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PREDYS: Supporting Children at Risk of dyslexia at the transition period from pre-primary to primary

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GUIDE FOR TEACHERS

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CONTENT

Introduction

In recent years, dyslexia has become a well-known condition and is the most common learning difficulty identified in humans of all ages, all social groups and all over the world. And if 20 years ago there was lack of materials on the topic, now there are many – all of them aiming at providing deeper understanding of the origin, causes and consequences of dyslexia.

In 1881, Oswald Berkan first identified the primary symptoms of dyslexia, a few years later, in 1887, the ophthalmologist Rudolph Berlin coined the term "dyslexia." Ever since the scientists have studied the problem trying to determine the biological causes of the condition. Over the years, with the deepening and expansion of knowledge on the subject, the theories and methods of therapy have also kept changing.

Definitions of dyslexia also have changed with the time.

At the end of the 19th century and the beginning of the 20th century, children who had problems with literacy were treated as sick or mentally retarded, or lazy and unmotivated. The term "word blindness" was widely used for those struggling with reading. Only in the middle of the 1930s the term dyslexia started to replace the old one in the publications of researchers. At the same time, problems related to learning difficulties in general and dyslexia in particular, began to be classified as pedagogical problem rather than a health issue. But only in the last decades of 20th century specialists agreed that the problem with literacy acquisition was best to be managed within an educational environment.

In his Report "Identifying and Teaching Children and Young People with Dyslexia and Literacy Difficulties"[1] Jim Rose gives the following definition of dyslexia:

"Dyslexia is a learning difficulty that primarily affects the skills involved in accurate and fluent word reading and spelling."

According to him, it is possible dyslexia to be "accompanied" by difficulties in some more developmental aspects, like speech development, motor skills and coordination, mental calculation, organisation and time management, etc. But, all these, as he said, are not markers of dyslexia if taken out of the context. Main features of dyslexia are difficulties in phonological awareness, verbal memory and verbal processing speed, visual and auditory processing difficulties. Dyslexic people, despite of the difficulties that affect their learning, have some strengths that can be used not only to compensate, but also to overcome the bad effects of dyslexia. Many of them develop high-level skills in other (not reading and writing-related) areas, such as problem solving, design, art, sports, etc.

Dyslexia demonstrates itself in many different ways, and it makes it difficult for identification and defining. The fact that dyslexia and reading and writing difficulties may vary according to the cultural and linguistic background of the person increases the complexity of the problem. There is no "typical dyslexic", each case should be seen as unique, each child (or adult)

[1] Rose, J. "Identifying and Teaching Children and Young People with Dyslexia and Literacy Difficulties", available at https://dera.ioe.ac.uk/14790/7/00659-2009DOM-EN_Redacted.pdf (last accessed 26 August 2020)

affected by dyslexia should be well-understood and supported in accordance with his/her specific characteristics and needs.

The last statistic results[2] show that approximately 15% of the world's population is affected to varying degrees by dyslexia, which means – more than a billion people. And most of them do not know they are dyslexic, many of them even have not heard the word "dyslexia". If we consider the same percentage in Europe, it means that approximately 100 million of all ages and nationalities have dyslexia or demonstrate some dyslexia symptoms. Which, from the other side, means that in every school, in each class there is at least one (usually more) dyslexic student.

Dyslexia occurs everywhere around the worlds, in all countries, in all social groups, in people with different background and different mother tongue. And because it affects so many people, it should be considered a real and serious social problem. It has been proven that dyslexia does not affect the intellectual abilities of the person. Very often children, who have problems to learn to read and write properly are blamed to be lazy or not hard-working, at the time when their difficulties might be due to dyslexia. It is extremely important to identify dyslexia symptoms as early as possible, and the children to receive an adequate help and support throughout the school years; otherwise many of them are left unrecognized and unsupported, their academic results are lower than expected (based on their IQ level), they lose their motivation and interest to any school work.

During the last years European countries put a lot of efforts in implementing the principles of the inclusive education. Inclusive education means that all students are welcomed by any school in regular classes and are supported to learn, contribute and participate in all aspects of the school life. It is about organising schools, classrooms, programs and activities so that all students learn and participate together, in a common learning environment with support to diminish and remove barriers and obstacles that may lead to exclusion.

Research shows that the only appropriate solution to dyslexia is a continuous and long-lasting intervention, which supports the development of various skills and abilities affected by dyslexia. The earlier the problem is identified, the sooner the intervention starts the most probable positive outcomes will be. Both psychologists and educators agree that assessing risk factors and enhancing development of preschool children and pupils at the stage of initial literacy acquisition is a crucial prevention of possible SEN, including dyslexia[3] (e.g. Nicolson, Fawcett 2008).

Practice shows that the problems associated with learning disabilities (LD), and particularly with dyslexia can be considerably decreased if there is an early intervention - the preschool age is vital as children develop at a much faster rate from birth until they start school. Development of the basic skills at an early age that are the prerequisites for literacy, school-related skills and other skills which are necessary in today's competitive world. Although it is

[2] Dyslexia Statistics: https://www.dyslexia-reading-well.com/dyslexia-statistics.html (last accessed 7 July 2018)
[3] Nicolson, R. and A.Fawcett, Dyslexia, Learning and the Brain, MITT Press, 2008

not possible to diagnose a child with dyslexia before he starts the process of literacy acquisition (1st grade of primary school), there is a lot of signs that place some children in a group of those who are at “risk of dyslexia”. These signs are well known to the specialists working in the field and if recognised and addressed early enough, they would prevent such children of struggling to learn to read and write when they start school.

The project PREDYS focuses on ~~a~~ very specific problems - early identification of children at risk of dyslexia in their last year in the pre-school, the level of development of their specific skills necessary to ease the process of reading and writing acquisition in the first grade; understanding of the process of transition between the pre-school and primary school, difficulties small students may face with school-related skills, support for those with learning difficulties, increasing children’s interest and motivation. Most of previous projects deal with increasing awareness and understanding of different education related problems of the dyslexic children during their school years, and very little attention was paid to the facts and problems that precede the demonstration of these difficulties. Pre-school teachers need a training that will give them not only theoretical knowledge of the problem, but will acquire them with practical skills they could use with children to prepare them for the transition to "real" school and to support them through the process. Parents, from the other side need to learn more about early markers of learning difficulties, to better understand the reasons for these difficulties, to know where to look for help.

Although the dyslexia should be diagnosed by a specialist, the school is a crucial place and teachers are the main actors to detect the first potential signal indicators. Some previous studies carried out by partners in their countries within previous ERASMUS+ projects show that vast majority of teaching staff is not prepared to recognise dyslexia and once diagnosed, they do not know how to deal with the problem. Another serious problem is that many parents refuse to that their child has difficulties, or decide to postpone the search for qualified help in the hope that the child will "grow up" the problem and catch up with his/her peers (which almost never happens). Parents are also afraid that the formal assessment will put a label on their child and he/she will be treated differently by teachers and classmates. And the last, but not least: the question "What will change if the child is diagnosed? Will he/she get the proper support at school?" According to Barringer many schools are still “unequipped for the diversity in learning that unfolds in the classrooms […].When students are taught in a way that is incompatible with how they learn, the natural strengths of their minds are neglected”[4].

Dyslexia is not a disease; it cannot be cured with any medicine. Dyslexic children are not ill, lazy or stupid. They can achieve a lot, if the problem is identified early, if they receive adequate support both at school and at home, if their natural curiosity is encouraged and their motivation is kept alive.

[4] Barringer et al., 2010 pag. XVII.

1. Understanding Dyslexia

1.1. Definitions

Specialists from different countries, who have experience in work in the field of dyslexia and specific learning difficulties, use different definitions, formulated at different time by different experts. And there are two main approaches to define dyslexia. The first one is from medical point of view, the second – from pedagogical point of view. Both are presented below.

The World Health Organization (WHO) presents the following definition of dyslexia:

ICD-10[5]: F81.0 - Specific reading disorder (developmental dyslexia, specular reading, reading-specific delay)

The main characteristic is a specific and significant impairment of the development of reading skills, not exclusively related with mental age, visual acuity disorders or inadequate schooling. The ability to understand reading, word recognition, oral reading, and the performance of tasks that require reading may be compromised. Specific reading disorder is often accompanied by spelling difficulties, commonly persisting in adolescence, even when the child has made some progress in reading. Children who have a specific reading disorder often have a history of speech or language disorder. The disorder is commonly accompanied by emotional disorders and behavioural disorder during schooling.

Unlike DSM-5, dyslexia definitions in ICD-10 do not explicitly include the speed or fluency, although slowness is a difficulty in oral reading.

Thus Dyslexia International (2010) suggests completing the definition given by the ICD-10 as follows: "a specific and distinct deficiency in reading learning, evidenced by persistent difficulties in learning this ability, often accompanied by spelling difficulties. Shows lack of accuracy and/or speed in reading and/or comprehension of texts. These difficulties cannot simply be attributed to low mental age, limitations in visual or auditory acuity, or insufficient schooling."

While ICD-10 considers dyslexia as a specific impairment/reading disorder, DSM-5 includes this condition in the broader context of specific learning disorders. In this definition, reading is just one of the skills that may be compromised. The other two are writing and mathematics, that is, together, the academic skills that must be taught and learned explicitly.

According to DSM-5, dyslexia is one of the specific learning disorders. It is characterized by impairment in reading, more specifically in the accuracy and speed of word recognition and in the process of phonological decoding (reading process in those words are read through the use of the rules of correspondence between graphemes and phonemes), which can be combined or not with low spelling skills. As specified in the manual, dyslexia is an alternative term to refer

[5] ICD-10 - International classification of diseases and health-related problems, adopted by the World Health Organization (WHO) in 2007

to this pattern of difficulties, which can be presented alone or accompanied by one or more additional difficulties, such as difficulty in reading comprehension or mathematical reasoning.

Dyslexia is considered by the Diagnostic and Statistical Manual of Mental Disorders or DSM-5 as one of the specific learning disorders, in which the speed of reading, the process of phonological decoding and word recognition suffer significant damage. It also points out that such a disorder can happen isolated or accompanied by comorbidity, such as the difficulty of assimilating reading or the ability to reason mathematically. The DSM-5 is a manual made by the American Psychiatric Association and aims to define mental disorders and be used as a form of consultation by occupational therapists, psychologists and physicians.

Dyslexia International[6] (2010) stresses the importance of taking into account that a specific condition in the context of dyslexia refers to "specific cognitive functions", such as the ability to read, write or calculate (or a combination of these abilities), are individually compromised. It is this specificity that distinguishes specific learning disorders from so-called learning difficulties, which reflect more general and expected difficulties as a result of low intellectual level or environmental factors (e.g., insufficient stimulus and/or motivation for learning, lack of learning opportunity and/or poor quality teaching).

The International Dyslexia Association (IDA)[7] as: "Dyslexia is a specific learning disability that is neurobiological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge."[8] (IDA Board of Directors, 2012, Nov. 12).

There are some differences in understanding of dyslexia in different countries. For example, in the countries, involved in this project, the following specifics are observed:

Spanish Federation of Dyslexia considers it as a combination of skills and difficulties that affect the learning processes in one or more of the following areas: reading, orthography and writing[9]. It is a lasting condition and can be related to other problems in areas like short term memory, organisation, spoken language, processing speed or motor skills. Difficulties in visual and/or auditory perception can also be present. In particular, dyslexia can be related to the mastering and use of written language that includes letters, numbers and musical notation.) It is a condition of the person itself and it is independent from its socio-economic environment.

[6] Dyslexia International asbl – a non-profit organisation, registered I Brussels, Belgium, in 2000
[7] International Dyslexia Association (IDA) - a non-profit education and advocacy organization devoted to issues surrounding dyslexia. It is based in Baltimore, Maryland, United States
[8] International Dyslexia Association. Definition of Dyslexia. Available at: https://dyslexiaida.org/definition-of-dyslexia/ (Accessed on 25 July 2020)
[9] Federación Española de Dislexia: http://fedis.org/dislexia/

In Bulgaria dyslexia is considered to be one of the specific learning difficulties. According to prof. V. Matanova "Dyslexia is a general category of specific learning disorders, which refers to the ability in seven specific areas of functioning: impressive speech, expressive language, basic reading skills, comprehension of reading, basic writing skills, understanding of the writing, basic math skills and mathematical thinking"[10]. In other words the term "dyslexia" is used to cover a wide range of specific learning difficulties. Terms dysgraphia, dyscalculia and dyspraxia are also used by specialists to name the difficulties in some specific areas of learning.

The APDIS – Portuguese Association of Dyslexia (2008), considers that dyslexia can be defined as a lasting difficulty in learning reading and acquiring its automatism, in intelligent, educated children, without existing sensory and psychic disorders. In recent years, the concept has become more specific, designating a determined syndrome, which manifests itself in difficulties of distinguishing or memorizing letters or groups of letters and problems of ordering, rhythm and structuring of sentences[11] (Nogueira, J. M. D. (2015). Learning difficulties in reading and writing: The contribution of electronic games to motivation and learning [Master's thesis] Escola Superior de Educação de Lisboa / Instituto Politécnico de Lisboa-Torres and Fernández, 2001). In Turkey dyslexia (reading disability, which causes children to have difficulty understanding the relationship between letters and sounds), dysgraphia (concerns writing which leads to problems with spelling, word choice, letter formation, grammar and punctuation), dyscalculia (difficulties with performing basic mathematical equations and understanding mathematical concepts) and dyspraxia (impedes motor skills) are considered as types of Specific Learning Difficulty (SLD), and this way are categorised as disability[12,13]. (Baydık, 2011; Korkmazlar, 2003)

In Latvia the definition, provided by the International Dyslexia Association is adopted, which means that dyslexia is considered a specific learning disorder of neurobiological origin, characterized by difficulty reading words accurately and/or fluently and poor spelling skills. The main reason for these difficulties usually is the deficit in the phonological skills (ability to distinguish the sounds of language from each other and to be able to manipulate them). At the same time, dyslexia does not affect other intellectual abilities - thinking, reasoning, understanding. Specialists agree that dyslexia is not a medical problem - although dyslexia is included in international disease classifications, it has no medically detectable symptoms and no medical treatment. The only effective help in dyslexia is intensive additional reading training, as well as the use of ICT to reduce the impact of low literacy on the acquisition of the whole subject.

[10] Матанова В., Дислексия, Софи-Р, 2001

[11] Nogueira, J. M. D. (2015). Learning difficulties in reading and writing: The contribution of electronic games to motivation and learning [Master's thesis] Escola Superior de Educação de Lisboa / Instituto Politécnico de LisboaTorres and Fernández, 2001

[12] Baydık, B.(2011) Study of Usage of Reading Strategies of Students with Reading Difficulties and Teaching Practices of Teachers on Understanding Reading. Education and Science, 6(162).

[13] Korkmazlar, O. (2003). Ögrenme bozuklugu ve ozel egitim [Learning disabilities and special education]. Farkli gelisen cocuklar, 147-171

Although dyslexia is not a psychological and social problem, it can become such if the student does not receive the necessary pedagogical help in time, but is punished for poor reading and writing skills with low or insufficient marks, although he knows and understands the subject matter when told and reclaimed orally.

The Greek term “dyslexia” is composed of the particle “dys” (which indicates difficulty) and the word “logos”. In ancient Greek “logos” means “lexi” (word). Consequently, the term “dyslexia” refers to “difficulty with words”. Some translators even state that the term “word” also means “speech”[14] (Stasinos, 2003).

According to the Hellenic Society of Dyslexia, Dyslexia belongs to learning difficulties and it is a difficulty in learning to read and write. It concerns people who have all the abilities and possibilities for these tasks.

The mental level of these children is normal or even higher than normal. In addition, their vision and hearing are normal, their social environment is positive and they attend regular schools. Unfortunately, these children confront school failure which is due to their main difficulty in understanding and learning the symbols that letters and the reading-writing system represent.

According to Mavrommati (1995), “Dyslexia means major difficulty in processing written speech and consequently difficulty in reading, disproportionately persistent to the age and mental level of the student”[15]. Subsequently, those children appear inability to learn spelling and automate spelling.

“Special Developmental Dyslexia is a disorder of children that manifests itself as a difficulty in acquisition of reading skills despite their sufficient mental level, proper education and positive social-cultural situation. This inability is due to major difficulty in learning that it cannot be defined”[16] (Porpodas, 1997).

1.2. The Concept "Risk of Dyslexia"

Dyslexia is a "specific learning disorder of neurological origin", but prior to its diagnosis, some signs that are feasible to be perceived before formal learning of reading and writing may demonstrate risk for dyslexia. These signs include "unintelligible speech, phonological immaturity, lexicon reduction, difficulty in learning the name of letters or the sounds of the alphabet, understanding instructions, speech delay, difficulty remembering numbers, letters in

[14] Stasinos, D. (2003). Child and Adolescent Learning Disabilities. Athens, Gutenberg Publications.
[15] Mavrommati, D. (1995). The preparation of the program for the treatment of Dyslexia. Greek Letters, Athens
[16] Porpodas, K. (1997). Dyslexia. The special disorder in the learning of written speech (Psychological Theory)., Published by Ellinika Grammata, Athens.

sequence, right-left confusion, bottom, top, front-behind (word-to-back) and difficulty in processing word sounds and family history"[17].

