would be extremely important that subject teachers had knowledge of the different types of learning difficulties and the possible support measures.

I understand that I am required to offer additional support to my students with dyslexia, but how on earth am I going to do that? I have too much on my plate already with all the grading and planning.

Glad you asked. We will show you ways to support dyslexic students in the classroom while acknowledging the learning needs of your other students too. You will most likely notice that the supportive actions proven to be effective for students with dyslexia are in fact beneficial for everyone. You might need to allocate some extra time for planning at first when trying out methods presented in this booklet, but in the long run, you will notice that actually supporting your students with learning difficulties is not rocket science nor take a long time, but rather it can be easy and effortless!

How do I use this material package?

We have divided this package into six chapters: the first chapter introduces ***the general adaptations*** you can make in your classroom and teaching. The following chapters - ***reading, writing, listening, vocabulary and grammar*** - concentrate on presenting the deficits in specific areas, and providing activities for support. In the beginning of each chapter, there is a table for identifying the difficulties in above mentioned language skills. On the next page we will present the icons that help you navigate through this material.



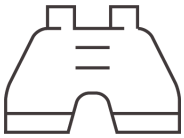
Navigating through the jungle

In the beginning of each chapter, this icon will guide you to general information on how to support your student with dyslexia and what issues should be considered when planning the support. In other words, with these general principles, we will give you a starting point when trying to navigate through the jungle.

Where am I? Where am I heading to?

The map icon indicates concentration on metacognitive strategies and how to practice them. When wandering in the jungle, it is very relevant to ask *where I am and where I am heading to*. The same applies to language learning.

Activities



At the end of each chapter, we have included some concrete activities. They are marked with a binoculars -icon, as when your students are engaged in doing the activities, you can observe whether your supportive actions have been adequate, and assess how your student with dyslexia is progressing. However, we want to remind you that having a pair of binoculars does not give you a licence to be a mere bystander, but rather we encourage you to participate in! Your job is to supervise that the learning outcomes of each activity are reached, but also to have fun! Your participation in the activities will promote the sense of community in the classroom. As you already have a pair of binoculars for observing, on the next page we will provide you with a model on how to assess whether there is a need for supportive actions and how to proceed if there is.

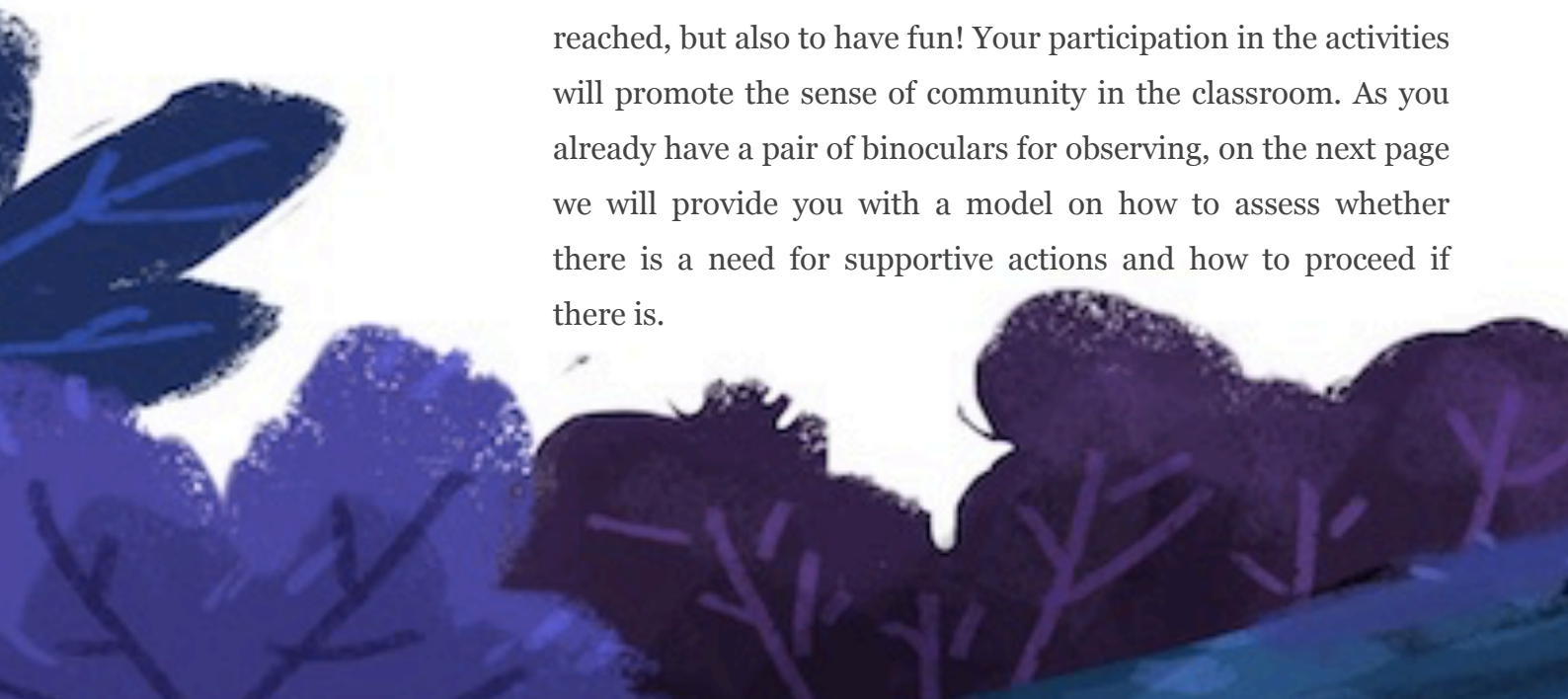
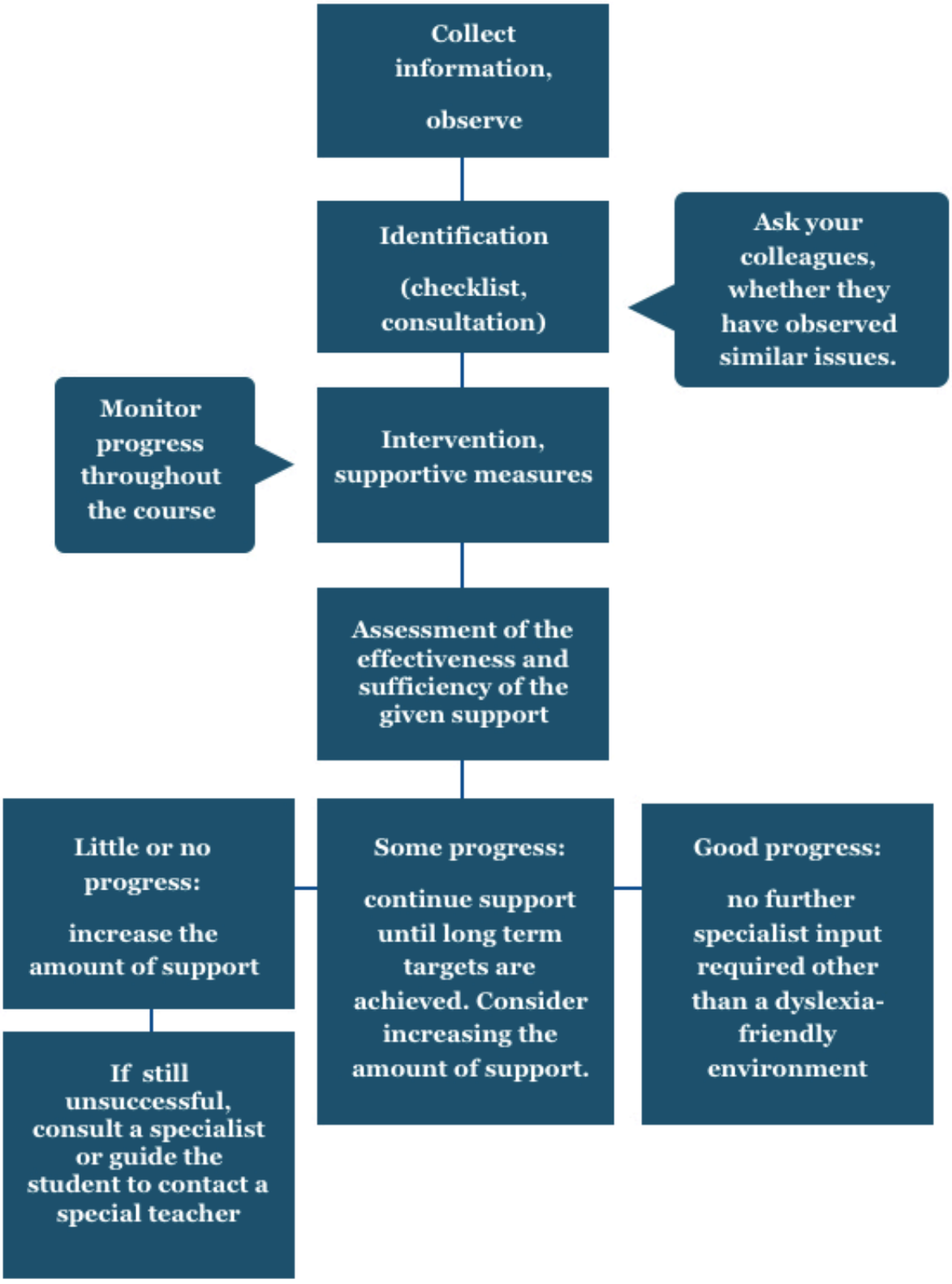


Figure 1. Identifying difficulties, supporting students and monitoring progress. Model adapted from Figure 2.1. Model for assessment of dyslexia-type difficulties. Phillips, Kelly, Symes. 2013: 24.