Dyslexia is the outcome of multiple risk factors and children with language difficulties at school entry are at high risk. Family history of dyslexia is a predictor of literacy outcome from the preschool years. However, screening does not reach an acceptable clinical level until close to school entry when letter knowledge, phonological awareness, and RAN (Rapid Automatic Naming), rather than family risk, together provide good sensitivity and specificity as a screening battery.

In many countries the risk of dyslexia (and learning difficulties in general) is not an object of assessment before children start school, although all specialists agree that the earlier the potential difficulties are identified and the necessary measures are taken, the easier they will be overcome and the children will achieve academic results that correspond to their real capabilities.

The Spanish Dyslexia Association shares the opinion that in the country assessment for dyslexia is conducted too late (2-3 grade). Testing protocols have been developed at national level to identify the risk of learning disabilities and dyslexia, but educational institutions are responsible for completing them, evaluating the need to pass this information on to the Dyslexia Association. Although the State Education Law (Articles 71, 72) focuses on students with reading disabilities and the need for appropriate assessment, the situation varies from province to province and from school to school.

For some years now, the associations have worked hard to fight for scholarships for these students, they have written protocols to inform teachers and guide parents to understand their children, they have conceived detection protocols but they were not understood well or were not very standard. Despite having many talks and conferences on how to deal with children with difficulties, the training is given to teachers who feel the need to learn about dyslexia and its pedagogical treatment in the classroom.

In Turkey, specific learning difficulties are diagnosed for students in grades 2-3. The country has an observation form developed by the Ministry of Education, which is used by teachers, school counsellors, but is not intended to diagnose, but to recommend researching children to identify specific learning difficulties.

In Bulgaria, the identification of learning difficulties at pre-school age is determined by Ordinance on Inclusive Education[18], announced in October 2017, supplemented in November

[17] Capellini SA, Fadini CC. Treinamento de habilidades fonológicas em escolares de risco para dislexia. Rev Psicopedagogia. 2011; cited in The importance of early stimulation in cases at risk for dyslexia: a psychopedagogical focus: http://pepsic.bvsalud.org/scielo.php?script=sci_arttext&pid=S0103-84862012000200006

[18] НАРЕДБА за приобщаващото образование- обн. - ДВ, бр. 86 от 27.10.2017 г., в сила от 27.10.2017 г.; ...; изм., бр. 101 от 27.12.2019 г., в сила от 27.12.2019 г.) (публ. 02.03.2020 г.); Приета с ПМС № 232 от 20.10.2017 г.; retrieved from https://www.mon.bg/bg/59 (last accesed on 20.08.2020)

2018 and December 2018. Chapter 1, Article 8 specifies the order and manner of conducting early assessment of needs for support for personal development in pre-school education. Art.10 states: “children aged 5 and 6 in the preparatory groups in kindergartens or in schools that have not undergone an early assessment from 3 years to 3 years and 6 months shall be assessed for the risk of learning disabilities. Assessment of learning disabilities is conducted by trained pedagogical specialists and made available for use by teachers at the relevant institution." The assessment is done by pedagogical specialists (teachers) in pre-schools and primary schools after a training organised by the National Speech Therapy Centre and the regional Resource Centres. The results of the assessment are informative and aimed at providing reliable information to teachers and parents before the child starts school.

According to the Article 29 of the same document “Activities for the purposes of prevention of learning difficulties should be planned after observation of the individual learning progress of a child and difficulties he/she has faced during the learning process.” In the discussion take part teachers and specialists who work with the child, and the parents are informed about the results.

In Latvia, the difficulty of acquiring a child's reading literacy is being paid more attention in special education institutions or groups, where the children work with a team of specialists. According to Cabinet of Ministers Regulations Nr. 716 (November 21st, 2018) at pre-school age, assessment of a child takes place in all areas of study on the basis of observations and the practical outcomes of the child's work. Educational institutions independently develop procedures for assessing a child's learning outcomes, in accordance with the basic principles for the assessment of pre-school education as set out in the National Pre-school Education Guidelines.

Although in Portugal the system of categorizing difficulties with a view to eligibility and the mobilization of educational responses had been abandoned, an intervention at an early age is considered essential to prevent or mitigate development problems, an assumption supported by research, essentially in the field of neuroscience. This evidence has reinforced the importance of the quality of practices in this area, requiring policy makers to implement measures to ensure early intervention in childhood. In this context, the National Early Intervention System targets children between 0 and 6 years of age with changes in body functions or structures that limit participation in typical activities for their age and social context or with a serious risk of delay development groups and their families.

Among others, it is the competence of the local intervention teams (ELI) to outline an individual early intervention plan (PIIP) with the family, which involves the assessment of the child in their contexts (family and others) and defines the measures and actions to be developed. Whenever a child transitions to pre-school or primary education and the need for measures to support learning and inclusion is foreseen, the ELI coordinator must ensure that all data (agreed with the family) is made available to the multidisciplinary team of the organic unit that will welcome the child. Therefore, it is necessary to reinforce the need for all

transitions to be prepared and planned in a timely manner, because only then can the conditions for the child's development and success and the family's well-being be envisaged.

In Greece assessing of dyslexia occurs by diagnostic centres, medical-pedagogical institutions, special education institutions, training support and counselling centres (KESY). The consent of the parent is obligatory at all stages.

There are 4 steps for the evaluation by KESY: **1) Identification of educational needs** – can be initiated by the teacher or by the parent. The school Administration and the special education teacher are informed. **2) Submit a request from a parent/ guardian for assessing the child** – this can be submitted to the school or directly to KESY. **3) Description of child's difficulties -** Student's difficulties inside and outside the classroom are recorded through observation. **4) Reference from the school to KESY** - If after the recording the student's difficulties, there is still a need for further assessment, the student is directed for evaluation to KESY.

1.3. Dyslexia related Legislation

Spain

In Spain dyslexia is considered a part of the group of specific learning difficulties and falls under the legislation for this category. In the article 71 of the law says that The Education Administrations have the necessary means so that all the students reach the maximum personal, intellectual, social and emotional development. They may establish plans for priority schools to support especially schools where enrol students from social disadvantage groups. It is up to the Education Administrations to ensure the necessary resources for students who require a different educational attention, for presenting special educational needs, for specific learning difficulties, ADHD, for their high intellectual abilities, for having joined the educational system, or by personal conditions or school history, can achieve the maximum possible development of their personal abilities and, in any case, the objectives established in general for all students. In the article 72 says that The Education Administrations establish the necessary procedures and resources to identify early the specific educational needs of the students. Comprehensive attention to students with a specific need for educational support begins from the moment the need is identified and is governed by the principles of standardisation and inclusion. It is the responsibility of the Education Administrations to guarantee schooling, regulate and ensure the participation of parents or guardians in decisions that affect the schooling and educational processes of these students. It is also up to them to take the appropriate measures so that the parents of these students receive the appropriate individualised advice, as well as the necessary information to help them in the education of their children.

Turkey

Turkey started including students with disabilities in general education classrooms after 1997 when the Act 573 was ratified. Though the Ministry of Education (MEB) has recognized SLD since 1997, the establishment of norms and the use of IEP's only began in 2006. Teachers are supposed to get support from school counsellors and state Research and Guidance Centres (RAM). Since 2009 with the enactment of Specific Learning Difficulties Support Education Programme, support systems for dyslexic individuals and their teachers have been better and more intensively organised to address their needs. The responsibility to work with students diagnosed with dyslexia is on the guidance and research centres, private consultancy centres, school counsellors, psychologists, special education experts. The support Education Program for SLD (dyslexia is included) has 3 modules and 750 class hours (Preparation for learning, reading and writing, mathematics). This support program can be given twice for each student if necessary provided that the required procedures completed on yearly basis.

Bulgaria

Although the first articles about dyslexia in Bulgaria were published in the 80-s of the XX century, there is no overall governmental policy concerning dyslexia, nor obligatory legal acts which are binding. Until recently the main dyslexia related regulation was the Ordinance 1 for education of children and students with special educational needs, but even there until 2015 the term "dyslexia" was not mentioned. In September 2015 The Parliament ratified the changes in the Ordinance №1 and for the very first time among the specific educational needs were listed dyslexia, dysgraphia and dyscalculia. In December 2017 the Ordinance №1 was replaced by a new document called An Ordinance for Inclusive Education. Students who are officially diagnosed with dyslexia are entitled for educational support by a resource (SEN) teacher, psychologist and/or speech therapist, depending on their specific needs. The problem is that the most of students whose difficulties are due to dyslexia proceed up to the upper secondary and high school unrecognized.

Portugal

In Portugal, the current legislation, which establishes the principles and norms that guarantee inclusion as a process (The recent Law No. 54/2018 of July 6th) that aims to respond to the diversity of the needs and potential of each and every student through increased participation in the learning processes and life of the educational community, abandons the systems of categorization of students, including the "category" special educational needs and puts the focus on educational responses and not on categories of students.

Its most striking feature lies in the compartmentation of the school and the teaching and learning process. It abandons a restricted conception of "support measures for students with special educational needs" and takes a broader view, implying that one thinks of the school as

a whole, contemplating the multiplicity of its dimensions and the interaction between them. Another distinctive feature of the current diploma is the assumption that any student may, throughout his/her school course, need measures to support learning.

Latvia

In Latvia, the difficulty of acquiring a child's reading literacy is being paid more attention in special education institutions or groups, where the team of specialists works with children. In general institutions - a speech therapist works with children with speech and language disorders. According to Cabinet of Ministers Regulations Nr. 716 (November 21st, 2018) at pre-school age, assessment of a child takes place in all areas of study on the basis of observations and the practical outcomes of the child's work. Educational institutions independently develop procedures for assessing a child's learning outcomes, in accordance with the basic principles for the assessment of pre-school education as set out in the National Pre-school Education Guidelines. Educational institutions introduce the child's descriptive assessment to the child's parents or their legal representatives. Decisions on the child's ability to read, in-depth examination of speech, speech and language are made by the child's parents, applying to pedagogical medical commissions, agreeing to educate the child in special groups and classes. The evaluation of learning achievements in pre-school takes place in accordance with the Cabinet Regulation No. 716 (November 21st, 2018) "Regulations on National Guidelines for Pre-primary Education and Models of Pre-primary Education Programs." Learning difficulty assessment is performed by specialists on the recommendation of pre-school teachers and on the initiative or consent of parents. As a result, the child is directed towards special education programs and provided with specialists' support, in a special education class, in a group or integrated in a general education institution.

Greece

According to the law 3699/2008, students with disabilities and special educational needs are considered those who show significant learning difficulties due to sensory, mental, cognitive, developmental problems, mental and neuropsychiatric disorders which affect the process of school adaptation and learning. This group includes students with special learning difficulties (e.g. dyslexia, dyscalculia, etc.).

Based on the individual evaluation and counselling done by the Educational and Counselling Support Centre (KESY), the education of people with disabilities and special educational needs can be provided within general schools.

SEN students can attend:

- a regular class in a mainstream school (in case of mild learning difficulties), where he is supported by the class teacher;

- a regular class in a mainstream school with parallel support by a SEN teacher (when required by the type and degree of special educational needs);
- specially organized and properly staffed departments of Integration (TE), which operate within the schools (general and vocational). According to the law 4547/2018, it is KESY's responsibility to support the school units and Laboratory Centres so they can ensure equal access of all students to education.

2. Early Symptoms of Dyslexia

Dyslexia is not a disease that can be treated with drugs, but is a condition that accompanies a person throughout his life. Dyslexia is a different way of thinking and different way of perceiving things, which is in no way worse than the traditional one. But when it comes to learning and academic achievements in a non-dyslexic educational system, then dyslexia becomes a problem and causes a number of complications for learners and their teachers. It requires a long, systematic, every-day, hard work to overcome the consequences of dyslexia. And it is not possible to put all this load on the weak shoulders of a 6-8 years old pupil. Teachers and parents are those, who should protect, help and support the child throughout the process. Thus they need to be well prepared and equipped for this role.

Over the years, the difficulties caused by the dyslexia condition change, it is even overcome if at an early age work is done systematically in the direction of correction. The early symptoms of dyslexia are noticed even before the child enters the first grade and in this case we talk about the "risk of dyslexia". Subsequent work requires the formation and development of reading and writing skills to prepare the child for the challenges of school. At this stage it is too early to diagnose dyslexia, but it is advisable to closely monitor the child's development. Formal diagnosis of dyslexia can be made only after the completion of the of the initial literacy period.

2.1. How dyslexia manifests itself in a learning environment?

When we talk about dyslexia and how it manifests in a learning environment, it is necessary to mention that no two students with dyslexia have the same symptoms or experience the same difficulties at the same level. Below are the usual 10-15 symptoms, which appear in different combinations and with different degrees of manifestations - from mild to severe. These symptoms can vary depending on the child's health condition, the stress level or other factors of the environment. This is what makes dyslexia difficult to identify, and if we have to characterize it in any way, we must point out its most persistent characteristic - its inconsistency.

Pre-school Age

A key sign of dyslexia is trouble decoding words. This is the ability to match letters to sounds. Kids can also struggle with a more basic skill called phonemic awareness. This is the ability to recognize the sounds in words. Trouble with phonemic awareness can show up as early as preschool.

A child's level of phonemic awareness on entering school is widely held to be the strongest single determinant of the success that she or he will experience in learning to read — or, conversely, the likelihood that she or he will fail (Adams, 1990[19]; Stanovich, 1986[20]). So, it is one of the key skills the development of which pre-school children should be monitored for, and help if there is any delay in its formation and improvement.

Some of the early signs that may suggest a dyslexic and could be observed in the pre-school environment are listed below.

- Delayed speech development;
- Transposition of sounds and/or syllables when pronouncing long words;
- Difficulty to define sounds in a word;
- No matter how many poems and songs the child has been listening to, he/she cannot match rhyming words;
- Difficulty to learn simple poems by heart;
- The speech is not grammatically correct (incorrect coordination of nouns and adjectives by gender and number, incorrect use of conjunctions, prepositions, prefixes, suffixes, definite article, endings, etc.)
- Some difficulty to understand questions, or the moral of a story;
- Difficulty to remember the name of the letters;
- Difficulties with letter – sound correspondence;
- Difficulty to define the first and the last sound in words;
- Difficulty to divide the word into syllables;
- Seems clumsy; Difficulty to keep balance;
- The fine motor skills are underdeveloped (colouring, cutting, folding, manipulating small objects, etc.);
- Problems with eye-hand coordination (e.g. problems to throw and catch a ball);
- The leading hand is not determined sometimes until the age of 6-7. Often transfer the pencil from the left to the right hand while colouring, writing, drawing; or when playing with a constructor transfer the details from one hand to the other;
- Difficulty to learn the correct pencil grip;

[19] Adams, M. J. (1990). Beginning to read: Thinking and learning about print. Cambridge: MIT Press.
[20] Stanovich, K. E. (1986). Matthew effects in reading: Some consequences of individual differences in the acquisition of literacy. Reading Research Quarterly, 21, 360–406

- Problems with spatial and time orientation: “left – right”, “up - down”, “before - after”, etc.;
- Difficulty to sustain concentration, easily distractive;
- Difficulty to follow instructions, especially if given more than one instruction at time;
- Inability to work independently, needs to be monitored, supported and facilitated all the time.
- Has good days and bad days with no obvious reason.

School Age

Reading

- Reads the word in the first sentence, but finds it difficult to read the same word in the next sentence;
- Can sound each individual letter, but has difficulties to decode some new words correctly;
- Difficulties to read unfamiliar words out of text /when he cannot be guided by the context or there are no pictures to help to catch the meaning/. When a word is not decoded correctly, it is possible that the child pronounces a word that begins the same and has roughly the same size; can skip or add a letter or confuse the order of the letters in small words ("on" instead of "no", "was" instead of "saw", etc.);
- When reading aloud reads slowly, with many fault-starts and long pauses; often ignores punctuation marks;
- Quickly gets tired even after a short period of reading;
- The level of reading comprehension is low, mainly because he puts a lot of effort in the process of reading (decoding). Listening comprehension is considerably higher;
- Replaces visually similar words, even if changes the meaning of the phrase/sentence (“back” instead of “black”; “serious” instead of “series”, etc.);
- Replaces some words with another, closely related in meaning, even if it looks completely different (“leave” instead of “depart”; “answer” instead of “reply”);
- Reads incorrectly – omits or inserts small words – prepositions or conjunctions (and, or, in…); changes the end of the word (reads "room" as "rooms", "beautifully" as "beautiful", etc.);

Writing

- Unusual pen/pencil grip;
- Incorrect body position – small pupils often put their head on the desk (table) while writing, so they can visually track the tip of the pen/pencil;

- Holds pen/pencil quite tightly and soon feels tension and fatigue in the hand; they need often to stop and shake the writing hand, or start complaining that they are tired;
- The writing is slow and with obvious effort, not an automatic process;
- The child writes the letters starting and finishing at unusual points or wrong direction (well seen in letters like "*o*", "*a*", "*g*", etc.);
- The child has difficulty to keep the letters on the line; the letters often are of different size or tilted in different directions;
- Copying from the black(white)board is a slow and exhausting process: the child looks at the board, "catches" just one-two-three letters, then looks down to the notebook in order to write the letters, then looks up again to the board, needs to find the right place in the word (text), to "catch" the next few letters… This "operation" is repeated many times; each time the child needs to change the visual focus from the notebook to the board, which is very tiring and leads to mistakes – he often loses the place; misspells, misses the capital letters and punctuation marks, can omit words, lines or even a whole paragraph;
- Writing production is chaotically situated on the notebook page, words can be too close or too far from each other;
- problems with mastering the cursive letters are observed; confusion in writing similarly looking letters, such as *m-n, l-t-f*, etc.;
- serious difficulties in writing dictation; it is possible one and the same word to be written differently in the same text;
- Makes mistakes even while copying a text;
- the handwriting is careless, with many words roughly crossed out, the pages of the notebook may be erased in some places with eraser or the words may be roughly crossed out, the notebooks look dull and opaque;
- Prefers any other activity to one that requires handwriting;
- Knows the punctuation rules, but can apply them in writing;
- Has difficulties to edit a text, if asked to self-correct their written work, does not notice mistakes.