The Framework

In this section we present the core values behind this material package. The four following core values of our framework are the foundations of our material package and research done on the field suggest that these values should be included when planning adequate support for learners with dyslexia in EFL classrooms. Below we introduce the four values in detail, providing a little summary of each value.

Dyslexia friendly approach is all about creating a supportive ethos to school and involve every teacher and student to participate in this. Dyslexia friendly approach especially calls for cooperation among teachers and encourages teachers to share their experiences with others. In addition, according to dyslexia friendly approach what is effective teaching for a student with dyslexia, is effective for all learners too. This is the core idea of our material package; all the activities benefit all learners in the classroom and try to make language learning engaging and fun!

Developing knowledge of the language itself, in other words, ***linguistic awareness,*** is important for all learners, but especially for learners with dyslexia. Research has shown that in addition to having poor phonological awareness, dyslexic students also have problems in other subcategories of linguistic awareness: orthographic awareness, morphological awareness and syntactic awareness. Our material package aims to enhance linguistic awareness; in order to be able to successfully reproduce the correct patterns in a foreign language, students must logically first notice them.

As dyslexia affects learning holistically, we should not only concentrate on the content (English), but also how to set goals, find compensation strategies, recognise one's strengths and special skills. This can be achieved through ***metacognitive strategy instruction***. ***Metacognitive skills*** include the ability to be conscious of one's mental processes and ways of working. The most basic metacognitive strategies consider connecting new information to the existing one, selecting thinking strategies, planning, monitoring one's own progress and evaluating the process and the result. Training these skills is essential for everyone, but especially for students with dyslexia, and even more so in upper-secondary school as studying becomes increasingly independent and requires self-direction. The goal of using metacognitive strategies is to promote agency of the students, in other words, making them feel that they are in charge of their own learning.

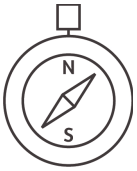
As the name ***multi-sensory instruction*** implies; this core value is about how to promote students learning by using different senses. This method has been proven highly effective to students with dyslexia and that is why incorporating different elements which stimulate different senses would be crucial when drafting your lesson plans. In other words, multi-sensory approach requires the use of visual, tactile, auditory and kinaesthetic elements in the teaching input. Especially kinaesthetic activities are beneficial for students with dyslexia, as they provide an opportunity to learn by doing. You and your students will likely find multi-sensory methods beneficial for learning. At first it may require courage to incorporate these elements, especially kinaesthetic ones, in upper secondary school lessons, as it takes time for the students to get used to a new way of teaching. However, the learning results speak for themselves, so try to continue using them.

The starting point

Dyslexia manifests in different ways. Difficulties in ***reading*** and ***spelling*** can be seen as ***primary signs*** of dyslexia, but this does not mean that ***secondary signs*** such as ***emotional-motivational issues*** should be overlooked. Rather on the contrary, these secondary signs may provide valuable information to the teacher; quite often students with dyslexia are masters in hiding their difficulties with hard work. For instance, tiredness is something that we teachers may often see first, as many dyslexics compensate and hide their difficulty with hard work, which can show as good grades but also as dark circles under eyes. Thus, in this chapter, we first introduce some possible signs that may indicate dyslexia or some other factor that may have an effect on their learning.

If you notice that your student manifests four or more of the signs presented in the table ***Possible signs of dyslexia***, we recommend that you will have a good chat with the student about what is going on and if there is something that you could do to help. Moreover, you should start gathering data if the student has problems in language learning too. For this purpose, you can use our checklist (Handout 1), which is designed for this, and which can be found at the end of this material package. In this chapter, we provide some possible signs of dyslexia, but our main focus is how to support your students with dyslexia in the EFL classroom in general. First we will introduce some effective teaching principles, then we will provide some suggestions how to enhance the use of metacognitive strategies and finally, we will give some concrete task suggestions to try out with your students. Modifying a few things in your instruction towards a more dyslexia friendly approach will likely be motivating and beneficial not only for students with dyslexia but also for the rest of the class!

Possible signs of dyslexia	
Frustration	Acting out in front of people to get attention
Anxiety towards language learning and use	Can appear defensive or argumentative
Emotional-motivational issues, e.g. lack of confidence	Forgets homework etc. easily
Asking constantly others/the teacher for clarification	Poor organisational skills
Short attention span	May distract others
Restlessness	Using humour to drive attention away from failure
Stress	Needs more time in completing tasks and exams
Easily distracted by external stimuli	Works at lower pace
Low self-esteem	Confusion
Tiredness	Poor short-term memory



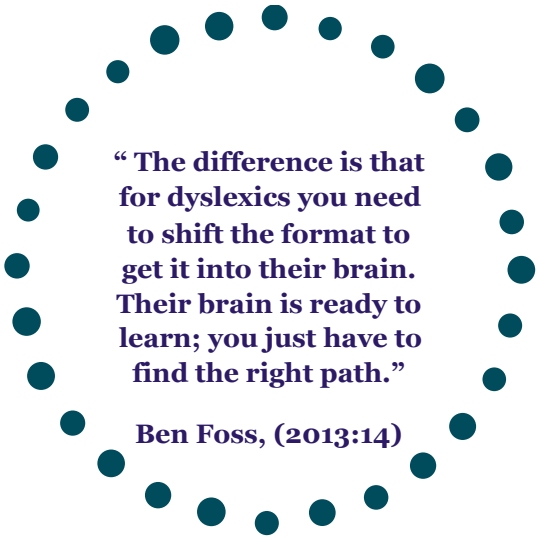
Navigates

Teaching principles:

- Promote ***the sense of community*** in the classroom by incorporating ***dyslexia friendly approach*** and using other methods, which allow students to work together, such as cooperative learning and peer tutoring. Especially class-wide tutoring has been found effective as it provides opportunities for everybody to experience the both roles, being a tutor and a tutee

- Motivation is like a fire and it is the teacher's job to tend the fire! Ask your students about their interests and wishes and try to acknowledge them when drafting lesson plans. It is also important that the language learning feels meaningful, so try to make the students to see themselves as active language users rather than language learners.

- Create ***a positive atmosphere*** in the classroom by paying extra attention to group cohesion and interaction. This can be done, for example, ending the lessons by collecting positive things about the day's activities.



- Research has found ***multi-sensory instruction*** to be beneficial for students with dyslexia, so try to incorporate visual, auditive, kinaesthetic and tactile elements in your lesson plans. Mime or act out. This benefits all students in the classroom, not only those with dyslexia!

- ***Over-learning.*** Provide opportunities to repetition and reinforcement. We have designed a handout for you to give to your students with tips for independent revising. See Handout 3.

- ***Structure***. For students with dyslexia it is important to know the structure of the lesson, but also the structure of the course. It is essential that they know what is going on and when. As students with dyslexia may have problems in organising their assignments, help them to chunk the task into smaller pieces.

- ***Use colours!*** Using colours for different grammar items or vocabulary themes may help visual learners to retrieve the word or information needed from their memory. This requires that the same colours are consistently used for certain things. For example, verbs are always red, auxiliary verbs orange and so on. Using coloured paper in handouts may also help dyslexic students read the text.

- ***Differentiate instruction and materials***. Differentiation tries to respond to the individual needs of students. Differentiation can either mean support or more challenges and tasks. The teacher can, for example, divide the class into two groups: the ones who want to practise more and the ones

who feel that the topic is clear and who want more challenge. This way the teacher does not have to give instructions for each student separately.

Some other practical things to consider:

- Simplify complex commands, and avoid multiple and simultaneous commands.
- Ask a student to repeat the instructions to make sure that they are understood.
- 'Chunk' the tasks in smaller steps.
- Present information in small units.
- Make connections between the previous knowledge and the new information.
- Give the 'big picture' before linear progression.
- Use clear font size and style.
- Arrange text in small blocks and place them near relevant pictures.
- Allow extra time; this is especially important for a student with dyslexia! They are often perfectly competent for finishing a task, but they just need more time to do that!
- Use and offer tinted paper as a standard (especially handouts).
- Give handouts in advance.
- Avoid setting long copying tasks.
- Use mind maps and pictures, encourage your students to use them too in organising their ideas.
- Encourage the use of summaries.
- Encourage your students to use colours to mark their text books/exercise books, use coloured tags, post-its etc.

- Suggest using a notebook or a separate file to write down homework. The main idea is that homework can be found in one place.
- Try not to talk to the blackboard when writing. Some students with dyslexia may need to see your lips when you are speaking.
- Try to incorporate oral exercises to your lesson plans as much as you can, as this area of language learning is often the area in which students with dyslexia are the strongest, providing them an opportunity to shine!
- Find ***other ways to test pupils.*** Students can demonstrate their learning and their language skills in many different ways; e.g orally, making a poster of a grammar point, recording answers or planning and executing a project. There are countless different ways to do this!
- Allow written homework to be done on the computer. Try to give other forms of homework too such as recordings, making a poster or preparing an oral presentation.
- ***Summarise the content*** at the end of each lesson.
- When grouping students, try to use ***mixed-ability grouping!*** This requires that you have knowledge of students' backgrounds and skill levels. Mixed-ability grouping allows everyone to utilise their strengths.
- Give the students short breaks and acknowledge their need to move. See our example tasks of kinaesthetic activities.
- Decorate your classrooms to inspire students!
- Hang useful words on the walls to enhance their memorisation.