Math

- Replace similar looking digits, like 6 and 9;
- Exchange places of the digits in numbers (27 instead of 72);
- Has difficulties doing addition and subtraction even with the help of real objects, or can perform addition when it is necessary to do subtraction;

- Has difficulties in solving word-problems, sometimes because of the poor reading and low level of reading comprehension;
- Has difficulty to learn multiplication tables;
- Difficulties to perform the arithmetical operations in the correct order

Other

- Difficulties to learn days of the week, months and their order, telling the time;
- Needs more time to complete the task and detailed instructions;
- Tries to postpone the school work, especially when it requires reading and/or writing;
- When doing school work that requires reading and/or writing gets tired pretty quickly;
- Easily distractive;
- Afraid of making mistakes, prefers not to complete the task;
- Low self-esteem and self-confidence;
- Difficulties with making friends; low communication and social skills.

2.2. Emotional and behavioural problems as a consequence of learning difficulties

When it comes to analysing the domain of affects, nothing seems to be very mysterious: Affection is commonly understood as an "energy", therefore as something that leads to actions. It is worth saying that there is some interest, that motivates the action. The development of intelligence undoubtedly allows motivation to be triggered by an increasing number of objectives or situations. However, throughout this development, the basic principle remains the same: affectivity is the leading force behind actions, and the Reason is at your service.[21] (TAILLE; OLIVEIRA and DANTAS, 1992, p. 65).

As mentioned above, dyslexia is not a disease but a condition that causes a number of difficulties. These difficulties to one degree or another accompany a person throughout his/her life. But if you can expect that an adult dyslexic could find an explanation for what is causing his difficulties, for a child struggling with literacy acquisition it is incomprehensible and frustrating.

[21] The importance of affectivity in the relationship teacher-student in the teaching-learning process - EFDeportes.com, Revista Digital. Buenos Aires, Año 18, Nº 190, Marzo de 2014. http://www.efdeportes.com/

Samuel Orton was the first to study the emotional aspects of dyslexia. His research shows that the majority of preschool children who subsequently demonstrate symptoms of dyslexia are happy and well adapted to the environment. Emotional problems appear when children start school and face the first difficulties in learning to read and write.

Such child has a discrepancy between his/her estimated learning potential and his/her achievements, however, it should be noted that he/she is a child with normal intelligence and who, despite this, fails in academic life. Thus, the child is distracted, very active, forgetful and chatty. It also makes inversions, omissions and confusions in reading and writing[22] (Fonseca, 1999, 2004).

It is well-known that most of the children with dyslexia have average or above-average intelligence, but their academic achievements are very often below the expectations. But it is the academic achievements that determine the status of the child in the learning environment and often - the attitude towards him by his teachers and classmates.

Very often the frustration of dyslexic students is a result of their inability to meet parents' and teachers' expectations. Adults see an intelligent child, who is doing pretty well in everything except school. Very often parents hear from teachers: "He is very bright, but he needs to work harder". Many parents refuse to accept such an advice, as they know that their dyslexic child works much harder and puts much more efforts than his classmates, but still cannot achieve the same results.

Lopes (2001) and Baroja et al. (2002), affirm that dyslexic children have a series of common characteristics that are projected, on the one hand, in their way of being - conduct characteristics - and, on the other hand, in their school achievements - school characteristics.[23] With regard to behavioural characteristics, and as stated by Lopes (2001), dyslexia affects students' personality types. This is visible in the lack of attention and concentration that the child tends to demonstrate during school activities, at school and at home, which is linked to the intellectual effort he/she makes to overcome difficulties. This causes feelings of inhibition and withdrawal in the child, which, together with distraction and disinterest, cause the student to develop a low self-esteem and low concept. The lack of attention, in line with a family and school environment, sometimes not very stimulating, gives rise to a lack of interest in study, a gap between jobs and others, which is revealed by poor performance and low school grades. "

Behavioural and emotional difficulties influence academic problems and these affect the child's feelings and behaviours. These difficulties can be expressed both internally, through anxiety, sadness, depression, insecurity, low self-regulation capacity, withdrawal , inhibition, without initiative, apathy, immaturity and feelings of inferiority, when externalized, through

[22] Learning Disabilities and Psychomotricity – Study comparative and correlative of learning competences academic and psychomotor factors of 2nd and 4th year students basic education, with and without learning difficulties - TECHNICAL UNIVERSITY OF LISBON -FACULTY OF HUMAN MOTRICITY - Catarina Eloísa Carpinteiro Vilar 2010

[23] Escola Superior de Educação-Dislexia: A case study - Carla Sofia Serrano Ferreira Coimbra 2011

behaviours and attitudes that generate conflicts with the environment and are usually marked by characteristics of challenge, disobedience, irritation, impulsiveness, constant restlessness, no rarely confused with hyperactivity; verbal and physical aggressiveness and poor social adjustment.

Problems of an emotional nature in the child are generally expressed by blocking the ability to communicate, imagine, think or act constantly that does not allow them to face school demands and focus attention on learning.

The learning difficulties that children with dyslexia have may be accompanied by deficits in their social and communication skills. They are sensitive and vulnerable; sometimes they are socially immature in comparison to their peers; they have difficulties to make friends, which eventually leads to isolation from the group. Quite often these children have a feeling that their teachers, parents and classmates do not understand their difficulties, do not value their efforts and do not support them and all this increase their frustration, kills their motivation to keep trying. That is why it is so important teachers and parents to educate themselves about dyslexia, its nature, difficulties it causes, but also about the feelings and emotions of dyslexic children.

What does a dyslexic child feel?

One of the emotional symptoms of dyslexia is anxiety. Anxiety is a result of the frustration that dyslexic children experience in school or at home while doing school work. Their usual reaction is to avoid doing activities that are definitely difficult for them to deal with (reading, writing, math…). In most cases, this behaviour gives teachers and parents a reason to describe the child as "lazy" or "not trying hard enough."

Apart from anxiety, anger is another response to feelings of dissatisfaction. Very often children with dyslexia direct their outbursts at teachers or at the parent involved in the child's learning process. The emotional victim of a child with dyslexia in most cases is the mother. And if the child still manages to hide his anger in the school environment, then at home, the anger is directed at those who love him the most - the parents.

Feelings of dissatisfaction and constant anxiety affect the self-esteem of the child. Erik Erikson[24] believes that in the early years of school, the child faces the dilemma between a positive self-image he had before and a sense of inferiority. If a child does not face any serious problems at school, has good academic results, adapts well to the learning environment and class/school community, he will develop positive feelings about himself and will believe that he will be successful in life. But if a child experiences failure and frustration, he feels powerless and incompetent, controlled by the environment. This feeling is strengthened by the fact that the child does not see his effort to make big difference. The

[24] German-American psychologist, known for his Theory of psychological development; https://en.wikipedia.org/wiki/Erik_Erikson#Theories_of_development_and_the_ego

dilemma becomes even more severe due to the fact that children understand and perceive from an early age the position of all adults: good achievements in school predetermine good realization in life.

Despite the understandings of adults about the realization of dyslexic person, the reality shows that there are many people with dyslexia who have coped with their difficulties and are doing extremely well in life. They all share that their school years were not easy at all and usually remember them reluctantly. What helped them to "survive" and succeed is the fact that they have early discovered something they were good at – sport, art, music, etc. This helped them to compensate the negativity at school with their high achievement outside school.

And one more very important thing – understanding, support and unconditional love is vital for dyslexic children, as it is for all children, by the way.

3. Prerequisites for smooth transfer from pre-school to school

The first task of schooling is to help a child to exquisite the literacy, in other words: to learn to read, write and do arithmetical operations. It sounds easy after hundreds of years in which millions of children all over the world have been taught to do so. But in fact this task is very complicated. In order to learn to read, write, do math, each child must pass through a series of successive steps deployed in time; at every stage, to acquire a new skill which would facilitate him/her in achieving the ultimate goal associated not only with formal recognition of letters, words, numbers but with consolidation of the ability to understand, proceed, store and interpret the information.

If the child has a rich vocabulary and can express himself/herself well verbally, he/she does not mean it will naturally and easily learn to read and/or write. If the child can count from 1 to 10, or to 20, or even further, it does not mean that he will easily learn to do addition and subtraction, or to deal with the word-tasks. Dealing with academic tasks requires coherence of all basic mental processes, in the school environment where the demand and the stress are much higher than during the pre-school years. In addition, we need to consider the emotional state of the child, his/her maturity and readiness to act in a completely new situation.

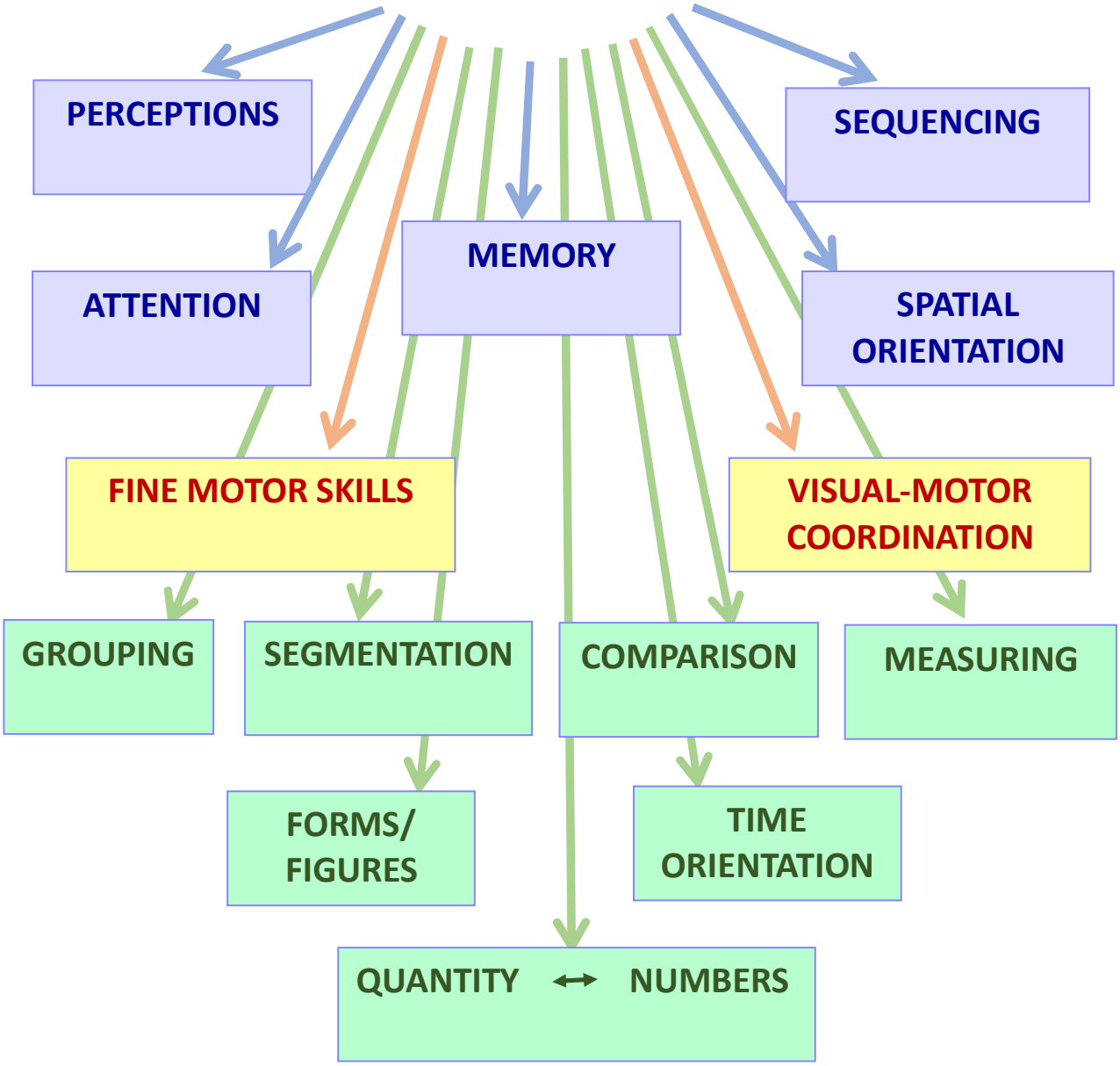
Of course, all parents are a bit nervous when they have to send their child to the school for the first time; they question themselves if the child is ready to adapt to the new classroom settings, will he/she be able to make friends, will he/she be able to communicate his/her needs to the teacher, will he/she manage with the stress, etc. But when it comes to specific skills and knowledge a child should has developed, many parents are surprised by how much their child is expected to know before starting school. Every teacher would say that the first year at school is of great importance for children, and those of them who are well-prepared have a much better chance of settling in and succeeding in school, giving them a significant head start for later years.

In most countries children start school when they are 6-7 years old. But the development of the child's abilities and skills is very individual and differs (sometimes considerably) from child to child. In order to evaluate the child's readiness to start school, in almost each country a specific assessment tools are implemented. If even these tools have different names, the knowledge and skills to be assessed are pretty the same: gross and fine motor skills, attention, memory, cognitive skills, speech development, basic mathematical concepts, etc. The school readiness assessment is done from medical, psychological, pedagogical and social point of view. The evaluation reflects child's ability to be actively involved in the educational process, to deal with psycho-emotional pressure, to adequately answer the requirements of the new situation, without any negative effect on his personal development, health and/or behaviour. In other words, school readiness for each child means a certain level of his physical, psychological, cognitive and social development.

Only good development of all necessary skills mentioned above can assure the smooth transition of the child from pre-school to the "big" school.

The process of mastering reading and writing requires the coordinated functioning of many mental processes. Every child, in order to learn to read and write, must go through a series of successive steps, unfolded in time. At each stage he needs to acquire a new skill that will facilitate the achievement of the ultimate goal – to learn to read and write. To be able to read the child needs not only to formally recognise the letters and words, but also to consolidate the ability to understand and interpret the information contained in the text. From the other side, writing is not just the correlation of sounds and letters, but the ability to express thoughts in writing in a well-structured way, respecting all grammar and spelling rules. As a criterion to evaluate the level of success in this process is the degree to which the child uses what he has learned and how he applies the ability to read and write independently, regardless of external factors and without outside help.

Based on what has been already said, we can group the prerequisites for good school start as following:


PERCEPTIONS
SEQUENCING
MEMORY
ATTENTION
SPATIAL ORIENTATION
FINE MOTOR SKILLS
VISUAL-MOTOR COORDINATION
GROUPING
SEGMENTATION
COMPARISON
MEASURING
FORMS/ FIGURES
TIME ORIENTATION
QUANTITY ↔ NUMBERS

3.1. Perceptions

Visual perceptions start to develop from birth. But it needs some time to allow the eyes to focus, to practice eye movements, to form binocular vision, perception of perspective (depth) and hand-eye coordination.

When we talk about visual perceptions we do not mean problems with vision, but the skill, which is associated with the perception of an object. It is the ability to recognise a form, no matter what size, colour or material it is in; the ability to distinguish that form from any other form, and the perceived visual information to be remembered (stored in the memory) and retrieved when necessary.

Visual tracking (the ability to follow a moving object with the eyes) is another ability that is very important for the development of learning skills in any aspect.

Auditory perception is the ability to "structure the auditory world and select those sounds which are immediately pertinent to adjustment" (Myklebust, 1954). Children with auditory perceptual deficits can hear sounds but are unable to recognize them for meaning (Berry and Eisenson, 1956). As the auditory perception is the ability to recognize or interpret what is heard, it plays as important ~~a~~ role in reading and writing as visual perception. Here we need to consider several main aspects: Auditory discrimination (the ability to hear similarities and differences between sounds); Auditory differentiation (the ability to select and attend to relevant auditory stimuli and ignore the irrelevant; Auditory blending (the ability to synthesise individual sounds which form a word) and Auditory sequencing (the ability to remember the order of individual sounds in a given stimulus).

Phonological perception is the unconscious cognitive processing of language sounds within specific areas of the brain. From the other side, phonological awareness concerns the conscious ability to notice that unique differences exist between spoken words; that not all the sounds are the same. Then we come to the concept of phonemic awareness which is more specific and encompasses the ability to perceive the smaller sound segments of spoken words, and to be aware of the differences between these phonemes, which can be manipulated and substituted to form different words.

The phonological processor usually works unconsciously when we listen and speak. It is designed to extract the meaning of what is said, not to notice the speech sounds in the words. It is designed to do its job ***automatically*** in the service of efficient communication. But reading and spelling require a level of metalinguistic speech that is not natural or easily acquired. (Moats and Tolman, 2009)

3.2. Memory

Visual Memory is the ability to remember for immediate recall the characteristics of a given object or form. It describes the relationship between perceptual processing and the encoding, storage and retrieval of the resulting neural representations. Visual memory is a form of memory which preserves some characteristics of our senses pertaining to visual experience. We are able to place in memory visual information which resembles objects, places, faces, etc. in a mental image. Sometimes the experience of visual memory is referred to as the mind's eye through which we can retrieve from our memory a mental image of original objects, places, animals or people (Berryhill, 2008).

Auditory memory is the ability to process information presented orally, analyse it mentally, and store it to be recalled later. Unlike visual memory, in which our eyes can scan the stimuli over and over, it is impossible to do with the auditory stimuli. Auditory stimuli are received by the ear one at a time before they can be processed and understood. It can be said that the auditory memory is like a "holding tank" concept, because a sound is unprocessed (or held back) until the following sound is heard, and only then can it be made meaningful (Clark, 1987). This particular sensory store is capable of storing large amounts of auditory information that is only retained for a short period of time (3–4 seconds).

Short-term memory is the ability to store information in mind in an active, readily available state for a limited period of time, such as visual images (i.e. form or a face of a person) and/or aural/auditory information (i.e. phone numbers somebody said or sentences). Information can remain that way for a few seconds. The capacity of short-term memory is very individual, and when it is full, the stored information is partially replaced by the new one.

Long-term memory determines a person's ability to retain information for longer periods of time. Long-term memories can last for just a few days, or for many years. The capacity of long-term memory is virtually unlimited, as the time for storing information in it. Access to information in long-term memory and ability to intentional and unintentional remember depends on how well it is organised. On how easy we can access the information stored in the long-term memory depends what we call “helpfulness of the memory”.

There are two major subdivisions of the long-term memory - explicit memory and implicit memory. Explicit memories are those that we consciously remember (events in our life or some particular facts). On the other hand - implicit memories are those that we use to perform actions without thinking about them (like swimming or riding a bike).

Semantic memory is the ability to remember facts out of the context. For example, we remember that France is in Europe, water boils at 100 degrees C°, or dolphins are mammals but we do not need to know when we heard/read these facts for the first time. Semantic memory represents also our knowledge of words, symbols and concepts we use when guided conversation or learn in any subject. It is used to recall the definitions of words and concepts.

Thankfully to it we can understand information we hear, instructions, school subjects, like math and history, and the texts we read.

3.3. Spatial orientation

Spatial orientation is a skill that gives us the ability to move around in the environment using our innate sense of direction. Spatial orientation is crucial for adapting to new environments and getting from one point to another (Maxwell, 2013).

Spatial orientation is one of the key capacities which must be mature if a child is to learn to read, write and do math easily. This ability facilitates the formation of children's school readiness and the acquisition of reading, writing and math skills. With time they learn to recognize letters, numbers and other graphic symbols as they differentiate into space and pay attention to their distinctive characteristics – shape, components, location and direction in space.

3.4. Sequencing

Sequencing refers to the person's ability to perceive visually and/or auditory items in a particular order, to remember this sequence and to be able to retrieve it later. A direct relation between sequencing and reading is the specific skill to control the eye-movement from left to right, following the text lines. During this process our eyes have to perceive letters in each word one by one from left to right, to recognise them, to combine in the correct order, so our brain could read and understand the word. By reading the words in the correct order we can understand the meaning of the sentences, paragraphs, etc. Sequencing ability is of great importance for performing math, too. Especially when it comes to the specific order in which the arithmetic operations should follow each other.

3.5. Attention

Attention is the behavioural and cognitive process of selectively concentrating on a discrete aspect of information, while ignoring other perceivable information. Attention has also been referred to as the allocation of limited processing resources (Anderson, 2004). The basic properties of attention concern: concentration (ability to focus the required object, its components, ability to understand the task), stability (the "duration" of voluntary attention), switching (the ability to re-focus the attention from one object or activity to another one when necessary), etc.

3.6. Motor skills

Motor skills are actions that involve the movement of muscles in the body. And if the gross motor skills define our ability to move, to walk, to jump, or swim, fine motor skills are important for managing the activities such as writing, drawing, colouring, cutting, folding, tying shoes, unfastening and fastening, etc. Fine motor skills are those that involve a refined use of the small muscles which control the hand, fingers and thumb, and the level of their development is crucial for writing acquisition when the child starts school.

The more delicate tasks facing pre-school children represent more challenge than most of the gross motor activities learned during this period of development. The central nervous system is still in the process of maturing sufficiently for complex messages from the brain to get to the child's fingers. At the same time, while gross motor skills call for energy, which is boundless in pre-schoolers, the fine motor skills require patience, which is in shorter supply.

3.7. Visual-motor coordination

Known also as hand-eye coordination, it begins to develop between the ages of two and four months, inaugurating a period of trial-and-error practice at sighting objects and grabbing at them.

Visual-motor integration involves effective, efficient communication between the eyes and the hands, so that we are able to copy, draw or write what we see. It requires the eyes to visually guide the movement of the hand(s). In order to have good level of visual-motor coordination, the child should have achieved good level of both visual skills (visual perception, visual tracking) and motor skills (both gross and fine) development. Only in this case we can expect that the eye-hand coordination will be good enough so the child can easily perform activities like drawing, copying, colouring, handwriting, but also catching a ball, hitting a ball with a bat, etc.

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A huge role in the development of the intelligence of a pre-schooler is played by the formation of elementary mathematical representations. The problem of teaching children mathematics in modern life is of great importance. Math is considered to be one of the basic skills, and a main component of the literacy. Mathematics provide enormous opportunities for the development of children's thinking, as well as their learning skills from a very young age. The formation of initial mathematical knowledge and skills in pre-school children should be carried out in such a way that training gives not only an immediate practical result, but also a

wide developmental effect (Трандина О. П., et al, 2016). When we talk about mathematics, there are some specific skills that should be well developed in the child before he/she starts school, in order to assure the smooth transition from pre-school to school.

3.8. Grouping/Segmentation

Grouping refers to the child's ability to group objects according to a given trait, such as colour, shape, purpose, etc. In doing so, the child must be able to select objects belonging to a group with the same attribute from a variety of heterogeneous objects.

Segmentation, from the other side, means that the child is able to divide many different objects into two or more groups, each characterized by a particular feature (e.g. fruit and vegetables, or trees and flowers, or toys and furniture). Also, it includes the ability to divide an object or multiple objects into equal parts in size or quantity (to divide an apple into two halves, or to divide the chocolates between three children, etc.)

3.9. Comparison/Measuring

By the time the child starts school he/she should be able to compare objects according to their characteristics: size, length, height and width; to arrange objects in ascending and descending order of height, length or width; to find the location of the missed object in a row. The pre-schooler should be able to selects a measure (an object from his/her environment) for measuring (usually via comparison: “He is taller than me.”; “The car is faster than the bike.”). "Measurement" shows that a child successfully cope with the activities - grouping, classifying, arranging objects by a specific feature.

3.10. Forms/Figures

In the pre-school group, children perceive geometric shapes as a reference for a shape. They learn to recognize a square, triangle, circle, and understand that each figure has its own peculiarities and properties that set it apart from the rest. By the age of 6, the child should be able to recognise most of the simple geometric forms, like triangle, circle, square, rectangular and to be able to find an object with a specific shape in the environment. It would be helpful if the child could model familiar shapes (using clay), and to reproduce them graphically. This ability helps the children to create a mental image of the geometrical figures that will be very helpful later in school.

3.11. Time orientation

Time orientation presents multiple perspectives framing perceptions of time, and these perceptions impact how people create boundaries between present and past and future. This ability directly affects our time management skills, organisation and decision-making skills, and is of great importance for our every-day life. Time orientation begins to develop by the age of 7 and the clearer sense of how time is organised allows small pupils to think ahead and to plan their actions more effectively. But there are some skills that a child should develop before starting school: to know the days of the week and their order, to know the seasons and their main features, to know the order of the months of the year and which are the months in each season; to know the meaning of "tonight" and "last night"; to be familiar with the clock as a tool for measuring time, etc.

3.12. Quantities – Numbers relation

In mathematics there are only few concepts that are more important than the relation of quantity to number. This ability begins to form at the very early childhood and by the age of 6-7 the pre-schooler should be able to count, to link a group of objects with the respective number (two balls = 2; four toys = 4, etc.); to compare the groups of objects by quantity (4 balls are more than 2 balls); to know the meaning of addition and subtraction (when we add we get more, when we subtract we get less). All this will help the child to understand and learn the basic arithmetical operations in the first grade.

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In addition to all said above, we need to add some more skills that are considered to be important pre-requisites for smooth transition from pre-school to school, such as:

- By the time they start school, children should be able to listen to and follow two to three part instructions;

- Children should be able to clearly communicate their needs, especially to their teacher;

- Children should be able to listen to and understand five to ten minute stories and to retell simple stories that they have heard;

- To identify letters, to be able to differentiate the first and the last sound of the words, to divide words into syllables, etc.

4. Learning Difficulties caused by Dyslexia

4.1. In Reading and Writing

Reading acquisition is a complex task. It requires many skills to be developed at a certain level before the child goes to school and before he/she starts to learn to read and write:

- coordination of eye muscles so that they can follow the lines in the text;
- good spatial orientation to interpret letters and words;
- well-developed visual memory to remember the meaning of letters and sight words;
- ability to work with sequences;
- understanding of sentence structure and grammar;
- ability to categorise and analyse.

In addition to all these skills, the brain must be able to integrate visually perceived stimuli (letters and letter combinations) with information stored in memory, and to associate these stimuli with the appropriate sounds. Then sounds must be associated with the specific meanings. In order to achieve better understanding, the reader should remember the meaning of words he reads until he comes to the end of the sentence or paragraph.

A problem at any stage of this process leads to difficulties with reading.

The development of oral skills, language and phonological awareness will not only help to improve the learning of reading, writing of the students, but the rest of the learning that they acquire throughout their growth (Maria Santamaria Sancho, 2014)

According to Martins (2002) there are four verbal language skills: listening, speaking, reading and writing. Of these, reading is the most difficult and complex language skill. Reading is an acquisition process and, as such, comprises two fundamental operations: decoding and understanding.[25]

Decoding involves not only the processes of discrimination and identification of letters and words, but also the association of graphic symbols with sounds (Cruz, 2007, 2009). This integrates the visual and phonological processes, which integrate the perceptual component, as well as the linguistic and contextual processes, which help in the recognition of words[26](Cruz, 2009).

Visual processing includes the following essential skills: discrimination, figure-ground differentiation, the ability to retain sequences, the ability to analyse a whole in its component elements and to synthesize the elements into a total unit. While visual analysis is significantly related to visual decoding, visual synthesis is significantly related to understanding. Thus, word recognition cannot be identified only as the ability to recognize words as a whole, but it

[25] Learning difficulties: literature review about risk factors associates. Educational Psychology nº.28 São Paulo jun. 2009

[26] Dificuldades de aprendizagem específicas: uma abordagem e seus fundamentos Lisboa 2007

is also required to direct attention to the individual letters that make up a word, that is, word recognition is not a matter of everything. or nothing[27] (Casas, 1998 in Cruz, 1999). In turn, the phonological process can be defined as the ability to use phonological codes and thus its success depends on a series of basic skills such as the discrimination of sounds, the differentiation of relevant from irrelevant sounds, the correct memorization of sounds, the sequencing of sounds in the proper order and the analysis and synthesis of sounds in word formation.

Reading is not just about decoding words, it also means, and above all, understanding the message of a text, because understanding is the ultimate goal of reading.

Understanding is capturing the content or meaning of written messages. These two components of reading, decoding and understanding, are necessary and in no way can we think that they are two antagonistic processes. They act in parallel and interactively, but it is important to bear in mind that their relationship is asymmetrical: the decoding processes can take place independently; however, your collaboration is absolutely necessary for the act of understanding to take place.

In short, reading consists of vocalising and / or understanding, using the appropriate language of the language to which the symbols belong, decoding the printed or manually written text.

If a child finds reading difficult, if he cannot understand what he reads, it is obvious that he will not feel any pleasure of reading. If in addition the child cannot see improvement in his reading technique or in the level of comprehension, despite his efforts, he will very soon lose his interest in reading and motivation to read.

When we talk about the literacy acquisition, we mean the formation and development of both reading and writing. Difficulties in reading acquisition are often accompanied by difficulties in writing. Professionals use different words to name these difficulties, but whatever definition is being used to describe them, it is important to understand that the slow and poor handwriting does not mean that the child is not trying hard enough. For many children even the correct grip on the pencil and "keeping" the letters on a line can be a big challenge.

A dysortographic person is characterized by the difficulty in registering written words; evoking and recalling already known words becomes difficult, and hence not correctly registering the words, leading to error, or because it makes inversions, or omissions, or additions, or confusions, or assimilations, or substitutions, both letters and syllables; there are also changes in the use of accentuation. But, in the case of dysorthography, in addition to the spelling error, there may also be changes in the morphosyntactic structure of the sentences, for example due to errors of agreement in gender and number and verb tense, or due to lack of elements in the sentence, or even by errors of punctuation, etc.

[27] UNIVERSITY FERNANDO PESSOA -Faculty of Human and Social Sciences, Assessment and Intervention in Learning Disabilities - Dyslexia - in School AgePorto, 2018

4.2. In Math

Not all dyslexic persons have dyscalculia, but difficulties with reading (dyslexia) are quite frequently accompanied by difficulties with numeracy and maths – different studies show that between 30 and 70 % of dyslexic students experience also problems with math (e.g., Badian, 1999; Kovas et al., 2007; Landerl & Moll, 2010; White, Moffitt, & Silva, 1992)

The most characteristic troubles in math for a dyslexic learner are: mixing numbers, quantities, math signs; mixing operations; confusion in sequential, spatial-orientation relations; difficulties to understand and remember math concepts. For dyslexic students (even if they do not have dyscalculia) math still can be a problem, as far as their poor reading skills and low level of reading comprehension prevent them for reading correctly and understanding the instructions and the word problems. Underdevelopment of sequencing skills from the other side causes problems with the ability to break apart and follow multi-step written instruction, or to perform the arithmetic actions in the correct order.

Dyscalculia is one of dyslexia co-morbid conditions. Research shows that difficulties in arithmetic, which are the hallmark of dyscalculia, are quite common in dyslexia, especially when it comes to retrieving arithmetic facts from semantic long-term memory, as is the case in multiplication (De Smedt and Boets, 2010; Göbel, 2015; Simmons and Singleton, 2008; Träff and Passolunghi, 2015). It could be explained by the deficits in phonological processes (De Smedt et al., 2010; Dehaene et al., 2003; Geary and Hoard, 2001), which are thought to be the key cognitive deficits in children with dyslexia.

4.3. In Other Subjects

In fact, the majority of school subjects require reading and writing. So if a child has difficulties with reading and writing, this will affect the process of learning and the results he/she will achieve. The deficits in reading fluency, reading comprehension, memory, visual and auditory processing, organization and time management, sequencing affects learning in different subjects at different degree.

Keeping in mind that we talk about small students (1-4 grade), we need to say that this is the period when children should develop the basics of study skills, which will help to manage better in all subsequent school years.

When it comes to History and Geography related subjects (in different countries they have different names; e.g. in Bulgaria they are called “Homeland” and “Human and Society”) difficulties are caused by the poor reading and respectively the low level of reading comprehension which in turn leads to an inability to understand the lesson, to extract the most important facts of the text, to learn these facts (understand and remember) and to reproduce them later, when necessary. Many dyslexic students are not able to make connection between things they already know and the new knowledge, it is difficult for them to assemble the

general picture from the numerous details (facts) they already know, making a connection between them. Deficits in sequencing skills also cause difficulties.

Science related subjects (with elements of Physics/Chemistry/Biology; they have different names in different countries, too) also could be a problematic subject for students with dyslexia. Problems here are similar to those in the subjects mentioned above, but here also difficulties with decoding and learning of the subject specific vocabulary is observed, as well as with using a systematic step-by-step approach of learning, as far as in these subjects the understanding and acquisition of the new knowledge is based and dependant of the previous one.

Although it may seem strange to relate dyslexia difficulties with subjects like Music, Art and Sport (Physical Education), there is a direct connection. There is no doubt that Music, Art and Sport classes contribute to the development of child's personality and to improving their life-skills. By the majority of parents and teachers these subjects are considered to be easy and a kind of opportunity for the students to relax between other classes. Generally, it is true, but not for students with dyslexia.

There are many theories about the lateralization of speech and music in that speech functions were thought to be localized in the left and music functions in the right-hemisphere of the brain[28] (Bever and Chiarello, 1974). The findings of the more recent studies show that music and speech functions have many aspects in common and that several neural modules are similarly involved in speech and music (Tallal and Gaab, 2006) and there is evidence that speech functions can benefit from music functions and vice versa.[29] Music and language skills are related, as far as both are based on the phonological perceptions, which as was already explained is one of the perquisites for developing good reading skills. From the other side - notes as well as the letters are graphical images, and the cognitive processes involved in their acquisition are similar, so children with dyslexia more likely will have difficulties to learn notes, music signs and all their combinations. And as a consequence – reading the notes (which is expected students to be able to do by the end of the Primary school) can be a big challenge for a dyslexic student.