"Dyslexic kids are creative, 'outside-the-box' thinkers. They have to be, because they don't see or solve problems the same way other kids do."

-Rick Riordan

Metacognitive skills

- Ask students to identify their personal reasons for language learning and what they want to master in the target language.

- Provide ***strategy instruction*** that empowers students and enhances their autonomy. These strategies can be used in all four skills: reading, writing, listening and speaking, as well as teaching vocabulary or grammar. We will give concrete suggestions for these strategies in every section of this material package. You can find these suggestions ***next to the map icon.***

- ***Goal-setting*** is vital for self-regulated learning. Before getting to work, it is useful to set learning goals and plan how to proceed. Explaining the learning goals of a task for students may also enhance their motivation. Additionally, encourage your students to set their own learning goals, rather than you dictating the goals on their behalf. Remind them that there are ***macro and micro goals***. Macro goals focus on overall assignment needs, whereas micro goals concentrate on chunking the assignment in individual learning goals. Achieving the micro goals will help students to achieve the macro learning goal of the task.

- According to the National Core Curriculum for Upper Secondary schools (2015: 20), it is every teachers' responsibility to give ***positive and encouraging feedback.*** This is very important as students with dyslexia may demonstrate emotional-motivational issues such as lack of confidence and low self-esteem. So let your students know when they have done well and why!

- Provide opportunities for your students to ponder their ***strengths and weaknesses.*** Often students with dyslexia concentrate on all the things they are bad at, thus, it is your job to make them see all the strengths that they have too. In other words, ***try to shift the focus from the negative to the positive!***

- ***Self-assessment*** is vital throughout studies as it enables students to get a holistic picture of their own learning and reflect their perceptions of themselves as active language users. Self-assessment also promotes the agency of the students by making them feel included in the assessment process. Provide opportunities for self-assessment at time to time and be ready to discuss students' evaluations with them as it is important for them to get feedback about their self-assessments too in order to enhance positive and realistic perceptions of them as active language users. These discussions also ensure that students know that the self-assessments will have an impact on their learning and the discussions will also show students that you care about them and want to know what they think about their own learning.

- Make your students aware of the use of metacognitive strategies simply by asking them to tell you how they obtained the goals of a certain task at hand. This helps them to realise that they already use metacognitive strategies, and how the use of them is helpful and beneficial for their learning.

- We provide you questionnaires for mapping the use of metacognitive strategies in reading, writing and listening. You can find the questionnaires at the end of this material package, in the ***Handouts*** -section.

- Use journals. Ask your students to keep a study journal where they reflect the strategies they use by writing about their learning experiences.

Reading

The texts in upper secondary school can contain a great amount of unfamiliar words, complex sentence structures and semantic implications, all of which may cause difficulties for a dyslexic student. In addition, as students with dyslexia often have poor phonological awareness, it is difficult for them to encode the written word to its phonological representation and to retrieve the correct meaning from the phonological memory. Moreover, longer texts can cause anxiety, as the student does not know where to start encoding the texts. In upper secondary school the students are often required to acquire the text quite fast and little time is left for covering the topic wider. However, literacy is so much more than just mechanic reading and that is why we try to provide ways to encage your students with dyslexia to see the bigger picture of the text in order to grasp the underlying ideas of the text at hand. This will not only enhance their thinking skills, but also motivate them to read more. To conclude, in this part we aim to provide an overview of difficulties in reading skills, general tips on how to approach reading tasks and example tasks to try out with the students.

Identification

Slow technical reading

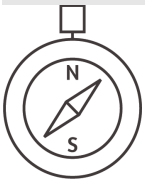
Poor reading comprehension

Understanding complex and long sentences is difficult

Separating relative and sub-ordinate clauses causes difficulties

Difficulties in comprehending spatial-temporal relations

Poor understanding of synonyms and semantical implications

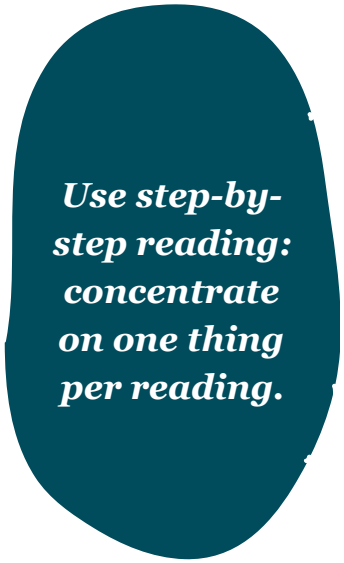


Navigates

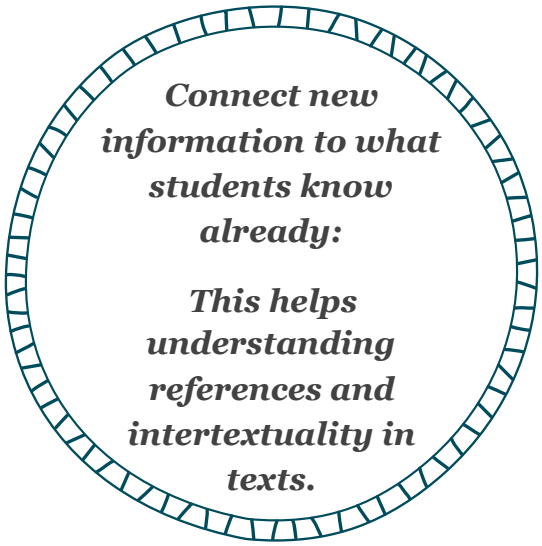
Before reading:

- Use pre-reading activities to introduce the topic and the vocabulary. It is also vital to connect the topic to prior knowledge. For example, ask the students' own experiences and discuss the topic on a more general level.
- Encourage students to glance through the text beforehand at home.
- Let the student have a look at the text beforehand and show him/her how to find cues from the sections, headers, key sentences and captions.
- Make predictions; what could happen in the text based on the headings or pictures?
- ***Step-by-step-reading***: on the first reading, give instructions to concentrate on the headings and sub-headings, then on the milieu, then on the characters etc. Guide the student to take notes to a mind map.
- Motivate students to read; choose or let the student choose texts according to their interests.
- Collect texts in plain English and give students suggestions where to find suitable texts themselves for their skill level.

During reading:



- Encourage students with dyslexia to use a ruler or a bookmark or even a reading window.
- If the books are printed on white paper, offer students coloured plastic sheets that can be used over the page to prevent words from jumping around.
- Teach students to find the key words in the text (contextual cues).
- Teach sentence awareness: how to separate the main clause and the subclauses? For example, you can encourage the use of colours to mark which words start a subordinate clause.
- Encourage students to write down questions that puzzles them during reading, and they can try to answer them while reading or bring them up in the whole class discussion after reading.



After reading:

- Post-reading discussions can include problem solving and connecting the topic to students' own experiences. *"How would you act? How can this problem be solved?"*
- Make sure that students have understood what the text is about. Prefer questions that start with ***How*** or ***why*** as they will develop deeper understanding of the topic and also students' thinking skills.
- Using timelines and mind-maps for events and characters. Place the text also in the historical and cultural context.
- Exploratory talk in small groups. Students use their own words to explain the content and explain what they learned from the text.

- Encourage the use of summaries; the students can either record the summary or write it down.
- Intertextuality and text types; compare the text to what has been read before. What kind of a text this is? What is typical for this kind of a text? Do you see any connections or references to other texts?

Metacognitive skills

- Encourage you students to discover and reflect their strengths and weaknesses in reading tasks: What am I good at? What is difficult for me? You can ask your students to answer these questions after reading. Asking these questions will enhance their perceptions of themselves as readers, but also give you valuable information how they see their strengths and weaknesses.

- Identifying students' use of metacognitive strategies is important for a teacher, as this enables you to plan which metacognitive skills should be practiced and how. Furthermore, it will give the students information on how they use metacognitive strategies already and how they could develop their metacognitive skills even more. See ***Handout 4,*** designed for this purpose**.**

- Teach effective ***reading strategies****:* provide ways to approach the text (see for example 'before reading'- tips). Make the students aware of different strategies on how to divide the text into smaller pieces and how to pick up hints from the headers, pictures, surrounding text and context.

- Teach thinking skills: how is this part connected to the other? Are they reasons, opposites or opinions? Making the students aware of the thinking patterns helps them to see the structure of the text better and improve their reading comprehension.
- Encourage your students to evaluate their understanding; What did I learn from this text? What did I already know? How can I learn more? How is this topic relevant to me?

Activities

An example of a task cycle: Introducing a new text

Step 1. Pre-reading:

Why? Dyslexic students often learn and remember better visually and kinaesthetically, so pictures and movement will be a good addition to use to introduce the theme.

Material? Pictures from magazines

Time? 15 min

- Select a set of pictures. Some of the pictures are related to the topic in the text and some of them are not. In small groups, the students should decide which pictures are related to the text. They should provide reasons why a certain picture is associated with the text. Each group will take turns in presenting their ideas.

Step 2. Post-reading:

Time? 30-40 min

- In small groups, the students create a still picture of an event in the text. The students can either choose it themselves, or each group is given a part of the text. The other groups can then guess which event it is or students can explain what is happening in the picture. This activity will use kinaesthetic method to help the student to remember words and events better, when they are “attached” to their bodies.