Drawing, colouring, cutting, modelling, gluing, etc. affects the development of fine motor skills which is so important for handwriting. Also when a child is performing these actions the eye-hand coordination is of the same importance as when he is writing. Deficits in this area may also affect child's ability to draw geometric figures.

It is very beneficial for children with dyslexia not only to actively participate in the Physical Education classes at school but to be engaged with some sport activities out of school. Often dyslexic children (especially if dyslexia is "accompanied" by dyspraxia) are clumsy, not well coordinated and balanced. This affects their performance in PE classes, especially in team

[28] Bever T. G., Chiarello R. J. (1974). Cerebral dominance in musicians and nonmusicians. Science 185, 537–53910.1126/science.185.4146.99-b

[29] Tallal P., Gaab N. (2006). Dynamic auditory processing, musical experience and language development. Trends Neurosci. 29, 382–39010.1016/j.tins.2006.06.003

sports (softball, football, etc.). Often, because of that they are excluded from these activities, as far as nobody wants them in their team. However, no matter of their difficulties dyslexic children should be encouraged to play sports, as it will help the development of their gross motor skills, their spatial orientation, the ability to understand orally given instructions and to follow them, sequencing skills, organisational skills, to teach them discipline and time management.

4.4. Organisation and Time management

The idea that dyslexic people are lazy is erroneous. There are those who are and those who are not, as it happens with any other student. What happens with the performance of tasks by dyslexic people, is rather a matter of slowness in processing information to solve the most varied intellectual activities. Short-term memory deficits some dyslexic students have affect not only their reading and writing skills but also make it difficult for them to organise their time. Many dyslexic students (especially during the first school years) do not manage to complete all learning tasks (to prepare lessons, to write homework). Dyslexic people when using other areas of the brain to solve tasks naturally take longer. Therefore, in school tasks, dyslexic students need more time.

Time management skills are not inherent, but it is expected that a person will develop and improve these skills in the process of growing up. However, dyslexic children have different perception of time and they need to be thought purposefully how to do that.

5. How to Help

5.1. Dyslexia friendly classroom

Nowadays information as a text is everywhere, thus reading is of great importance for everybody as it allows the acquisition of knowledge, studying, working and having normal daily-life activities. Written text dominates in schools since the very first school day, so the first and the most important task of the small pupils is to learn to read and write. Students still more often use paper based books than audio- or e-books.

Originally the human brain was not „designed" to read, we need to intentionally teach it to do that. As we have already mentioned the process of reading and writing acquisition is not an easy one, and for some children it is pretty challenging. Students with dyslexia (or at risk of dyslexia) struggle with reading and this continues far beyond the first school years. Poor reading technique results in low level of reading comprehension and in problems with writing, too.

It would be beneficiary (not only for those with dyslexia symptoms, but for all students) if teacher put efforts to establish so called „dyslexia friendly classroom". The main principles of such a classroom are:

- Positive and tolerant atmosphere;
- Easy access to the curriculum;
- Taking into account the different learning styles of the students;
- Using different organisational forms of work;
- Teaching organisational skills;
- Positive feedback.

Below there are some tips for each of these aspects:

Positive and tolerant atmosphere
Discuss with children how different all people are: there is no person that is good at everything, but the fact that somebody cannot sing well, or cannot run fast, or can read fluently does not make him bad or stupid.
Celebrate achievements of children, even if they have nothing to do with reading and writing: maybe a child who struggles with reading has won a singing competition, or has done a beautiful painting.
Encourage children to help each other, and praise them for any collaboration.
Teach your students that diligence and effort are most important and they will inevitably lead to results, although sometimes it takes more time. One should not give up and should keep trying.
Easy access to the curriculum
If you think the text might be difficult for a child arrange so he/she can be supported by a well-reading classmate.
Do not ask a dyslexic student to read aloud in front of the class if you are not sure that he/she can read the text easily. You may provide him with the text beforehand (a day or two earlier) so he/she can practise at home.
Use different colour pencils to highlight each line of the text – this way the child is less likely to skip a line or to lose the place in the text while reading. You can use this technique when you write on the board a text which the students will need to copy (write each line in different colour).

If you will ask students to do reading comprehension exercise, take time to discuss with them some words you think could be difficult for them, and highlight the key words in the text. Small students have problems with extracting information, especially if there reading techniques are not good enough.
When giving instructions use short sentences. They are easier to follow and understand. Avoid double negatives in questions and instructions.
In creative writing exercises – at first discuss the topic, make a plan (together with children), provide guiding questions and a list of key words students may use + words with difficult spelling.
Taking into account the different learning styles of the students
Learners have different learning styles and it is better to present information through a variety of channels whenever it is possible.
Kinaesthetic learners respond well to: ♣ active involvement; ♣ movement; ♣ hands-on activities; ♣ designing and creating; ♣ role play and drama. When giving instructions use vocabulary which stresses touch and movement (e.g. Move around the words so that you get the correct sentence.)
Visual learners respond well to: ♣ diagrams; ♣ graphs and charts; ♣ pictures; ♣ mind maps; ♣ extensive use of colour. When giving instructions use vocabulary which stresses visual activities (e.g. Look at these words. Colour the ones that are written correctly.)
Auditory learners respond well to: ♣ spoken word; ♣ rhythm, rhyme and varied tone of voice; ♣ audio tapes; ♣ discussion; ♣ sound effects; ♣ verbal rehearsal. When giving instructions use vocabulary which stresses auditory activities (e.g. Listen carefully to the words. Do they have the same first sound?)
Using different organisational forms of work
Pair the learner with a competent, supportive peer who can help by reading text or providing correct spelling: such "partnership" will push the struggling child forward. If you pair a struggling learner with another student with reading/writing difficulties they both will fall behind even more.
Some dyslexic pupils have good ideas but have difficulties in arranging their ideas in writing, put such child with a classmate who is strong at transcription but weaker at composition. This will be of benefit for both of them.

Provide exercises that require team work, and form teams so each student can use his/her strengths and contribute to the team's success.
Provide a dyslexic student with opportunity to spend some one-to-one time with you, so he/she can ask questions or receive extra help with some different exercises/tasks. Sometimes when you are not sure the child can read a text easily aloud, instead of asking him to read in front of the class, you may listen to him/her reading in these individual sessions. This way you can test his skills without compromising his/her self-esteem.
Teaching organisational skills
At the beginning of the classes write on the board a plan for the day: what tasks students will need to complete. At first (when children still cannot read well enough) you may start with just arranging illustrative pictures or pictograms (children must learn what each picture/pictogram means). Later accompany the pictures with written explanation and at the end use only written explanation. You may decide to keep the pictures, if there still are students who have serious reading problems.
Prepare together with children a routine chart, e.g. check list "packing the school bag" and teach them to use it the night before – this way they will have all necessary things with them the next day in school.
Write the homework on the board. Give enough time and check that all students have copied it in their notebooks. If there are some struggling children, write the homework in their notebooks yourself, or let a classmate to help them with this.
Teach students how to organise the writing in their notebooks, set clear requirements and show them what you want them to do. Show them examples of well-organised notebook and of those that look not so neat. For many children it is more clear to see what you expect them to do instead of having long explanations.
Teach them that during the tests it is better to start with easy questions/tasks and with the ones they know the answers, and then to go back to the more difficult ones.
Spend time to teach small pupils how to make self-check and self-correction of their work. This is an important skill that will help them in all their school years to come.
Positive feedback
Adopt a positive view of dyslexia, as a difference not a disorder. Introduce appropriate role models – people with dyslexia who have high achievements – scientists, actors, sportsmen, engineers, architectures, etc. It is important for children to know that there are many people who had the same difficulties, but managed to overcome them and to realise their dreams.
Don't expose dyslexic pupils to tasks that you know are far beyond their current

abilities/skills, and give them a chance to demonstrate their skills in the areas they are good at (it might be music, or art, or sport). At the same time, encourage them to participate in all class activities together with the others, do not let them to self-isolate or to be isolated.
Build in success and use PRAISE. Give praise and encouragement for effort, for asking questions and for completing work.
When evaluating the written work of dyslexic students always start with positives. Do not correct all the spelling mistakes in their dictations – too much red does not help them at all. Concentrate on correcting 2 or 3 high frequency words or target a spelling pattern which can be realistically learned. Teacher may decide to use a different colour instead of red correct mistakes because the latter is related to forbidden things… In the comments highlight at least one success (e.g. "you have written correctly most of the small words"), provide one tip (e.g. "pay attention to the words with "-ight" ending, like light, right, bright…") and suggest one target (e.g. "for the next dictation I believe you will have all capital letters on place").

5.2. The role of the school psychologist

The model of childhood education has been modified as that the child is seen as the subject of education, who needs qualified attendance. The Psychology and the Education articulations generated the emergence of the school psychologist, professional who had been characterized by classifying and adjusting, to the school, students with learning difficulties by the application of psychological knowledge to the school context. From theoretical and practical advances relating to psychology and a critical position ahead the area's actuation in schools, the role of the school psychologist/ pedagogical counsellor has changed, configuring itself for an interdependence of knowledge. While previously his main responsibility (regarding students with learning difficulties) was to provide psychological assessment, now it follows a new collaborative model, which means that he should work in collaboration with all parties involved – the student, the teachers and the school as institution, the parents and family, the community, other professionals who work with the child, like a speech therapist.

Psycho-pedagogical support has as main objective to enhance learning and the acquisition of fundamental strategies for academic performance. It takes place, preferably indirectly, through the training of teachers and other educational agents, so that they can intervene in the resolution of behavioural problems, enhance their pedagogical practice and develop strategies for the students to enhance self-regulation of learning, decision making and problem solving. Regardless of taking the direct form with the student or indirect, the psycho-pedagogical follow-up takes place in three phases: assessment, definition of objectives and elaboration of the intervention plan.

The school psychologist, as a school professional, with knowledge of its organization and the particularities that characterize its organic unit, is a permanent member of the multidisciplinary team; it is up to this team to make inclusive education operational: on the one hand, to propose support for its implementation and respective accompaniment and monitoring of the effectiveness of measures to support learning; on the other hand, he is responsible for advising teachers in implementing inclusive pedagogical practices, monitoring the process of implementation and raising the awareness of the educational community towards inclusive education, through various actions.

The establishing of inclusion practices in schools has created an increase in the population of students in need of school psychologist assistance.

The school psychologist/ pedagogical counsellor should focus his work on the identification of student's cognitive characteristics, his emotional status, his behaviour, to find out his strengths, not only his weak points. Such an approach allows him to set positive goals, instead of concentrating on deficits and problems. Intervention, based on developing student's strengths and supporting his needs, has to be carefully planned, well-structured, regularly monitored, periodically evaluated and respectively adjusted.

Thus, it is essential for a child psychologist working in a school, to meet up regularly with the educational agents present in the student's life. He should do an interview with the parents, another one with the teacher and the most important meeting with the assessed child to get to know him in detail and find out how he is feeling. The objective of this gatherings will be to complement his knowledge and compare and contrast information from the different agents to find out commonalities and design a personalised diagnostic with a subsequent intervention. During this process, it is essential that every area in risk is covered for analysis and ensure that all the reading processes are checked to identify the altered ones.

The role of the school psychologist/pedagogical counsellor could be looked at several directions:

- Providing direct psychological support to the student – the focus should be on building self-confidence and self-esteem, maintaining motivation, encouraging him to participate in different out-of-school activities (sport, art, etc.); improving his social and communicational skills; dealing with frustration, managing his emotions, etc.

- Providing support to student's classmates – a very important element as students with learning difficulties are often ridiculed or bullied. All students need to be explained the causes for difficulties their classmate has, his emotions and behaviours. All people are different and there is not a person who is good at everything.

- Providing support to teachers – to provide the teachers with resources for a better understanding of how a dyslexic child learns and how to improve their intervention with these children. The professional will have to raise awareness about the importance of an early and

precise diagnostic of a dyslexic student both to the teachers and also the direction of the school. This is a key aspect of their role, as the lack of knowledge and understanding usually leads into a wrong diagnose of the problem;

- Providing support to parents/family – the teacher is the first to inform parents about student's difficulties and to share his concerns about the need of looking for professional assessment and help, but the psychologist /pedagogical counsellor is the one who can explain better the situation to the parents, to help them accept the fact that their child has learning difficulties (which is not easy for any parent), to help them to find the best help for their child and to support them through the process;

The psychologist/pedagogical counsellor should be a mediator in the communication between the school and the family, he has to know well student's educational rights, and to be able to defend them, so the student gets the proper support and accommodations, that will give him the opportunity to reveal his full potential.

5.3. Communication with parents

Both parents and teachers play an important role in helping children with dyslexia prepare well to start school and support young students at risk of dyslexia. They should work as partners investigating in mutual efforts toward a shared goal – the success and wellbeing of the child. One-to-one communication and collaboration of the school and teacher from one side, and parents – from the other side, is one of the biggest drivers of students' progress. It should not be forgotten that both school staff and family members are responsible for the effectiveness of the school-family relationship[30]. In this sense, many studies have shown that initiatives are effective if both teachers and parents start cooperation early, and if teachers make joint efforts at school and parents at home.

Good communication between teachers and parents is essential for student's success, especially in case if the student has some learning difficulties. Parents know their children much better than the teacher does (especially when we talk about children at the beginning of their educational path). Parents have spent more time with their children and know all steps of their development from the day they were born, their achievements and difficulties. In this regard, parents can provide valuable information and guide the teacher to better understand their child's specific needs so he/she can contribute to the social and educational development of the small student the best way.

In practice there are many students who have difficulties supposedly caused by dyslexia that are not assessed and not officially diagnosed, which means they are not officially entitled for

[30] Christenson, S.L. and S.M.Sheridan. School and families: Creating essential connections for learning. Guilford Press, NY, 2001

accommodations and support from SEN teachers, psychologists or speech therapists. This fact makes the role of communication between parents and teachers even more important.

The teacher should help parents to understand their children's situation clearly and accept them, and they should prepare and implement the child's development plan in cooperation. The truth is that when a student has difficulty in learning, his/her academic results do not meet parents' and teachers' expectations or he/she demonstrates an inappropriate behaviour (as a result of the learning difficulties), teachers and parents very often tend to blame each other. This does not help the student at all, as he/she feels guilty of not doing well, of betraying his parents and teachers and starts to think of himself as stupid and disabled. And it is not surprising that such children have low self-esteem and self-confidence.

In the school-family-student relationship, all parties can only benefit from regular and positive communication. It can make a great contribution especially when preparing the individual development plan of the student with learning difficulties. Methods should be developed to maintain communication without leaving a professional perspective. Expectations should be reviewed. With an individualized training plan to be built on a good assessment and evaluation, it will be possible to observe in detail where to start and where to reach.

The way the school communicates with the parents predetermines the extent to which the parents will be involved in the child's learning process. If the teacher constantly sends only negative messages about the student's achievements and behaviour, it demotivates the student to keep trying and at the same time discourages parents from trying to help him because it makes them feel incompetent to provide effective support. It is very possible for parents to start blaming teachers for having a "special" (negative) attitude towards their child and blaming them for the student's low academic performance. That is why it is important for the teacher in communication with the parents to always focus on the student's progress (even when his results are much below the level of other students), to emphasize the child's progress (compared to his previous achievements) - this gives the child the feeling that his efforts lead to success, and motivates him to keep working even harder.

Good communication between teachers and parents helps teachers to better understand student's needs and home environment, and helps parents to provide more effective support to their children with school work.

6. Assistive technologies

6.1. What assistive technologies are?

Generally assistive technology is any device, equipment or system that helps people to cope with their difficulties so they can communicate, learn and deal with any challenges in life better.

According to the United States Assistive Technology Act of 2004, assistive technology (also called *adaptive technology*) refers to any *"product, device, or equipment, whether acquired commercially, modified or customized, that is used to maintain, increase, or improve the functional capabilities of individuals with disabilities"*[31].

The definition given by the British Assistive Technology Association (BATA) is: *"Assistive technology is any product or service that maintains or improves the ability of individuals with disabilities or impairments to communicate, learn and live independent, fulfilling and productive lives"*[32].

Assistive technology itself cannot improve knowledge or skills. Assistive technology helps to facilitate the learning, and may be used with a variety of learning content.

6.2. How assistive technologies can help dyslexic learners?

Assistive technology has a great potential for students with dyslexia in mainstream education classroom. Its benefits include enhancing academic achievement in reading, writing and spelling, maths; improving organizational skills, etc. Additionally, students with SLD often experience greater success when they are allowed to use their abilities (strengths) to work around their disabilities (challenges). Assistive technology tools combine the best of both of these practices. According to Lewis[33], assistive technology serves two major purposes: to augment individual's strengths, thereby counterbalancing the effects of the disability, and to provide an alternative mode of performing a task. Thus, the use of technology allows students to compensate for their difficulties or circumvent them entirely.

When students are provided with the opportunity to accommodate reading and writing challenges, they could be much more successful academically.

Technology helps students with dyslexia on many different levels. It can help them accomplish tasks like:

- ✓ **Mastering the grade-level content**. Technology helps to present the material in different forms (visually, auditory, etc.)