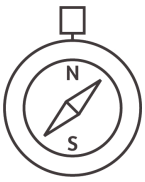
- After reading, ask the students to go through the text one more time and try to memorise some of the key points and details. The students will then divide into groups (5-6 students) and start recalling some information about the text. It can be anything and from any part of the text. The next student will then repeat that information and add something new. This process continues until everyone has said something. The students can then arrange the events in a correct order using a timeline. This activity will enhance working memory and help students to organise the events.

Writing

Writing and grammar can feel extremely difficult for some students and due to earlier experiences, they can be even terrified of producing their own text. However, as students in upper secondary school are expected to write longer compositions, it is important to note the pitfalls that the student may confront in written tasks. For example, dyslexic students find it difficult to organise their thoughts and to structure their text, which is why it is beneficial to give them guidance in these skills. In addition, for a student with dyslexia it may be difficult to know where to start, what to do first and why.

In this chapter, we aim to give suggestions how to divide the writing process into smaller steps and tasks in order to make it easier for the students to get started and feel less anxious towards writing. First, we will introduce in some signs regarding writing which may indicate dyslexia. Then as usual, we will provide some general principles that should be given consideration when planning intervention for a student struggling with his/her writing. After that we will give some suggestions on how to take metacognitive strategies into consideration in writing and finally, we will give you some suggestions of suitable and useful tasks.

Identification
Little content, poor argumentation skills
Small words, such as articles and prepositions, are missing or they are incorrect
Problems with the letter combinations: *whit* (with), *peopel* (people), *litle* (little)
Reflections from the pronunciation: *skie* (sky), *bee* (be)
Inconsistent use of forms: *peopel, people*..
Incorrect word order/syntax
Weak logical connections and organisation of thought
Incorrect use of vocabulary
Problems in starting a writing process
Awkward pen grip, which leads to bad handwriting



Navigates

- Try to remind students that writing is a process and that no one can write a perfectly finished text at one sitting.
- Teach ***proof-reading:*** checking one part per reading. (See ***Handout 8***)
- Give feedback and marks for ideas, not only for grammar and spelling. In order to do this, it is important to collect back mind maps for assessment as well.
- Throughout the course, provide smaller opportunities to do written tasks, so that the "bigger" writing tasks do not feel so impossible to conquer. Use process writing to tackle the problems at the start.
- Provide opportunities for creative writing. The students in upper secondary school could benefit from choosing the topic and the text type themselves: Why not write a story or a play?

Metacognitiveskills

- Students with dyslexia often struggle with organising their thoughts, which is a key skill when writing essays. ***Help students organise their thoughts***; include questions for general examples and specific information, causes and effects and arguments. See our ***Handout 7.***

Give the student a cheat-sheet with helpful questions for writing essays.

- Use example texts to ***demonstrate cause and effect relations***, and ask students to examine how the texts are organised and what is the cause and what is the effect in them. Use different colours and arrows to mark connections. Making the connections visible may help to enhance students to see cause and effects in other texts, but also implement them in their own writing.

- Teach ***argumentation skills,*** for example, with mini debates: divide students into for- and against- teams. Give them a topic and a time limit to come up with good arguments. When the time is up, the students give one argument at a time. The team with stronger arguments gets a point. This activity will help the student to observe topics from many angles.

- Moilanen (2004: 119) suggests exploiting ***imagination*** in writing. Ask the students to close their eyes and paint them a picture of the environment and ask questions: What is the weather like? Who do you see? What objects do you see? After imagining, the students write a sentence or two.

Activities

An example of a task cycle: Process writing

Why? To divide the writing task into smaller, more approachable steps and to learn how to logically organise text. It can be difficult for a dyslexic student to get started with producing text, and these exercises will help getting a grasp on the topic.

Material? None, or a set of pictures (D.)

Step 1. Relaxing

Time? 5-10 min

- Try to ease the anxiety towards writing by doing *free-writing* exercises before a longer writing task. The idea is to start producing any text and at this point ignore any grammatical or spelling errors.

A. Ask the student to write as many words in a given topic than he/she can within a couple of minutes.

B. Ask the student to write down any thoughts that come to mind. Paint an imaginative picture for them.

C. Ask the student to start writing a story on a given topic. It does not have to make any sense.

D. Choose or let the students choose a set of pictures randomly. The task is to write a short text and try to connect the pictures somehow.

Step 2. Brainstorming

Time? 20 min

- Choose a topic, for example *social media*.
- The students brainstorm ideas in small groups at first. Let them list as many ideas that come to mind as they can in a restricted time period.
- Encourage your students to answer questions such as *who, what, why, how, where* and *when*. Additionally, encourage them to think relations (e.g. cause-effect, historical reasons), if possible.
- After brainstorming, let the students elaborate on their ideas for a while in the same groups. They can start arranging them in a logical order. This way the students with dyslexia can have support in arranging their thoughts and choosing the most important information.

Step 3. Creating a mind map

- Based on the discussion in Step 2, the student chooses the point of view in which he/she will approach the topic and ***create a personal mind map*** using an app (e.g. Inspiration), a drawing or our sheet (see Handout 7).
- Write down helpful questions to include in their mind maps: the argument/ point of view, reasons, consequences, opinions etc. We have also provided a model for planning for writing. It is arguably beneficial to give the students a starting point and specifically teach them strategies for the planning phase. Moilanen (2002: 130) gives valuable suggestions for organising thoughts when writing an essay, and our sheet (Handout 7) is adapted from his model. The sheet ***can also be filled in Finnish***, the main point is to organise thoughts to create a structure for the essay.
- We suggest giving this as a homework, as it is good to spend some time upon this. The mind maps are handed in to the teacher and students will get feedback about them from the teacher.

Step 4. Writing an opening paragraph

- Show examples of good opening paragraphs and what they should contain. Present the structure of a good, logical paragraph in general.
- Using their mind maps, the students write an opening paragraph for their essay.
- In pairs, the students give each other feedback and suggestions for improvement.

Step 5. Editing (at home)

- After receiving feedback, the students correct their own texts.
- Remind students to keep all the drafts to see their progress!
- The writing process continues, as the students write more paragraphs and receive feedback on them.

Step 6. Proof-reading

- It is good to teach the students to proof-read their own texts. Moilanen (2002: 134) has collected a list for proof-reading to avoid basic errors in spelling and grammar. We have adapted his list and compiled a sheet for the student for proof-reading their own texts ***(Handout 8).***

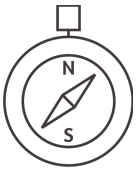
Listening

Students with dyslexia often have problems in phonological processing and a quintessential part of the difficulties that the learners confront in foreign language classroom lie in this deficit. Thus, it goes without saying that students with dyslexia find processing and structuring auditory information difficult. However, listening skills can in fact be one of the strengths of a dyslexic student; the student can find it easier to listen to the information than to read it, and thus trying to incorporate elements that require listening to your lesson plans can be seen as a supportive action. However, for dyslexics, it is typical to have poor short-term memory and deficits in coding and retrieving (lexical) information from the brain. Because of this, listening comprehension activities and tests can be a nightmare for a student with dyslexia, as they require one to find very specific information in a very short time and to remember what is said when writing or telling the right answer.

Moreover, quite often students are asked either to write exactly what they just heard, which requires phonological decoding, or to translate what they heard to Finnish, which requires a great deal from a student having problems with phonological processing and lexical retrieving.

In this section, we first give you some possible signs of dyslexia from the perspective of listening. Then we will focus on general principles, which should be emphasised when planning supportive actions. Raising phonological awareness is the core goal of this section. This is highly important as the core deficit of dyslexia lies specifically in phonological processing. Next, we will provide you with some suggestions on how to challenge your students to practice their metacognitive skills, and finally we will present you some concrete tasks for raising phonological awareness.

Identification
Difficulties in concentrating when listening
Cannot remember orally given instructions
Reaction to what has been said is delayed
Cannot filter the essential noises from the inessential ones and gets disturbed easily
Cannot concentrate on listening and writing simultaneously
Difficulties in perceiving the prosodic features in a language: intonation, stress, rhythm and separating words
Difficulties in separating the key information
Difficulties in hearing differences in minimal pairs: /*pig*/ vs. /*big*/
Difficulties in recognising and analysing sounds
Cannot process multiple questions simultaneously
Difficulties in dictation and taking notes
Structuring and interpretation of the auditory information is faulty



Navigates

- Use music at the beginning of the lesson for ***tuning in*** to the topic. This may relax the students and activate their listening.
- Give the students time to process; listen the chapters in shorter sections and let them process what was said with the help of a content question or making notes.
- Encourage students to write down unfamiliar words during listening.
- Teach how to ***pick up key words*** when listening. If a word is repeated often, it is probably important, so even though the student could not remember the meaning when listening, it should be written down so the student can continue processing and fetching it from the long term/ phonological memory after listening.
- Encourage your students to translate key words while listening instead of trying to translate it word by word.
- A whole text is a lot to take in at once; try listening it through a couple of times and ***concentrating on a particular topic at a time.*** Concentrate on the characters, milieu and events on different listenings. Guide the students to take notes using a mind map, for example.

Learners who are conscious of their of listening problems may also be motivated to find ways of addressing them.

Goh, 2008

- Try teaching ***grammatical awareness*** through listening! Ask the students to pick up all the prepositions/verbs/etc they hear while listening. Discuss the findings.

Metacognitive skills

- Make the students aware of different strategies for listening comprehension (see above).
- We provide a self assessment sheet for metacognitive skills when listening (Handout 6). This sheet will give you information whether metacognitive skills regarding listening should be practised more. After filling out the sheet, you can ask your students to compare their answers with a partner and discuss whether there are things they could improve and how. Next, there should be a whole class discussion on how to improve listening skills in general. You can encourage your students to use metacognitive strategies by guiding them to go through the following steps before every listening activity:

1. Think of your goal for listening. Is there something specific you need to learn or is your goal something more general? Naturally, your goal will affect also the selection of a suitable strategy for listening. Deciding a specific goal will also motivate to listen.

2. Select the listening strategy according to your goal and the question.

3. While listening, compare what you understand with what you already know about the topic. This helps you to connect the new information to your previous knowledge and can help you figure what could be the correct answer.

Activities

- Listening bingo/phonics ***bingo***. Choose a specific sound that can be found in all the words placed in the bingo sheet. You can choose to include words that look similar (and maybe sound similar), such as, *bazaar/bizarre, gig/jig* and so on. Alternatively, you can include random words that have different phonemes. The teacher reads aloud the word or the phoneme. The idea is that the students see and hear the word or the phoneme simultaneously, which enhances their understanding of grapheme-phoneme relations.

- ***Minimal pairs:*** students with dyslexia often have difficulties in hearing the difference between similar sounds. Use the material and recordings in your course book to practise this area. As a homework, the students can record themselves reading minimal pairs aloud and possibly analyse the differences.

- Word stress and intonation: emphasising different parts of a sentence - does the meaning change? How?

- Odd one out: collect three similar sounding words and add one similar looking word, but which is pronounced differently. The task is to underline the word that does not belong to the group.

- You can use motion for ***checking the correct answers***. This is easy when the listening comprehension task is a multiple-choice. Decide a certain move or a gesture for every answer alternative (a,b,c,d) and ask them to show you the correct answer with a move! Sometimes you may want to ask your students to do this keeping their eyes closed. Then they can focus on only what they are replying rather than focusing on what everybody else is doing. Moreover, this gives you direct feedback on how your students performed in the activity and prevent copying the move that seems to be the popular one. Furthermore, a student often struggling in EFL lessons will benefit from this as he/she can participate in without a fear of losing his/her face if replying incorrectly.

An example of a task cycle: Rhyming is everything:

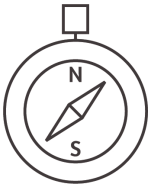
- ***Step 1.*** The students try to collect as many words that rhyme with a given word. They should also write down the words. Use a time limit and change the word. Check the answers.
- ***Step 2.*** Choose a song that has rhyming in its verses. Show the lyrics to the students, who should listen to the lyrics and try to recognise the rhyming words and mark them with colours, for example. The idea is to show students that even though words are spelled differently, they sound similar (e.g. *rhyme, lime, crime).*
- ***Step 3.*** In small groups, the students can create their own poems or lyrics.

- ***Homework:*** the students can read aloud a piece of a bit longer text and record it. There should be a "model" recording, so that the student can compare their reading to it and write a short analysis of their pronunciation. The assessment in this task concentrates on the ability to hear and analyse the possible differences in pronunciation. Moreover, this task develops their metacognitive skills as they need to reflect how they did in the given task.

Vocabulary

Due to difficulties in spelling and perceiving words, it is clear that students with dyslexia struggle with acquiring new vocabulary. Furthermore, the dyslexic students often have deficits in working memory and the processes required to convey words from short term memory to long-term memory, which may make it more difficult to increase one's vocabulary and to remember words. The amount of new words in every chapter of a course book is vast and the vocabulary in the texts is more abstract and difficult to grasp. The vast amount of new words introduced with every chapter causes frustration and anxiety even for those students who do not have any language learning related problems, so you can just imagine what kind of frustration and anxiety this s will evoke in students with dyslexia. We think that learning all the words in the chapter should not be the goal, but rather we should guide our students to learn to work with words and to recognise the key words of the chapter, but also the words that are meaningful for their language use. By working with words we mean learning to inflect words and using prefixes and suffixes to broaden vocabulary - to learn to see the connections between different words and word classes. In other words, one of the goals of this section is to raise morphological awareness of students. Again, we will provide you some general principles that you should take into account, introduce how to practice metacognitive skills in terms of vocabulary learning, and finally, we have designed some concrete activities to try out with your students to enhance their vocabulary learning.

Identification
Mixing letters of similar shape
Spelling words according to their phonological representation
Difficulties in remembering words and learning new words
Similar sounding words get easily mixed
Recognising and retrieving words is difficult and slow
Does not recognise affixes or suffixes
Difficulties in separating the word stem



Navigates

- The vocabularies in upper secondary school text books are often long and heavy. Teach the students how to ***make the vocabularies clearer:*** marking the verbs with one colour and nouns with another. The students should also learn to separate the key words.
- ***Suggest building their own vocabularies***. The students can collect unfamiliar words they find important and divide them according to a theme or grammatical class.
- ***Concentrate on the accuracy*** of the content words rather than on prepositions and articles.
- A key skill is to learn ***lexical inferring*** (guessing the word from its context). For this, it is important to enhance students' morphological awareness. Check out our activities for some suggestions.
- Many students find it easier to remember a word if they associate it with a visual image or picture. Try putting pictures next to the words, and the picture may be recalled faster than the actual word. You can also use imaginative pictures.

- ***Repetition*** is crucial when learning new words. As words become more familiar to the student, they are easier to retrieve from the long-term memory.

- Encourage your students to identify ***the most meaningful words*** for them from the word lists. However, sometimes it is just necessary to learn words that may not seem relevant for the student at that time. Then, encourage them to imagine why knowing that particular word would be important for them in the future and in what context.

- Encourage your students to practice how they would use the learnt new word in their everyday lives. Imagining a situation/a dialogue where the word could be used makes the word in question more relevant and easier to remember. Moreover, the imaginative representation of a real life situation provides an opportunity to use the word in a relevant context.

- Encourage your students to come up with ***funny associations*** for new words. The funny associations help them retrieve the word in question from the long-term memory. Use humour whenever it is possible as we tend to remember the funny incidents and associations better, don't we?

- Encourage your students to ***group words***. Demonstrate how to group them. Try different rules for grouping words. For instance, according to initial sounds of the words; animal names beginning with /s/: *snake, seagull, salmon, seahorse*. Alternatively, words can be grouped according to a grammatical class, theme, positive/negative, synonyms or any other way! This will expand their vocabulary and, when adding phonemes or sounds, their phonological awareness.

Metacognitive skills

- Make the students aware of the above mentioned vocabulary learning strategies. Sometimes, it may be relevant to remind your students that they can use the same strategies at home too (for example, connecting the words with pictures as you do in the classroom). These vocabulary learning strategies can also be collected and listed in one place, so they are easier to remember and use.

- Ask your students to identify which kind of strategies they already use for vocabulary learning and whether the strategies used are effective. It may be difficult for them to identify and name the strategies first, but offer them examples of vocabulary learning strategies. For example, learning new words from songs or watching a tv series on Netflix with the subtitles to see also the written forms of spoken language can be seen as metacognitive strategies, even though the use of them may be unconscious. Assessing learning strategies helps your student to monitor his/her own learning and may lead to enhanced learner autonomy.

- Teach ***compensation strategies***: make the students aware of different strategies they can use when they cannot remember the word they are looking for. As a compensation, they can use literal translation, borrowing words from their L1, word formation, description, superordinate terms and so on.

- ***Metalinguistic skills*** are in a big role in vocabulary learning: morphological awareness in segmenting, inflecting and derivating words. Metalinguistic skills help students realise that they do not have to learn the spelling of all the words, but knowing how to spell the stems and common affixes allows expanding one's vocabulary.

Activities

- Create a ***synonym of the week/month*:** students often over-use the words *good* or *bad* to describe something. *C*ollect a frame that has multiple synonyms for the most common words. This will encourage students to use broader vocabulary. You can also include students and give one group at a time the responsibility for creating the synonym board.

- Use ***pseudo words*** to practise separating affixes to the word stem and practising grammatical and morphological awareness. Examples of pseudo words are *lagician, chucknology, spusious, unpossible, claster*, (http://www.wordgenerator.net/fake-word-generator.php)

- ***Lexical inferring:*** make the students aware of your own thinking process when guessing the meaning of unfamiliar words. Teach how to pick up hints from the context. However, the students must learn to endure uncertainty when reading and accept that they will not be able to know the meaning of all words. Tell them that even you do not know all the words in the world (nor do the native speakers), and that is why lexical inferring is needed.

- Use ***a story cube*** or random pictures to create a story telling activity. This can be used as a warm-up activity for the whole lesson or to warm up to a certain theme by using pictures or words related to that theme.

- Use ***flash cards*** (3 x 5 is a good size) to help memorise vocabulary. It will be useful to add pictures, colours and anything else that aids memory. Flashcards can also be used in a digital form. See our suggestions for apps and websites at the end of this material.

- ***Separating affixes:***
  - Present affixes first, telling how to separate the stem and the affix and how affixes change the meaning of the word.
  - You can cut out the words and affixes in ***Handout 9***, and let the students combine them back together and create logical words. The fastest ones can divide the created words further in grammatical categories (adverbs, nouns, adjectives)
  - In small groups (2-3 students), the students choose five or more (difficult) words with affixes (preferably both prefixes and suffixes, e.g. *unconditionally*). The words are either printed out or written by hand. Then, the words are cut from the correct places to separate the stem from the affixes. The result is a word puzzle.
  - The group changes word puzzles with another group, and tries to combine and create sensible words from them. Check the words and see if the students have come up with completely new words.