[31] Assistive Technology Act (2004)

[32] British Assistive Technology Association http://www.bataonline.org/further-assistive-technology-definition

[33] Lewis (1998:16-26).

- ✓ **Working towards formation of reading skills**. There are many different computer based learning games that can be used to help young students to learn letters, sound-letter correspondence, or the spelling of the words.
- ✓ **Improving writing and organizational skills**. Technology can enable students with dyslexia to develop a mind map (or concept map) which will help with writing an essay using grade-level vocabulary or words they otherwise would not use without a computer due to poor spelling skills. Such a map helps dyslexic students to learn how to structure their creative writing, which is a weak point for them.
- ✓ **Mastering educational concepts** that would otherwise have been beyond their reach. Students could use technology to experience abstract concepts through 3D simulations.

New technologies are an alternative way to the traditional intervention of learning difficulties. They allow the teacher to introduce knowledge with motivation and offer multisensory and dynamic content with a key aspect: interactivity. This point encourages the student to have an active attitude in front of the learning process. Motivation is an important aspect and students learn through playing. Success means mixing traditional methodologies with new technologies to re-educate the competences of all the students.

The role of technology for people with dyslexia, especially in terms of education is strongly recognised. When students have access to effective technology, and it is accompanied with appropriate instructions, their overall performance improves. Technology tools allow students with dyslexia to have equal opportunities in the school-based learning experiences as all other students.

6.3. What is available in partner countries

Spain

- ✓ **Interactive games**
  - Galexia - an interactive game to improve reading fluency; it includes an intervention program based on scientifically validated evidence.
  - Aless II - a very useful interactive game for dealing with graphemes and phonemes; based on the story of Peter Pan.
  - Hector, the passionate reader - an online game in which you work on auditory discrimination and phonological awareness: https://www.genmagic.net
  - The wall - a game consists of ordering the letters that appear on the screen to form words, aiming at improving the phonological awareness

- ✓ **Online programs**
    - Cognifit Dyslexia in the Classroom - a free online cognitive training program for brain training through mental challenges and thinking games
    - Katamotz exercises is a problem that has been created to work on reading disorder and other difficulties in acquiring reading and writing. It contains numerous support materials with activities in which texts, images, voices and sounds are used. It also uses the game and it is possible to choose the graphemes to be worked on as letters and words stuck and inverse.

Turkey

Assistive technologies used in Turkey for students with dyslexia:

These programmes are for using in mobile phones, tablets and smart boards.

- ✓ Text-to-speech:
    - "Teknoses" Free Download from http://www.teknoses.com/tr/
    - "Google Translate", which allows speeches to turn into texts or texts to speech as well as translating.
- ✓ "Touch and Write" - to teach letters, numbers and even words in Turkish which provides font resizing and 28 different background. Free Download from https://itunes.apple.com/us/app/touch-and-write/
- ✓ "Letter Shaker" - especially for foreign language teaching. Free Download from https://play.google.com/.../apps/details?...WordShakerAndroid
- ✓ "Open dyslexic" font in office programmes. Free Download from https://www.opendyslexic.org/
- ✓ "Freeplane: concept mapping programme" - which is a free and user friendly programme. Free Download from https://freeplane.en.softonic.com/
- ✓ "Google Chrome" - Use of Google Chrome as a browser is also another assistive technology used as it has useful features for dyslexic individuals. In 'extensions' tab in Google chrome there are three features can be reached:
    - Open Dyslexic,
    - Dyslexia Friendly,

- Dyslexia Reader Chrome.

These are all designed for dyslexic individual to help them read easily.

- ✓ "Microsoft Word" - used with its features facilitating reading.
- ✓ "Sticky Notes" - a feature of Windows Operating System,
- ✓ "Wise Reminder" - a personal reminder software. Free download from https://wise-reminder.en.softonic.com/
- ✓ "Auto Train Brain" It provides support for dyslexic children who have difficulties in school life and learning through visual and auditory games. For more informations, http://dijitalmedyavecocuk.bilgi.edu.tr/2017/12/22/disleksik-cocuklar-icin-mobil-uygulama-auto-train-brain/

Bulgaria

- ✓ PC with spellchecker
- ✓ Screen Reader (Bulgarian) Free Download from http://www.screenreader.net/index.php?pageid=15

Text-to-speech:

- ✓ SpeechLab 2.0 (free for visually impaired people, otherwise distributed commercially) A free trial version could be downloaded from http://www.bacl.org/speechlabbg.html
- ✓ Balabolka (Bulgarian) – Free Download from http://www.cross-plus-a.com/bg/balabolka.htm

OCR scanning software:

- ✓ FineReader (uses Bulgarian) Free Download from http://finereader.bg.softonic.com/
- ✓ OCR CuneiForm 12 (uses Bulgarian) Free Download from http://www.download.bg/?cls=program&id=456656

Learning to type:

- ✓ In Bulgarian - Free online. Could be accessed at http://www.sense-lang.org/typing/tutor/keyboardingBG.php
- ✓ In English – Free online. Could be accessed at https://www.typingclub.com/typing-qwerty-en.html (This could be used to type in Bulgarian using so called phonetic keyboard)

Mind-mapping:

- ✓ FreeMind (uses Bulgarian) Free Download from http://sourceforge.net/projects/freemind/
- ✓ Xmind (uses Bulgarian) Free Download from https://www.xmind.net/

Audio books (available online, some of them free)

- ✓ http://www.avtori.com/
- ✓ http://www.audioknigi.bg/

e-Books (available online, many of them free)

- ✓ http://chitanka.info/
- ✓ http://virtualnabiblioteka.com/
- ✓ http://readbg.com/
- ✓ http://www.booksbg.org/
- ✓ http://www.ciela.com/ciela_ebooks/bezplatni-knigi/bezplatni-knigi-na-b-lgarski-ezik.html?p=5
- ✓ http://www.slovo.bg/

- ➢ RoboBraille - an e-mail and web-based service capable of automatically transforming documents into a variety of alternate formats, including audio files, e-books, DAISY books, etc. Available in 16 languages, including Bulgarian. Free. Could be accessed at www.robobraille.org
- ➢ Adysfont – fonts designed for dyslexic readers. Free download from: http://www.adysfont.com/

Latvia

- ➢ **PC with Spell checker**
- ➢ **Voice recognition software.**
- ➢ **Text-to-speech tool**
- ➢ https://visc.gov.lv/specizglitiba/metmat_esfpr.shtml - Methodical materials for working with children who have special needs, developed by Special Education labs of the University of Latvia, University of Liepaja and Rezekne Academy of Technologies

- https://visc.gov.lv/specizglitiba/dokumenti/metmat/citi/mat_jedz_un_uzdevumi.pdf - Teaching aid in Mathematics
- http://www.rvapsac.lv/attistibas_centrs/pdf_docx/ATGADNES%20RVAPAC.pdf - Collection of reminders for primary school
- https://www.pinterest.com/ - Ideas for didactic games, teaching materials
- http://jpskvaldeka.lv/metodiskie-materiali/ - Methodical materials
- https://www.youtube.com/ - A resource where you can find video material on almost any subject to include in your learning process
- ***Google Images*** – it is possible to search for illustrative and visual materials
- http://maciunmacies.valoda.lv/images/speles/Spele_1/real.html
- http://maciunmacies.valoda.lv/images/speles/Spele_2/real.html
  http://maciunmacies.valoda.lv/images/speles/spele_3/aiziet.html
- http://maciunmacies.valoda.lv/images/speles/abece/sakt.html
- https://varduspele.addc.lv/- language games - for finding letters, forming words and sentences
- http://pasakas.letonika.lv/ - audio fairy-tales with tasks
- http://www.cirkulis.lv/matematika/ - games with mathematical activities

Portugal

- ✓ **Electronic dictionary and electronic encyclopaedia –** A book collection or information available on a website. https://www.dicio.com.br/enciclopedia/

- ✓ **e-book –** Digital book - https://pt.wikipedia.org/wiki/Livro_digital

- ✓ **Spell checker –** Checking Portuguese spelling

  https://tecnologia.uol.com.br/album/use_corretor_automatico_a_seu_favor_Word_album.htm

- ✓ **Eu Sei (I know) –** Pedagogical Interactive activities for Preschool, Primary school and lower secondary: http://nonio.eses.pt/eusei/

- ✓ **E-books –**National Reading Plan Digital library

  http://www.planonacionaldeleitura.gov.pt/bibliotecadigital/

- ✓ **Didactic games –** Games for children about seasons of the year, multiplication table, diphthongs, numbers, Traffic rules and so on. http://jogosdidacticos.blogspot.pt/

- ✓ **OpenDyslexic –** Free open- source typeface that allows dyslexic people to read more easily https://www.opendyslexic.org/

- ✓ **Easy Reader:** For dyslexic readers, low vision or blindness:

https://yourdolphin.com/easyreader

- ✓ **Ministry of Education Schools Site** – A great number of educational resources for all subjects and school years

  https://www.portaldasescolas.pt/portal/server.pt/community/00_recursoseducativos/259

- ✓ **Software and free resources for Special Needs -** Software and free resources for Special Needs, including several categories, such as accessibility, amplifier, Apps and Widgets, dyslexia, screen reader, synthesizer (speech synthesizer, voice recognition and narrator to make communication, Reading and writing easier. https://freewareneesite.wordpress.com/

- ✓ **ECR e LEXICON –** ECR for maintaining attention and concentration difficulties, visual motor coordination, fine psychomotor skills, memorization and vocabulary. *Lexicon* prevents learning and reading difficulties and improves these skills; it includes visual differentiation and phonological transcription of graphic similar letters.

  http://cercifaf.org.pt/cerci/index.php/gratuito/cercifaf-recursos-download

- ✓ Kit Special Needs – Free software for special needs

  http://www.acessibilidade.net/at/kit2004/educativo.htm

- ✓ **WordTalk –** Add-in for the different versions of MS Word, useful against reading difficulties. It acts as a 'text reader' and creates a spoken sound version of the text you read or write and reads it back to you as it highlights the words. It contains a speaking dictionary. It is possible to adjust highlight colours, change the speech speed, change text to speech and record a mp3 file.

  http://www.wordtalk.org.uk/Download/ https://youtu.be/SicL4gkIR5g

  Tutorials: Overview WordTalk – https://youtu.be/SicL4gkIR5g

  Using Wordtalk - https://youtu.be/AHPeeeI4CAo

- ✓ **Microsoft Speak Command –** The speech synthesizer of the Microsoft operative system can also be adjusted to be visible on Word, Outlook, PowerPoint and OneNote toolbars; the instructions are on the support pages of MS Office (quick access toolbar)

  https://support.office.com/en-us/article/using-the-speak-text-to-speech-feature-459e7704-a76d-4fe2-ab48-189d6b83333c#__toc282684835

- ✓ **Philips FreeSpeech 2000 –** This software allows voice recognition in Portuguese and you can create texts without using the keyboard. While using the microphone, you can dictate words that are converted into text https://www.dictation.philips.com/products/

- ✓ You can download free from http://uploaded.net/file/33brpy
- ✓ See Brazilian site – http://distrofico.amplarede.com.br/2010/02/philips-freespeech-2000-em-portugues/
- ✓ **Dictate (Microsoft) –** Microsoft free APP (add-in) that recognizes voice/dictation on Word, PowerPoint and Outlook. It recognizes Portuguese, among other languages. You can also translate from other languages. Download - http://dictate.ms/; FAQ - http://dictate.ms/FAQ; Tutorial «Unboxing MS Dictate» – https://youtu.be/OdVvo3c4uDQ
- ✓ Audio technologies – voice recording and reproduction software

  https://play.google.com/store/apps/details?id=vr.audio.voicerecorder&hl=pt (eg: Audacity, Wavosaur, Vocaroo, Soundcloud, etc).
- ✓ **Organizing ideas and information technologies –** conceptual maps, diagrams, collection organizers and others (eg: Pinterest, Livebinders, Symbaloo, Bubbl.us - https://bubbl.us/
- ✓ Mind42 (it creates mind maps, a special diagram that allows information to be visually organized): https://mind42.com/ , Popplet (Popplet is an iPad and web tool that allows the capture and organization of ideas. http://popplet.com/ (etc)
- ✓ **Writing Technologies** – there are functions on the word processors that help people with writing difficulties, such as word predictors or spelling checkers: some APPS can be installed. Virtual keyboard – you can enter a text on the computer using other means different from the conventional keyboard https://www.youtube.com/watch?v=_zi0P0yWF5k .
- ✓ **Text to speech –** It converts a text into an audio file. It differs from the screen reader as this one is integrated in the operative system and reads not only the text as all other operations performed on the computer
- ✓ **Word predictor:** Eugénio, o génio das palavras (Eugenio, the word genius) –
- ✓ http://www.l2f.inesc-id.pt/~lco/eugenio/ - as you write, it predicts the possible words using the first letters. It helps those with greater writing difficulties.
- ✓ There is also a word predictor available on Word.
- ✓ **Virtual keyboard - (Google)** https://www.baixaki.com.pt/download/teclado-virtual-do-google-.htm
- ✓ **Voice recognition** –Writing in Word using voice with dictation function https://www.techtudo.com.br/dicas-e-tutoriais/2018/06/como-escrever-no-word-usando-a-voz-com-a-funcao-ditado.ghtml

- ✓ **Reading technologies,** for those with vision problems, speech synthesizers - https://youtu.be/Hf663--0544,
- ✓ Characters recognition, optical reading, documents on alternative layout (eg: SlideTalk - http://youtu.be/ZOYl9SJSyWI, Balabolka - https://youtu.be/Hf663--0544, Readspeaker - https://youtu.be/Hf663--0544, Philips Free Speech 2000, Daisy Reader, etc).
- ✓ **OCR –** Optical character recognition – it converts PDF and digitalized images into WORD
- ✓ **Mobile technologies**
- ✓ Due to their portability, simple interface, processing speed and communication and information capacities, computers, tablets and smartphones offer all students, including those with special needs, a wide range of learning opportunities.
- ✓ **Accessible PDF (Claro SW) –** free PDF reading APP (speech synthesizer), with amplifying and colour contrast functions https://www.clarosoftware.com/
- ✓ Text fonts that maximize letter reading
- ✓ Other types of support can also be very useful for students with some needs, for instance: inclined reading desks for an ergonomically correct reading position or computer work, writing adaptive equipment, printable embossing paper, keyboard grids, symbols/images tables:
- ✓ **Software Commercial *"Zoom Ex"* -** http://www.woodlaketechnologies.com/Zoom-Ex-p/abi500.htm
- ✓ **Links:**
- ✓ **Dyslexia Site** https://dislexia.pt/blog/fontes-de-texto/

Greece

- ✓ The Photodendro is the National Accumulator of Educational Content for Primary and Secondary Education. It is free for students, teachers, parents and anyone interested. (http://photodentro.edu.gr/aggregator/
- ✓ ESOPOS PLATFORM for design, submission, evaluation and utilization of digital teaching scenarios by the educational community: http://aesop.iep.edu.gr/#top
- ✓ Educational Policy Institute -Digital Repository Platform 21+: Skills Laboratories http://www.iep.edu.gr/el/psifiako-apothetirio/skill-labs

- ✓ Guide for the teacher "Tools of the Modern Approach to Differentiated Pedagogy" http://www.iep.edu.gr/images/IEP/EPISTIMONIKI_YPIRESIA/Epist_Grafeia/Graf_Ereynas_B/2018/Odigoi_Diafor_Didaskalia/Odigos_diaf_Dimotiko.pdf

- ✓ Dyslexia Institute (DI) deals with the evaluation and training of people with dyslexia and teacher training. In addition you will find publications of the foundations. http://www.dyslexia-inst.org.uk/

- ✓ The Hellenic Dyslexia Society is a non-profit-charitable organisation focusing on learning disabilities. It is active in Greece and provides various information for people with dyslexia: https://www.dyslexia.gr/

- ✓ An open access scientific journal aimed at people with special needs and generally to anyone involved in special education. Publishes original research articles, historical and philosophical studies, case studies. http://www6.internationaljournalofspecialeducation.com/?tdfs=1&s_token=1596475672.0016422513&uuid=1596475672.0016422513&kw=Journal&term=Teaching%20Special%20Education&term=Special%20Education%20Curriculum&term=Academic%20Journals%20Online&term=Academic%20Journal%20Articles%20Online&term=Online%20Academic%20Publishing&backfill=0

Concept Maps

- ✓ They are conceptual mapping software, where users can express, organize and develop their ideas. Also using the principles of "visual learning" , the user is given the opportunity to construct scenarios, organize information, understand concepts, express and share his/her thoughts. https://access.uoa.gr/ATHENA/categories/view/24

Alternative Communication

- ✓ Alternative communication resources allow the user to communicate through symbols or icons. Some of them also provide the ability to produce synthetic speech. https://access.uoa.gr/ATHENA/categories/view/9

- ✓ Provides information and advice to teachers and parents about the problems of children with dyslexia. It also offers lesson plans for children with dyslexia or similar learning disabilities. http://www6.dyslexia-parent.com/?tdfs=1&s_token=1596475285.0046014429&uuid=1596475285.0046014429&kw=dyslexia&term=Online%20School%20for%20Dyslexia&term=Dyslexia%20Certification%20Programs&term=Dyslexia%20Tutoring%20Programs&term=Dyslexia%20Help%20for%20Parents&backfill=0&searchbox=0