- Similar words but different meaning. Choose ***the odd one out*** in each line. (Source: Nijakowska, 2010: 177)

differently	differential	difficult	difference	differ	different
central	certain	centralize	centrally	center	centralization
perfect	perfection	prefect	imperfection	perfectionist	imperfect

- ***Charades:***
  - To start:

    Divide students into teams and determine possible word categories for the game such as movies, books, pieces of art, school words, compound words etc. You can also choose a grammatical category. Also agree on the number of words for the game. Teams separate to prepare clues for the other team on small sheets of paper and placing them in a team bowl. Teams determine the maximum time a player gets to act out a word (e.g. 3 mins). Each team designates an official "timer" using a timer in their phones.

  - Playing the game:

    Once the teams are ready, the play begins. A Team 1 player chooses a word from the opponents' bowl and secretly reads it. The "timer" starts and the Team 1 player acts out the words until a teammate guesses the correct answer or time expires. The quicker the word is solved, the better. The game continues with a Team 2 player. Members alternate to allow every player to act out a word and then the order is repeated.

Grammar

Grammar is a topic that may evoke groans from your students when you imply that it will be today's theme. Grammar instruction and activities related to grammar are often seen as dull and laborious from the students' perspective (sometimes even from the teachers' perspective). This might be because of all the foreign and vague terms that are not easy to comprehend. In addition, grammatical categories which we do not have in Finnish, such as articles and prepositions, may cause difficulties (and a headache). If a groan is too often the reaction when you announce that today we are going to focus on a certain grammar topic, you can just imagine how this announcement may feel for a student with dyslexia. In the table on the next page, we have included issues related to grammar learning that especially cause difficulties for students and may indicate dyslexia.

We think that using multi-sensory approach in grammar teaching will be motivating and beneficial for everyone, and that is why a bunch of the exercises are designed from that perspective. We highly encourage the use of colours in grammar teaching, and we provide you many examples how to use them in your instruction. In addition, as grammar is closely tied with syntactic and morphological awareness, our activities try to challenge students to distinct syntactic and morphological relations and make them perceivable. Moreover, as usual, we will give you some suggestions on how to practice metacognitive strategies when learning grammar. Teaching grammar can also be motivating and fun!

Identification

Grammatical terms and abstract concepts cause difficulties

Problems to see the connection between grammatical rules and their function

Categories that do not have an equivalent in one's mother tongue are often difficult to learn. For example the use of definite and indefinite articles can be difficult to learn for a student with dyslexia

Confusion with tenses; will came, have came (will come, have come)

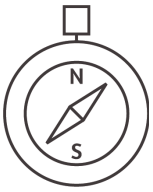
Over-using grammatical structures (for example, I will would have being) may occur

Struggles with grammatical morphemes; the progressive aspect marker '-ing', tense markers, regular and irregular plural markers, comparative and superlative markers '-er' and '-est', the adverb marker '-ly' and suffixes cause problems

Difficulties in understanding the relation between direct and indirect objects

Passive voice difficult to comprehend

Produces short, poorly structured sentences



Navigates

- Replace grammatical terms and abstract concepts if possible; the replacing term should be as concrete as possible. The students can also participate in the naming process.

- Use colours for different grammatical items. Be consistent with the use of colours: verbs are always red, auxiliary verbs orange and so on.

- Use kinaesthetic activities! You can find an example of a kinaesthetic activity from the *Activities* -section below

- Modal Verbs: Use colour codes for the alternative forms e.g red for can and be able to, green for must and have to etc.

- Make connections to the native language:

  - **Would have gone**

  - **Olisi mennyt**

- Use repetition. The amount of new content often decreases the amount of repetition in upper secondary school. Provide opportunities to repetition throughout all courses.

- Use rhythm and movement to help remembering verbs. For instance, combine both of these when revising irregular verbs.

- You can use different ways to make sure the students have understood the issue. ***Check your students' understanding*** with the following ways (adapted from informED 2014):

  - Use hand signals to indicate the level of understanding. Five fingers indicate full understanding, one finger indicates minimum understanding. The students can close their eyes while showing their level.

  - Four corners. Each corner indicates a statement (e.g. I strongly agree, I don't know, I don't agree.)

  - Votes with websites, apps or index cards. The students vote according to their understanding.

Metacognitive skills

- Come up with fun ***mnemonics*** that help remembering grammar rules. Use imagination or drawings.
- Explain why the grammar topic is relevant to the students - where do they need it? Grammar is often left as a separate piece of language. Connect the grammar topics to their real life and give meaning to it. For example, using a correct preposition is important, because otherwise the message will be misunderstood: are the keys ON the drawer or IN the drawer?
- Make the use of different strategies visible for your students by modelling and telling them which strategies you use!

Activities

- To help remember word order, put a sentence onto a card, cut up the card into separate pieces, mix them up and practice putting them back together again.
- When the students have combined the pieces to whole sentences, practise ***grammatical awareness*** by asking the students to go through the rest of the pieces and replace a word with another from the same grammatical class. You can either show the word which should be replaced or ask to replace the modal auxiliary, for example.
- Another way to compile sentences is to use coloured paper for different grammatical classes. Write down words with the same function, cut them off and let the students compile sentences of their own.

- The same method can be used on a sentence level: cut up different types of main clauses, subordinate clauses and for example logical connectors. The students can then combine them in a logical order. This enhances their ***sentence awareness.***

- ***Word order:*** Elaborate sentences. The students write five simple sentences. After this, they will start adding words to make the sentences as long as possible. Who comes up with the longest sensible sentence?

- When learning ***conditionals and their if -clauses***, decide three different moves for three different possible tenses in an IF -clause (present tense, past tense, or past perfect). For example, a squat indicates present tense, X jump a past tense, and hand waving past perfect. Present main clauses with their if clauses, but do not give the verb for the if -clause. Ask your students to show you with a move which tense should be chosen for the subordinate clause.

- Enhance your students' ***morphological awareness and orthographic awareness*** with translation exercises. English grammar operates on lexical level, but in contrast, in Finnish, grammar relations operate on morphological level. For example, in English locatives are expressed by prepositions, whereas in Finnish they are expressed with case-inflections. In other words, in Finnish, one word can entail a huge amount of information, whereas in English the same information is expressed with several separate words. This is something you should make visible for your students and practice, as students with dyslexia often struggle with detecting and dividing different morphemes from words' stems, which may lead to incorrect translation. For this, we have designed you a handout (**Handout 10)**, which practices segmenting Finnish words into morphemes and translating the phrase into English making the students aware of the morphological connections and showing how differently the same grammatical issue is expressed in English and in Finnish.

Concluding remarks

Dyslexia is a learning difficulty that manifests in all language learning areas from reading to grammar. We hope that we have been able to provide you with an adequate amount of information on a topic which is rather complex, and give you concrete tools on how to support students with dyslexia in your classroom. The main aim of this material package is to give the most basic information on the signs of reading difficulties in EFL and to encourage upper secondary school teachers to try more multi-sensory and dyslexia-friendly practises.

From the following **Handouts** -section you can print out sheets according to your needs and use them freely for your own purposes. In addition, before the handouts, we give you some apps and websites, which you may find helpful and resourceful, as well as some suggestions for further reading if you want to learn more on dyslexia.

Hope you enjoyed the journey through the jungle!

Helmi and Susanna

Useful Apps (for iPad)

- Duolingo
- Dragon Dictation
- Memrise
- Focus Keeper
- Clear
- Notability (audio notes)
- Sentence builder
- WhiteSmoke (writing assistant - highlights spelling errors and grammatical errors)
- Dictionaries
- Inspiration Maps (for creating mind maps!)
- BookBeat / iBooks (encourage the use of audio books for a dyslexic student)
- iMovie
- Explain everything (multisensory grammar videos, for example)
- Quizlet
- Socrative
- Polleverywhere

Websites

- Learn English online. Grammar, vocabulary, exercises, tests and games. http://www.englisch-hilfen.de/en/
- The Times in Plain English: http://www.thetimesinplainenglish.com/
- Dyslexia Reading Well. The 44 Sounds (phonemes) of English. http://www.dyslexia-reading-well.com/support-files/the-44-phonemes-of-english.pdf

Suggested readings:

Hällfors, A., Willberg, S. and Mynttinen, S. (2006). Lukion erityisopetus. in M. Takala,and E. Kontu (eds.) (2006). *Luki-vaikeudesta luki-taitoon*. Helsinki:Yliopistopaino, 231-250.

Holopainen L. and Savolainen H. (2006). Nuorten lukemisen ja kirjoittamisrn vaikeudet. In M. Takala, E. Kontu (Eds.), *Luki-vaikeudesta luki-taitoon*. Helsinki: Yliopistopaino, 203-229.

Moilanen, K. (2002). Yli esteiden : Oppimisvaikeudet ja vieraat kielet. Helsinki: Tammi.

Nijakowska, J. (2010a). Dyslexia in the foreign language classroom. Bristol ; Buffalo: Multilingual Matters.

Reid, G. (2011). Dyslexia: A complete guide for parents and those who help them (2nd ed.). Chichester ; Malden, MA: Wiley-Blackwell.

Bibliography

Foss, B. (2013). *The Dyslexia Empowerment Plan: A Blueprint for Renewing Your Child's Confidence and Love of Learning*. Random House Publishing Group.

Frith, U. (1999). Paradoxes in the definition of dyslexia. *Dyslexia 5*(4), 192-214. doi: 10.1002/(SICI)1099-0909(199912)5:4<192::AID-DYS144>3.0.CO;2-N

Guo, Y., Roehrig, A. D. and Williams, R. S. (2011). The relation of morphological awareness and syntactic awareness to adults' reading comprehension. *Journal of Literacy Research* [online] 43 (2), 159-183. doi: 10.1177/1086296X11403086.

Holopainen L. and Savolainen H. (2006). Nuorten lukemisen ja kirjoittamisen vaikeudet. In M. Takala, E. Kontu (Eds.), *Luki-vaikeudesta luki-taitoon*. Helsinki: Yliopistopaino, 203-229.

Hällfors, A., Willberg, S. and Mynttinen, S. (2006). Lukion erityisopetus. in M. Takala, and E. Kontu (eds.) (2006). *Luki-vaikeudesta luki-taitoon*. Helsinki:Yliopistopaino.

InformED. http://www.opencolleges.edu.au/informed/features/21-ways-to-check-for-student-understanding/ (12 May, 2017)

Lukion opetussuunnitelman perusteet. (2015). Finnish National Board of Education. [online] http://www.oph.fi/download/172124_lukion_opetussuunnitelman_perusteet_2015.pdf (17 April, 2017)

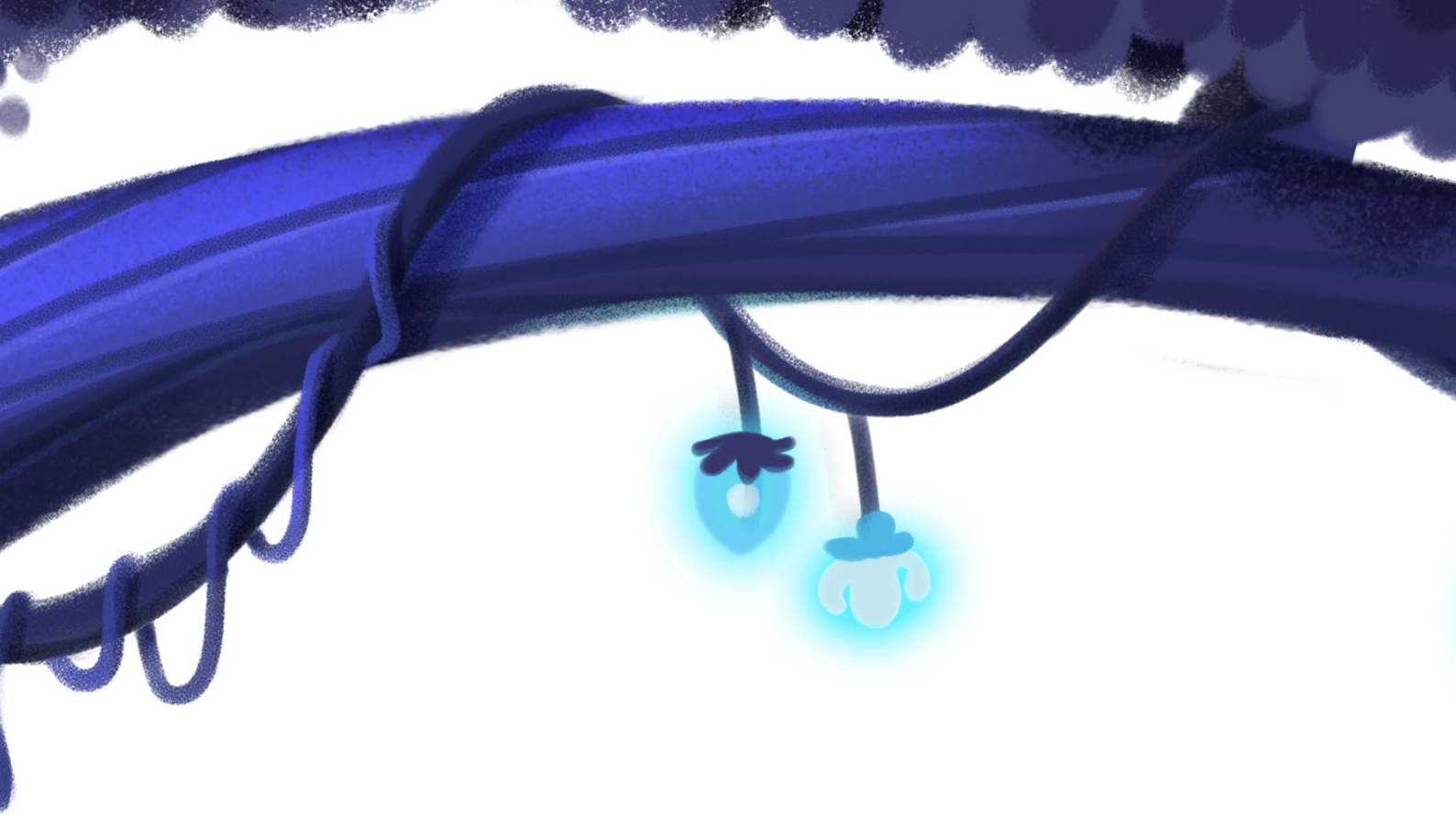
Martin, D. (2009). Language disabilities in cultural and linguistic diversity. *Multilingual Matters*. Bristol: UK. [online] http://search.ebscohost.com.ezproxy.jyu.fi/login.aspx?direct=true&db=nlebk&AN=272965&site=ehost-live (22 November, 2017)

Mikkonen, K., Nikander, K., Voutilainen, A. *(2015)* Oppimisvaikeuksien tunnistaminen ja tukeminen. *Potilaan lääkärilehti,* 12/15. [online] http://www.potilaanlaakarilehti.fi/artikkelit/oppimisvaikeuksien-tunnistaminen-ja-tukeminen/ (17 April, 2017)

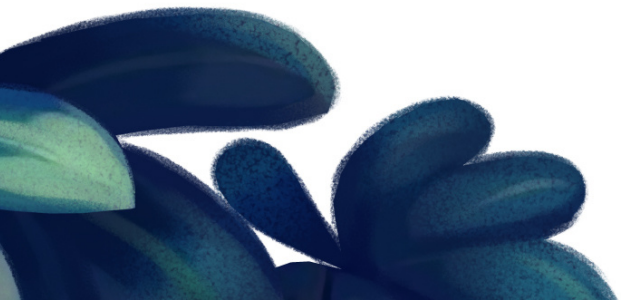
Moilanen, K. (2004). Yli esteiden : Oppimisvaikeudet ja vieraat kielet. Helsinki: Tammi.

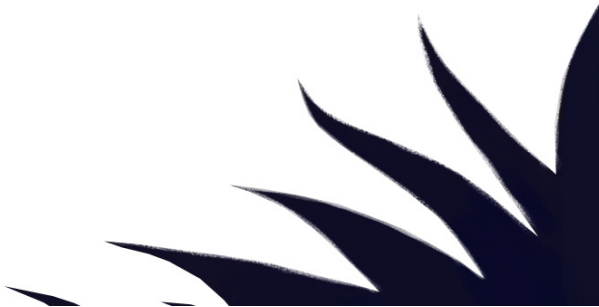
Nijakowska, J. (2010). *Dyslexia in the foreign language classroom*. Bristol : Multilingual Matters.

Phillips, S., Kelly, K. S. and Symes, L. (2013). *Assessment of learners with dyslexic-type difficulties*. Los Angeles, California: Sage Publications Ltd. [online] https://www.dawsonera.com/abstract/9781446287040 (14 March, 2017)



Handouts





Handout 1 *Student: _____*

A checklist for the teacher

If you mark five boxes or more, you should have a chat with the student in question and with your colleagues whether they have made similar observations.

- ☐ Needs more time in completing tasks and exams
- ☐ Slow technical reading
- ☐ Poor reading comprehension
- ☐ Anxiety towards language learning and use
- ☐ In student's writing small words, such as articles and prepositions, are missing or they are incorrect
- ☐ Cannot concentrate on listening and writing simultaneously
- ☐ Difficulties in recognising and analysing sounds
- ☐ Mixing letters of similar shape
- ☐ Emotional-motivational issues; lack of confidence, low-self esteem
- ☐ Recognising and retrieving words is difficult and slow
- ☐ Grammatical terms and abstract concepts cause difficulties
- ☐ Awkward pen grip and bad handwriting
- ☐ Produces short, poorly structured sentences
- ☐ Tiredness
- ☐ Similar sounding words get easily mixed
- ☐ Recognising and retrieving words is difficult and slow
- ☐ Problems with the letter combinations: whit (with), peopel (people), litle (little)
- ☐ Easily distracted by external stimuli
- ☐ Poor short-term memory
- ☐ Difficulties in hearing differences in minimal pairs: /pig/ vs. /big/
- ☐ Poor organisational skills
- ☐ Acting out in front of people to get attention
- ☐ Spelling words according to their phonological representation
- ☐ Difficulties in remembering words and learning new words

Handout 2
A handout for students

Tips for independent revising
Use post-its to learn new words: tag items in your home or collect verbs in one place, nouns in one place.
Just listen: research shows that it is beneficial to just listen and expose oneself to language - even if you do not understand what is being said. Watch series without subtitles, listen to music and radio.
Come up with situations in which you would need English: practise them in your head! For example, how would you buy clothes in English? What kind of vocabulary do you need? You can do this while waiting a bus or when you're standing in line to try on new clothes.
Talk to yourself! This may sound weird, but it is really helpful! It provides you a way to keep new words and phrases in your mind and to learn them better!
Collect new words in a notebook
Follow interesting accounts on social media. Try publishing on social media in English yourself!
Use Pomodoro-technique to focus: you can find an app for it in your app store.
Choose an interesting book in English.
When studying new words, try to come up with a movement that describes it.
Use your calendar for remembering new words. When you learn a new word, write it down on a day you learnt it with its translation. Then go a few days forward in your calendar and write that translation on that day. When it's that day (two or three days later) you need to remember what was that word in English and write it down next to its translation. If you don't remember it, you need to go back to the day when you learnt the word and check it out.
Keep a language learning journal; record and reflect on your progress
When you learn a new word, try to use it right away in a sentence. Create funny ones!
Have fun with it; watch a movie, play video, follow instagram accounts on the target language. Use the language to whichever you like doing the most!