- ✓ Audiblox is a cognitive program which is effective for a variety of learning difficulties. It helps in developing basic learning skills such as concentration, perception and logical thinking. It improves performance in reading, spelling, writing

and maths. Audiblox is adapted for the gifted and the less gifted, can be used at home and at school and is valid for all ages: https://www.edubloxtutor.com/

- ✓ Accessible PDF is an application that allows you to read PDF files with the colours and fonts you want and makes it easy to listen to the text orally with other programs such as test to speech or screen readers. https://access.uoa.gr/ATHENA/applications/view/244
- ✓ Material for learning difficulties https://www.thrania.com/ekpaideutiko-yliko-eidikis-agogis
- ✓ Universal design and development of accessible digital educational material http://prosvasimo.iep.edu.gr/el/
- ✓ Pictogram, search for images, sketches and pictograms http://prosvasimo.iep.edu.gr/el/eikonolexiko
- ✓ Online educational portal for entertainment and learning for young children http://www.mikrapaidia.gr/ccsintro/
- ✓ Educational games and activities for fine motor skills http://eidikidiapaidagogisi.blogspot.com/2015/02/pdf.html
- ✓ Beautiful stories become irresistible when they are narrated by charismatic readers. In this section, you can listen to extracts or whole stories of favourite authors narrated by well-known talented actors: http://www.mikrosanagnostis.gr/istoria.asp
- ✓ Standard exercises to strengthen your writing skills https://drive.google.com/file/d/13I4aHGwX97yhO_6FgRGVP_riKE6GavJx/view
- ✓ Visual and Motor cooperation http://www.moec.gov.cy/eidiki_ekpaidefsi/ekpaideftiko_yliko/proan_ask_optik_synergasia.pdf
- ✓ Corrective reading http://1dim-eid-peiraia.att.sch.gr/ekpaideytiko_yliko/diorth_anagnvsi.pdf

More resources (mostly in English)

Online resources

Online dictionaries

http://www.thefreedictionary.com/

http://dictionary.reference.com/

http://www.eurodict.com/

Online encyclopaedias

http://www.refseek.com/directory/encyclopedias.html

Talking Word processors

http://www.donjohnston.com

http://www.intellitools.com

http://www.readingmadeeasy.com

http://www.wordtalk.org.uk

https://www.enablemart.com/talking-word-processor

https://www.texthelp.com/en-gb

http://www.premierathome.com/products/TalkingWordProcessor.php

Online calendars

https://calendar.google.com/calendar/render?pli=1#main_7

https://www.zoho.com/calendar/

http://whichtime.com/

https://www.keepandshare.com/

https://doodle.com/online-calendar

Създаване на толерантна към учениците с дислексия класна стая:

https://www.thoughtco.com/creating-a-dyslexia-friendly-classroom-3111082

Other resources (in English):

- ✓ **Apps:**
  - Sticky Notes + Widget
  - https://play.google.com/store/apps/details?id=com.symcoding.widget.stickynotes
  - School Planner
  - https://play.google.com/store/apps/details?id=daldev.android.gradehelper

- ABC Alphabets Phonic Sounds https://play.google.com/store/apps/details?id=abc.alphabet.phonic.sounds.app.kids
- ABC Song - Rhymes Videos, Games, Phonics Learning
- https://play.google.com/store/apps/details?id=kidzooly.rhymes
- iWordQ US is an easy-to-use writing and reading application to assist struggling writers and readers.

https://itunes.apple.com/ca/app/iwordq-us/id557929840?mt=8&ign-mpt=uo%3D4

✓ **Software:**

- Read & write dyslexia software
- https://www.texthelp.com/en-us/products/read-write/assistive-technology-dyslexia-software/
- Literacy & Dyslexia Software for Education
- https://www.texthelp.com/en-us/sectors/education/
- Writing & spelling software Co:Writer, this simple-to-use software corrects and offers suggestions for basic spelling and grammar mistakes when its user inputs words into web pages, e-mails, and applications like Microsoft Word. This software easily integrates with Write Out Loud.
- https://learningtools.donjohnston.com/product/cowriter/

✓ **Text-to-speech**

- Verbose is an easy and convenient text-to-speech converter that can read aloud or save spoken text to mp3 files.
- https://www.nch.com.au/verbose/index.html
- Write Out Loud, this text-to-speech program has the essential tools to help its users spell and choose words correctly. The program allows its users to easily create error-free word documents and easily integrates with Co:Writer.

  http://donjohnston.com/writeoutloud/

✓ **Audio books:**

- Stories of sleeping children in audio format
- Miette's Bedtime Story Podcast
- Several hundred carefully selected audio books
- Podio Books
- A selection of books and educational content in audio format

- Oculture Free Audio & Podcasts
- Stories and educational reading in audio format.
- StoryNory
- A rich section of educational audio materials
- Learn Out Loud
- Stories and educational reading in audio format
- StoryLine Online
- Free resources, including audiobooks
- FreelyEducate.com
- Over 7000 free ebooks and audiobooks.
- Books Should Be Free
- Old materials dedicated to children
- Kiddie Records Weekly

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ANNEX: CASE STUDIES

CASE STUDY 1

Provided by Escola Sant Josep (SPAIN)

General Description:

A 6-year-old student repeated the first year of primary education in another school and his family signed him up for our school last year, he is currently in first grade. His tutor contacts the psycho-pedagogue of the school because this student finds it difficult to keep up with the rhythm of the class and presents the following difficulties:

- Problems doing any task that requires a lot of concentration, he gets tired easily when reading the sentences and he does not understand them. To understand, he has to make a great effort and when he can finally identify the words he may not remember what he had read before, he loses its meaning.
- Little interest in reading and writing. He shows lack of attention in class and of concentration on tasks.
- He omits letters and substitutes some graphemes for others with phonological and visual similarity: p / d, p / q, q / b, b / d.
- Problems in reading aloud with a not very fluent execution.
- Difficulty with long and infrequent words. The tutor realized that in texts where the vocabulary was familiar to the child, reading improved because they were words that were familiar to him but he showed great difficulties with words that were new to him.
- Problems related to poor school success, he cries easily and he is afraid of repeating a year.

How could the teacher help?

The psycho-pedagogue collected all the student's information, and all staff of teachers talked about him in a cloister to share and to ask the rest of the teachers who teach the student if he has these difficulties collected in all different areas.

All teachers agreed that his comprehension problems affected the comprehension of the sentences and, above all, the resolution of mathematical problems. The psycho-pedagogue

also had an interview with the family to collect information about how he felt at home and how the family deals with his difficulties.

The teaching methods:

1. Individual reinforcement teaching lessons with the student
2. Providing the student with easier reading tasks
3. Observing and imitating patterns
4. Working through different learning strategies to make his difficulties smaller.
5. Using the PROLEC-R Test - to provide the teacher with a measure of the child's reading in relation to his normative reference group.

6. Using the "figure of the king" and the test of the faces focusing on non-standardized tests such as observation, analysis of their school productions, review of school assignments, interviews ...

7. To schedule sessions with the teachers (~~about~~ three times a week) to work on phonological awareness, reading fluency, vocabulary and text comprehension. These sessions will be taught by the special education teacher at the centre.

Teaching strategies:

- Using visual content and help to create visual images about the readings and also using these elements as extra information in reading texts.
- Create and work through Spelling exercises containing the sounds he has problems with.
- Make modifications in the school methodology and the evaluation system:
- Use oral tests or use other tests that do not always require reading to be evaluated.
- To provide more time to complete the tasks due to his comprehension problem.
- To use shorter, clearer and more concise sentences when doing exercises.

How could the parents help?

The mother was aware that she almost did the homework of his kid by herself and that he needed her to read all the statements to him. All the school assignments were corrected by the mother. The real problem of the student was "covered" a lot by this situation.

The mother also explained that he used to leave many things undone at school and then they had to finish these tasks together at home, but this situation was being lived in an agonizing way.

Parents can help:

- Read aloud interesting books
- Ask a child about small summaries of the previous readings

- Read small instructions at home
- Teach songs with the sound he has problems with.

Suggested exercises and games

The psycho-pedagogue proposed the following **intervention plan:**

- To improve reading fluency, repeated reading is used in individual sessions, which were based on the student reading the same text several times. The aim is to improve visual memory, speed reading and comprehension through exercises. We use this free platform to improve fluency:

  https://play.google.com/store/apps/details?id=com.PambuDev.galexia

- To improve his level of reading comprehension, it was suggested that the tutor should carry out previous activities, which would prepare him for reading the text by checking the level of previous knowledge he had about the text he was going to read and asking questions about the main aspects and not on superficial aspects, to avoid giving importance to irrelevant information while reading the text. Drawings were also used as a means of assessing his prior knowledge since it was difficult for student X. It was convenient to ask questions and encourage self-questions, formulate hypotheses about the meaning of the text, comment on the type of text, vocabulary.

- To work a lot on the vocabulary since having a wide vocabulary greatly benefits comprehension since by understanding the concepts that the text involves we can relate them to their previous knowledge and thus make inferences and understand the global meaning of the text.

- To work on phonological awareness we use the resources and materials that are on the internet (https://www.aulapt.org/category/conciencia-fonologica/). We used the game as a work tool to maintain motivation.

- It was decided to explain to the rest of the classmates what dyslexia is and why he reads so slowly and for this the book "I have dyslexia" by Helena Kraljic was used. This greatly helped classmates to understand student X.

CASE STUDY 2

Provided by Asociacia Dyslexia - Bulgaria

General Description:

D. is 8 years old, in 2nd grade of a mainstream school. From the very beginning the school has been a serious challenge for the child. The parents share that while their boy was in the pre-school, they noticed that D. was reluctant or directly refused to participate in some activities, was easily distracted, in most cases he was not able to complete the tasks on time. He had difficulties to remember rhymes, or the names of the letters. There were also some difficulties related to motor skills. Parents were worrying how their son would manage at school, but his teachers in the pre-school used to say that it is early to worry, that some children just need more time and D. would catch up with the time. Parents decided to wait one more year before they show the boy to a specialist, hoping that the child would catch up.

With the time some of D.'s skills have improved, but anyway he is struggling at school – mainly with reading and writing. At the beginning D. was unable to read even very simple words. It looks like he all the time forgets the letters, although seeing them separately (not as part of the words he names them instantly). Matching the sounds with letters (during the dictations) was even harder. At the end of the first grade the boy, although is able to decode most of the words, he still has problems with decoding of longer words. His errors in reading include omissions, re-positions of letters, re-placement of similarly sounding or looking letters, etc. Dictations are a disaster. The teacher blames the child to be inattentive during the classes, unable to complete the tasks on time, to be lazy and not trying hard enough.

During the summer parents show the child to a specialist who suspected dyslexia.

Now D. works with a private tutor twice a week; some improvement is observed, but his reading is still below the estimated age/class level, which affects his writing (especially spelling) as well.

How could the teacher help?

- **With decoding**:

- Train the visual and auditory differentiation skills of the children, using different games.
- Make dictations of separate letters, gradually increasing the speed.
- Use different games to train children's ability to quickly switch their attention.
- Get children to know and be aware of different printing styles, so facing a differently looking text not to cause additional difficulties to sound the letters

- **With fluency:**
  - Pay special attention to automatization of the sight words reading. If necessary, spend more time on this exercise until you are sure the child is able to quickly recognise all small words.
  - For a child who has difficulties, choose/prepare a text that matches child's reading level – you should be sure that the child is able to read at least 90% of the words in the text independently.
  - Do not ask the child to read faster before he/she can read accurately. Accurate reading helps comprehension, speed will come with time.
  - Pay special attention to the meaning of the punctuation marks. Explain to the child why it is important to respect the punctuation while reading.
  - Make a demonstration of the importance of the punctuation marks: at first read a text without respecting the punctuation; then read it again with proper expression. Check the level of comprehension in both cases.
  - Dedicate some time during the classes to train with students so called expressive reading, where the pauses and intonation is very important (reading in roles could be used).

How could the parents help?

- **With decoding:**
  - Play games when the child has to name the first/last sound of different words; to list as many words as possible starting with some letter/sound/syllable; to spell the words he hears, etc.
  - Use any opportunity to train the child to quickly name the letters (randomly shown to him), and to show the letters that match sounds he hears.
  - Show the child how he can form a meaningful word with the use of two or three letters. Pronounce each sound separately, then blend the sounds so the child can hear the word. Ask the child to do the same. After that change one of the letters in the word in order to form a new one, and ask the child to sound the letters and then to pronounce the whole word. Go on until the child is able to blend the sounds independently.

- Keep reading to the child, even if he already has some reading skills. Ask the child to read some of the words in the text, you are sure he knows.
- Choose a book that is interesting for the child, and matches his reading level.
- Read together (in turns) with the child. Help with the words the child finds difficult.
- In order to keep the motivation, use audio books. With the time you may ask the child to listen to a chapter, and then to read the next one

- **With fluency:**
  - While driving the child to school, you can direct his attention to the road signs and make a parallel with the punctuation marks.
  - Read to the child and be careful about the punctuation. Try to read with expression – it will increase child's interest and will serve as a model for him.
  - When you ask the child to read aloud require he/she not only to decode the words correctly, but also to "read" correctly the punctuation – it will increase his/her level of comprehension.

Suggested exercises and games:

- **Alphabet Maze** - http://handsonaswegrow.com/alphabet-maze-learning-activity/

- **Magic Letters** – with white oil pastel draw a letter on a white sheet of paper. The child is asked, using water colours to colour the shape (the letter could be written within the square, triangle or circle) and to see what will happen. While colouring he/she will see how a letter is "coming out". Then the child can be asked to draw something whose name starts with the same letter (i.e. if it is the letter "c" he can draw a cat, or a car…).

- **Modelling Letters** – you can use playing dough, modelling clay, or even "normal" dough. Give the child a sample of printed letters and ask him to model them, following the sample. For the "problematic" letters the child can make some additional models that he associates with the letter (e.g. a butterfly for "B").

- **Guess the object** – The adult (teacher or parent) says "I think about an object. Its name starts with "…" (e.g. with "c"). The child starts guessing: "it's a car". "No, says the adult, it has no wheels". Then the child suggests another word: "cat". "No, it has no moustache.", and so on, until the child says the correct word (in this case it could be a "cow"). The idea is to make the child ~~to~~ think of as many words with the same first sound as possible. In order not to make the child feel cheated (not to think that the adult all the time changes the word), you can prepare respective pictures.

- **Alphabet Match** – an online learning game to help children to practice letter – sound correspondence – http://www.abcya.com/alphabet_matching_game - this one is in English, but there are similar games in almost every language.
- **Some ideas for games to train blending** –
  - http://www.readingrockets.org/strategies/blending_games
  - http://www.education.com/game/blending-sounds-spelling/
  - http://pbskids.org/lions/games/blending.html
  - http://www.ictgames.com/blendingDragon/index.html
- **The "Essentials" of developing reading fluency**
  https://www.youtube.com/watch?v=OM-mi_4usvE#t=143.5665402124431
- **A Mom's suggestion for fluent reading**
  https://www.youtube.com/watch?v=rQDdN29tDHY
- **Short lessons about punctuation and reading**
  https://learnzillion.com/resources/72239-using-punctuation-to-read-fluently-1

CASE STUDY 3

Provided by Kocaeli Provincial Directorate of National Education - Turkey

General Description:

Mete has constant problems at school. He failed in social sciences and science classes in the 2nd grade. Mete was directed to the assessment by his class teacher. Mete has difficulty in completing classwork and homework based on reading. He also has problems in math class. Although the classroom teacher places him in the slowest reading group, he also has problems in this group. His mother states that Mete studies 1-2 hours every night but he always needs to be supported with his homework. Mete does not have any visual and auditory problems. Although Mete is 2nd grade in reading comprehension, he is at the same level with the 1st grade level. Many errors are encountered when Mete's articles are examined.
Continuous spelling mistakes and incorrect punctuation practices are seen. The sentences are correct but the paragraph structure is not organized and the paragraphs are not formed. His writing can be considered aligned, but it appears to be written above the line in many places. These skills are behind the grade level. Mete, who does not have self-confidence problems, can maintain friendship in the classroom and does not have serious behavioural problems in the classroom or school.

How could the teacher help?

Visual imagery: When Mete is taught to create visual images of the material his reading comprehension skills will develop through imagination.

Meaning and Story Maps: In this exercise the student is presented with graphs, charts and pictures. As he reads, he is asked to complete the relevant exercises and complete the gaps in the chart.

Visual Element İn Texts: The inclusion of visual elements in reading texts will contribute to Mete's development in terms of reading comprehension.

How could the parents help?

Do reading exercises in accordance with the posse strategy form

Reading process	**Understanding strategies**	**Expressions**	**Teaching support**
Before reading	Guess ● Where did you get the idea ● Ask questions Organize (shape) ● Categories ● Details	……. I guess …….. I remember …… I ask …… one of the categories ……. are the details of this category.	
While reading	Search ● Search for the main idea Summarise ● Identify the main idea ● Ask questions about the main idea	I should try to catch the main points that the author tries to emphasize while reading. …… I think it's the main idea ……. is the question about the main idea	
After reading	Evaluate ● Compare what you just learned with what you know. ● Identify words you don't know ● Guess what the author might say in the text	● I think we guessed the main idea correctly ● Are there any ideas or words that need to be explained? ● I think the author will talk about …… ..	