Handout 3
Useful apps and websites for independent revising

Apps (for iPad)

- **Duolingo**
- **Dragon Dictation**
- **Memrise**
- **Focus Keeper**
- **Dictionary apps**: choose one that has *a word of the day!*
- Use the additional material from your course book!
- **WhiteSmoke** (for writing)
- Apps of newspapers
- **TED talk**s
- B**ookBeat/iBooks** for audiobooks!
- **iMovie**; make a film or a trailer on a topic you need to revise! When you know how to explain something to someone in a clear way, you will also master the content and the language yourself!
- **Quizlet**

Websites

- **British Broadcasting Company (BBC).** Free videos, recordings and quizzes to help you **learn** about and practise English. http://www.bbc.co.uk/learningenglish
- **Finnish Broadcasting Company (YLE).** Free tools for practicing English. http://yle.fi/aihe/artikkeli/2015/12/15/oppimateriaalit-englanti
- Learn English online. Grammar, vocabulary, exercises, tests and games. http://www.englisch-hilfen.de/en/
- The Times in Plain English: http://www.thetimesinplainenglish.com/

Handout 4

Metacognitive awareness questionnaire
Reading

Read the following statements through, and try to decide whether you agree with them on a scale 1 (strongly disagree) to 5 (strongly agree). There is no right or wrong answers here. The purpose of this questionnaire is to provide information for you (and your teacher) on your reading habits. Circle the number which best shows your level of agreement with the statement

1 = I strongly disagree

2 = I disagree

3 = I don't disagree or agree with the statements

4 = I agree

5 = I strongly agree

I have a purpose in mind when I read.	**1 2 3 4 5**
I preview the text to see what it's about before reading it; I look the pictures, subheadings etc. and try to guess what the text is about.	**1 2 3 4 5**
I think about whether the content of the text fits my reading purpose.	**1 2 3 4 5**
I underline or circle information in the text to help me remember it.	**1 2 3 4 5**
I take notes while reading.	**1 2 3 4 5**
I summarise what I read in order to see that I have understood the main points of the text.	**1 2 3 4 5**
I try to picture or visualise what I read in order to remember the text better.	**1 2 3 4 5**
I skip tables, pictures and figures in text. They do not entail any valuable information.	**1 2 3 4 5**
I try to read the text critically and analyse it's purpose and why it has been written in the way it has been written.	**1 2 3 4 5**
I skim the text first before reading it thoroughly.	**1 2 3 4 5**
I try to guess the meaning of unknown words or phrases first, before checking them from a dictionary.	**1 2 3 4 5**
I decide what to read closely and what to ignore.	**1 2 3 4 5**
I stop from time to time to think what I am reading.	**1 2 3 4 5**
I go back and forth in the text to find relationships between different paragraphs and ideas presented in the text.	**1 2 3 4 5**

Handout 5

Metacognitive awareness questionnaire
Writing

Read the following statements through, and try to decide whether you agree with them on a scale 1 (strongly disagree) to 5 (strongly agree). There is no right or wrong answers here. The purpose of this questionnaire is to provide information for you (and your teacher) on your writing habits. Circle the number which best shows your level of agreement with the statement

1 = I strongly disagree

2 = I disagree

3 = I don't disagree or agree with the statements

4 = I agree

5 = I strongly agree

I read instructions carefully before I begin a writing task.	**1 2 3 4 5**
I find it difficult to start the writing process; I don't know where to start.	**1 2 3 4 5**
Organising what I want to say in my text and in which order is difficult for me.	**1 2 3 4 5**
I read what I have written several times, and each time I focus on certain aspect in the text; the grammar, the structure, the ending and so on.	**1 2 3 4 5**
I use mind-maps for brainstorming and organising my ideas.	**1 2 3 4 5**
I don't do any planning before beginning to write. I think using mind-maps or alike are waste of time.	**1 2 3 4 5**
I feel that usually I don't have anything to say about the given topic.	**1 2 3 4 5**
Writing in English is challenging for me.	**1 2 3 4 5**
Before starting to write, I have a clear plan how to start my writing process.	**1 2 3 4 5**
I don't feel nervous before starting a writing task.	**1 2 3 4 5**
I find it difficult to decide in which order I should present my ideas.	**1 2 3 4 5**

Handout 6

Metacognitive awareness questionnaire
Listening

Read the following statements through, and try to decide whether you agree with them on a scale 1 (strongly disagree) to 5 (strongly agree). There is no right or wrong answers here. The purpose of this questionnaire is to provide information for you (and your teacher) on your listening habits. Circle the number which best shows your level of agreement with the statement

1 = I strongly disagree

2 = I disagree

3 = I don't disagree or agree with the statements

4 = I agree

5 = I strongly agree

Before listening, I have consciously thought of how I am going to listen; I have a clear plan for it in my head.	**1 2 3 4 5**
I find listening more difficult than reading, speaking, or writing in English.	**1 2 3 4 5**
I translate what I hear into Finnish in my head while I listen	**1 2 3 4 5**
Listening in English is challenging for me	**1 2 3 4 5**
As I listen, I compare what I understand with what I already know about the topic	**1 2 3 4 5**
I don't feel nervous when doing a listening comprehension task or activity	**1 2 3 4 5**
I translate word by word as I listen	**1 2 3 4 5**
I have a goal in my mind when I listen	**1 2 3 4 5**
After listening, I think how effective my way of listening was and if there is something that I should do differently next time	**1 2 3 4 5**
When I have difficulty understanding what I hear, I give up and stop	**1 2 3 4 5**
I translate key words as I listen	**1 2 3 4 5**
My mind wanders a lot during a listening comprehension task; it is hard to concentrate	**1 2 3 4 5**
I use the general idea of the text to help me the guess the meanings of the words which I don't know	**1 2 3 4 5**

Handout 7
Writing an essay

Heading:
Presenting the topic: • Present the problem • Why is it important? • Background information
What are the consequences? Pros and cons
What can be done? Evaluate the pros and cons of the solutions Give arguments
What happens in the future?
Finishing sentence/paragraph:

Handout 8
Proof-reading

Step 1.
Read the text through and translate it into Finnish. Does it make sense?
Is it logical?

Step 2.
Use the list below to go through your text.
Concentrate on **one thing per reading!**

Verbit
☐ Joka lauseessa on verbi
☐ Olla-verbi yksikössä ja monikossa: is & are
☐ Aikamuodot: muodostus (onko oikein muodostettu? Apuverbit?) ja käyttö (oikeassa paikassa?)
☐ Kieltomuodot ja kysymykset - tuleeko *do?*
Substantiivit
☐ Yksikkö vai monikko? Vaikuttaako verbiin? Vaikuttaako muihin sanoihin (*this, that, these…*) ?
☐ Epäsäännöllisiä monikkoja? esim. *a man - men*
☐ Artikkelit substantiivin edellä (*a, an, the*)
☐ Milloin s ja milloin ’s?
Pronominit
☐ Tarkista persoonapronominien oikea käyttö. Esim. *I, me, my, mine; they, them, their, theirs …*
☐ Muut pronominit: *every, any, some, no, that, which…*
Sanajärjestys
☐ SPOTPA ja liikkuvat määreet: often, also …
☐ Kysymyslauseen sanajärjestys
Muut
☐ Sidossanat: kuitenkin (*however*), toisaalta (*on one hand… on the other hand..*), vaikka (*although*) …
☐ Omat kompastuskivet, mitä ne ovat?

Handout 9
Morphological awareness

PREFIXES	STEMS	DERIVATIONAL AFFIXES		INFLECTIONAL AFFIXES
UN	EMPLOY	MENT		
RE	FRESH			ED
IN	DEPENDENT			
DIS	ABILITY			S
DE	ACTIVATE	OR		S
IL	LEGAL			
CO	OPERATE	ION	AL	
IR	REGULAR	LY		
UN	HAPPY	NESS		
	EDUCATE	TION		
IM	PERFECT			
	FAMILIAR	ISE		
IN	EXCUSE	ABLE		

Handout 10
Morphological and orthographical awareness

autoissanikin = _____ _____ _____ _____

(minä) sanon = _____ _____

(minä) sanoin = _____ _____

(mennä) jalan = _____ _____

puissa = ____ _____

Amerikkaanko = _____ _____ ____

(perusmuoto: suo) soiden = _____

poistu talostani = _____ _____ _____ ____ _____

On vaikeaa elää talotta =
____ ____ _____ ____ ____ _____ ___ _____

veteen = _____ _____ _____

The correct answers:

auto/i/ssa/ni/kin = Also in my cars

(minä) sano/n = I say

(minä) sano/i/n = I said

(mennä) jala/n = by foot

puissa = in trees

Amerikkaanko = to America ? (NB. intonation indicating a question)

so/i/den = swamps'

pois/tu talo/sta/ni = Get out of my house

On vaikea/a elää talo/tta = It is difficult to live without a house

vet/een = into the water