<u>Suggested exercises and games:</u>

Retelling the story and generating questions on their own: In the technique of telling the story he listens to, the student is asked to read the paragraphs regularly and produce questions for details that support the main idea.

TWA Strategy: the student is encouraged to think and talk to himself about the material to be read.

T (**T**hink Before Reading)
W (**W**hile Reading)
A (**A**fter Reading)

CASE STUDY 4

Provided by Rezekne Academy of Technologies – Latvia

General description:

A child is 7 years old. She is studying in the 1st grade in a general education school. The girl is active, hardworking and likes to play with various things. She often has a toy instead of learning materials on her classroom table. She recognizes some consonants, does not differentiate between vowels, mixes optically similar (d - b - p, n - m), short and long vowels are named equally, does not pay attention to length signs. It is difficult for a girl to remember the names of letters. Also, performing various written works, it is noticeable that the girl has difficulties drawing, painting, as well as drawing small details.

During the school year, some of her skills have improved, but doing school tasks for a girl is like a struggle – it is mostly about reading and writing. At first, she could not connect letters in syllables and could not read even very simple monosyllabic words. In time, the girl begins to remember the names of the letters. Dictation writing: it is very difficult to link sound to a letter. At the end of the first grade, the girl's reading skills have slightly improved, but the main mistakes in reading are: disregarding length marks, letter omissions, mixing optically similar letters.

When she is about to read any text, the girl declares that it is complicated and she will not be able to read it, even though she has not started to do so.

The parents believe that the girl is simply careless and that they have sent her to school too early. The teacher admits that during lessons the girl is unable to focus on work, cannot complete tasks on time, does not make enough effort to achieve the result.

How can a teacher help?

- **With decoding:**
  - Develop the child's visual and optical perception skills using various exercises.

- Use different games where you can see and compare optically similar letters, pay attention to their differences.
- Play with the child's visual perception through games.

- **With fluency:**
  - Pay special attention to the automatic reading of syllables, gradually connecting them and forming words. Accelerate the pace to promote global syllable and short word reading.
  - Prepare a simpler text with larger letters to create positive emotions for the child. So that he / she can read most of the text.
  - Pay special attention to punctuation, their purpose and use. Show the meaning of punctuation, while reading text in different intonations.
  - Train fluency using already known text and supplement it with new sentences.
  - Offer a text with words and non-words, thus developing the child's understanding of what has been read.
  - Let the child to create reminders, where optically similar letters appear. These reminders have to be on the table during lessons.
  - Exercises where letters are written not only in different fonts, but also in mirror writing.

How could the parents help?

- **With decoding:**
  - Play games where the child has to determine the place of the sound in the name. Here you can use not only the written text, but also offer the child to name the toys and find out what sounds are in the given name.
  - Cook a meal together at home and invite the child to read the recipe.
  - Offer games with letters, creating new words.
  - Play a game where you communicate by writing notes instead of talking.
  - Choose a book that is interesting for the child, and matches his reading level. Poetry books with good rhyming could be offered here. The poems are short.
  - Read together (in turns) with the child.

- **With fluency:**
  - Pay attention to the written letters that appear on street posters, in shops and other names, repeat and invent other words that start with the same sound.
  - Read to the child and be careful about the punctuation.
  - Read numerals and do quick speaking exercises.
  - Read a known text in the roles, pay attention to punctuation.

Suggested exercises and games:

- **MYSTERIOUS BEING**: A game for concentrating, drawing and developing reading skills. The child reads some animal's description.

  Option 1: When the story is complete, take pencils or crayons and paper. The child draws an animal according to the read description. This creates an "informal art exhibition".

  Option 2: Several animals are drawn (or written) on separate sheets (or their names are written) and the child chooses an appropriate picture of the animal.

- **DRAWING IN THE AIR**: An adult draws a letter in the air. The child repeats the movement and names the letter. To make the game more fun, places can be changed and the adult has to guess what letter the child drew.

- **ROOT SOUP**: Write different names of fruits and vegetables on a paper slips. The child then chooses the names that could be used to cook vegetable soup.

- **UNUSUAL LETTERS**: Together with the adult prepare the dough for cookies. The shapes are in the form of letters. Similarly, letters can be made of plastic, clay and other materials. (These letters will not be for eating).

- **GUESS MY LETTER**: An adult names different words that start with the same sound. The child has to listen and name this sound and come up with their own name that starts with this sound.

- **SURPRISE**: Put a written letter from a fairy-tale character under a pillow for a child. A fairy-tale character writes how he / she wants to get in touch with the child and thus invites him / her to meet in the book.

- **IS THAT CORRECT?** Write various, even wrong, funny statements on a piece of paper. The child writes down for each statement whether it is true or false. (e.g. a wolf is a pet).

- **WHO AM I?** The letter is hidden below the line. The child must recognize what letter is written.

- **TEXT UNDERSTANDING**: https://learningapps.org/display?v=pw7afdvxa20

- **READING AWARENESS BUILDING**: http://maciunmacies.valoda.lv/

- **IDEAS FOR PROMOTING READING**: https://pedagogiem.lv/lv/lasitprieks

- **READING TEXTS**: http://maciunmacies.valoda.lv/valodas-apguve/e-materiali/lasisanas-teksti

- **READING PROMOTION:** http://library.lv/Sector/News/ArticleItem.aspx?article=17950&type=0

CASE STUDY 5

Provided by Agrupamento de Escolas de Mangualde – Portugal

General Description:

R. moved on to the second year of schooling, even though he has not developed the essential skills related to the first year of schooling. According to **R**.'s family, he had a childhood without incident even though he was a very agitated, restless and inattentive child. He was referred to the Early Intervention by the educator for presenting problems in terms of concentration of attention, autonomy, perseverance, fine motor skills, oral language and compliance with rules. After an evaluation carried out by the local team, **R**. started to benefit from speech therapy, psychomotricity and direct support from a special education teacher. Therefore, it was a child with specific needs, capable of being confronted and worked by specialized technicians.

Within the scope of the procedures to be developed in the transition from preschool to the 1st cycle of basic education, the multidisciplinary team undertook a new assessment to assess the most appropriate measures to support learning and inclusion, embodied in a report - Technical and Pedagogical Report (RTP).

The definition of the interventions to be implemented integrated a decision-making process resulting from the systematic assessment and monitoring of the student's needs and progress, having identified the following **instrumental areas in deficit**:

- Development of oral language - very reduced vocabulary and syntax errors (concordances / tenses / ...);
- Ability to reflect on the implicit knowledge of the language (phonological awareness).
- Auditory discrimination.

How could the teacher help?

In the referred RTP, the team determined that **R**. should enjoy universal measures[34],

namely, pedagogical differentiation, to be undertaken by the teacher in the classroom. Among others, it is suggested the adoption of flexible educational approaches, of an individual and dynamic character, assuming the constant evaluation of the student's teaching and learning process. They refer:

- more individualized teaching;
- differentiation of homework tasks based on their level of preparation;
- differentiation of tasks based on the student's level of preparation, interests and learning profile;
- step-by-step evaluation;
- differentiation of content based on the student's level of preparation (ability to read and understand and write).

In addition to pedagogical differentiation, the team also proposes the implementation of accommodations, which must also be undertaken by the teacher in the classroom. Such as:

- Fix and make available visual schedules.
- Place the student in a place far from stimuli that can be distracting, but close enough to the teacher to allow frequent eye contact.
- Provide coloured strips or markers to help the student focus on a line of text when reading.
- Use large print texts.
- Use audiobooks like those available on various platforms.
- Allow the student to use a text reader and speech-to-text software to assist in writing.
- Provide extra time for reading and writing.
- Give the student multiple opportunities to read the same text.
- Mobilize reading friends during working hours
- Anticipate the teaching of new concepts and vocabulary.
- Provide the student with notes, a plan, or a lesson outline to help him take notes.
- Provide advanced organizers to help the student follow the lesson development.
- Provide a glossary of terms related to the content to be addressed.
- Use visual aids or audios to help the student understand written statements.
- Read the step-by-step instructions aloud.

[34] They refer to practices or services made available with the aim of promoting the learning and success of all students. Indeed, they do not depend on the identification of specific intervention needs, being generalized measures to all students.

- Simplify instructions / presentations using keywords for the most important ideas.
- Highlight keywords and ideas in the texts for the student to read first
- Check in frequently to make sure the student understands, asking him to repeat the instructions.
- Show examples of the requested work (templates).
- Provide a rubric that describes the elements of a successful task.
- Help the student to break tasks in smaller steps.
- Provide self-monitoring and guidance checklists with questions for reading comprehension.
- Organize the exercises from the easiest to the most difficult.
- Allow understanding to be demonstrated in different ways, such as oral reports, posters, and video presentations.
- Regularly check for understanding of contents and instructions.
- Communicate to the student the recognition for his effort on a regular basis.

How could the parents help?

Some suggestions to encourage and facilitate a positive attitude towards reading and writing[35]:

- Make linguistic games, such as tongue twisters, riddles, rhymes, proverbs or poems, using some books;
- Read alternately with your child, start reading and then alternate reading the book with your child. Remember that this moment should be a pleasure for both of you;
- You can also read in chorus, following the text with your finger and try not to go too fast, go to your child's pace;
- Use a book adopted by the teacher or, when selecting one, make sure that the vocabulary is appropriate to your child's level and that it has very legible letters;
- While listening to your child reading, do not be impatient or anxious, or always correcting him. Differentiate moments of pleasure reading from those when you are reading for academic tasks;
- Feel satisfied with your child's progress in reading and writing, praise him specifically and truthfully
- During reading always remember to ask your child to try to make predictions of what will happen in the story (either from the content or from images), stop frequently to recount what has already been read and take doubts and at the end check if the predictions were correct and make a summary and a critique with a personal opinion about the story (characters, plot, outcome, feelings, conflicts);
- Build a vocabulary box with your child, write the new word on one side of a card and on the back, its meaning. New words that have been heard or read are added, which

[35] (Alliende & Condemarin, 2005; Cabral, 2000; Hennigh, 2003)

must be periodically reviewed (spelling and saying meaning). Games with words can also be made: build sentences, say words from the same family, say antonyms, memorize words, group them by categories, etc. The box can be decorated by your child. This activity promotes the development of vocabulary and will make him feel

- Use television as a stimulant for reading, either when looking at weekly programs, to select the most interesting programs, or to deepen with readings themes that have aroused interest in a television program;
- The Internet can also be seen as a source of stimulation for reading and writing, either through email, or through the use of search engines, to deepen some topic or clarify doubts;
- Ask the teacher to tell you the words that are being worked on at school, prepare cards with those words to train regularly with your child (look, divide into syllables, write);
- You must be kept informed of the quantity and quality of reading required at school. You should share with your teachers what your child's attitude and motivation is towards books in general, and those recommended by teachers;

Suggested exercises and games:

- **QUICK LETTER NAMING:**

https://my.vanderbilt.edu/specialeducationinduction/files/2013/07/IA.Reading-CBM.pdf
https://www.interventioncentral.org/teacher-resources/letter-name-fluency-generator

- **READING OF ISOLATED WORDS**

http://www.lefthandlogic.com/htmdocs/tools/cbaprobe/cba.php

- **READING SHORT TEXTS**

(https://www.interventioncentral.org/teacher-resources/oral-reading-fluency-passages-generator)

- **UNDERSTANDING (MAZES)**

http://www.jimwrightonline.com/mixed_files/lansing_IL/_Lansing_IL_Aug_2013/3_CBA_Maze_Directions.pdf
https://www.interventioncentral.org/teacher-resources/test-of-reading-comprehension)

- **SPELLING (WORD DICTATION)**

https://my.vanderbilt.edu/specialeducationinduction/files/2013/07/IA.Spelling-CBM.pdf

- **WRITING**

https://my.vanderbilt.edu/specialeducationinduction/files/2013/07/IA.Writing-CBM.pdf
https://www.interventioncentral.org/teacher-resources/curriculum-based-measurement-probes-writing

CASE STUDY 6

Provided by 4th Primary School of Heraklion- Greece

General description:

At the beginning of the school year, student X (6 years old, 1st grade) attended our school. As time went by, his teacher noticed difficulties in the rate of thinking which was below his age. Also there was weakness in coordinating his movements in order to solve non-verbal problems, to handle numbers and to retain in the short term memory the names of the letters. He was willing to cooperate. He had insufficient performance in completing words and sentences, as well as difficulty in distinguishing graphs and in sufficient performance in composing sounds. He also was writing some letters and numbers as he was in front of a mirror. It was very difficult for him to read and spell the words since the decoding of the graphs and their conversion into sounds became difficult. Subsequently, the student presented weakness and difficulties in reading and writing. Visual errors (e.g. omissions of letters) were the consequence of the above weakness. The degree of the decoding was unpredictable regarding student's abilities due to the difficulties of phonological awareness, auditory and visual short term memory.

The teacher discussed the issue with parents and suggested the child to be tested by the special educator of our primary school.

An individualised educational program was implemented in collaboration with the class teacher, the special educator and school's headmistress.

There was improvement although he is still below the average of his class.

How could the teacher help?

The teaching methods:

a. Direct teaching
b. Observing and imitating patterns
c. Multisensory teaching

d. Learning strategies
e. Small steps method

1. **Letters recognition exercises**
   - Display of the image
   - Display of memory aid
   - Fill out a letter's outline
   - Visual letter definition

2. **Exercises for spelling letters, syllables & words**
   - Visual - motor game
   - Syllables arrangement
   - Fill in different syllables in words
   - Complete the same syllable in words
   - Distinguish words that contain the same syllable
   - Combine syllables to create a word
   - Cryptocurrency

How could the parents help?

- Read aloud interesting books that match child's reading level.
- Teach songs with rhyme
- Write notes or lists in front of the child and read them off
- Do not let the child do written exercises
- Play rhyming games
- If there is no improvement you should consult a speech therapist to check phonological awareness.
- Urge the child to do activities he/she is capable of doing (e.g. like sports), while you should continue the effort of writing and phonological restoration

The child should be able to :

- Remember accurately sequences of words, syllables, phonograms, sequences of oral speech and repeats without changing the order of sounds, syllables, words, sentences that see and hear.
- Use computers in order to increase the speed of audio-visual sequences. For example, a child retains in his memory the image of the cat with the corresponding sound and the word "cat", which appears at a certain speed.
- Use memory associations and activate associations by combinations of visual simulation of words. E.g. The child combines the letter "s" with the image of the snake or the letter " t" with the image of a tree.

- Connect the memory of words with experience and activities. E.g. The child associates the word “gym” with the word “gymnastics”, the word “swimming pool” with the word “swimming”.
- Practice in techniques of the fragmentation of the written word splitting the text vertically by syllables or words. E.g. “My /fa/ ther / is /tall/“; The/child/is/ running /in /the/garden”
- Develop hand mobility with repetitive exercises of rotation movements of the wrist, opening and closing fingers. e.g. The child develops kinaesthesia with writing movements of the fingertips on rough and embossed surfaces (sandpaper, surface with glued lentils)
- Pronounce vowels, consonants, complexes correctly. Exercises for the production of vowels, consonants, complexes with puns.
- Distinguish phonetically related phonemes. Exercises for distinguishing and correct articulation of related sounds e.g. b, f, d (Greek alphabet)
- Make syllabic and phonetic analysis of the sound image. Exercises of syllabic and phonetic analysis of sound image using tape recorder. e.g. “Re-na”, “R-e-n-a”
- Understand and distinguish words in oral speech. Exercises for perception and discrimination of words in oral speech. e.g. The child listens to the sentence “I go to school in the morning” and repeats these words in sequence.
- Analyse words into syllables orally. Oral word analysis exercises in syllables e.g. rhythmic analysis exercises in syllables with clapping, words of the type “fs” “sf” “ssf”
- Analyse the syllables in tones orally. e.g. rhythmic analysis exercises with hand claps in each consonant e.g. “w-a-t-e-r”
- Distinguish and pronounce words that begin with the same consonant. Exercises for distinguishing words that start from the same syllable orally e.g. “base, baby, ball”
- Compose consonants with all vowels orally. Composition exercises according to the above composition e.g. “Ma-mo-me-mi”
- Distinguish and pronounce words with rhyme. Words discrimination exercises. with rhyme. e.g “gida (goat)-vida(screw). Distinguish words that look phonologically similar. Phonological discrimination exercises of related words. e.g. podiά-pódia (apron-legs)
- Form words with the correct sequence of sounds. Phonemic word organisation exercises with correct sound sequence e.g. The child organises phonologically the sequence of sounds ”n-e-r-o “ (w-a-t-e-r) and produces the word “nero” (water)

Links and games

- The link below contains activities for practicing oral comprehension skills http://www.xanthi.ilsp.gr/akoustikh/default2.asp

- Worksheets related to skills https://www.slideshare.net/epapadi/200-httpblogsschgrgoma-httpblogsschgrepapadi
- Interactive exercises for letters https://www.stintaxi.com/3-muiotaalpha-pialpharho940sigmataualphasigmaeta-sigmatauetanu-pilambdaalphatauepsilon943alpha.html
- Write letters and words https://www.youtube.com/watch?v=TBgKzi8nwwQ
- First reading cards https://www.keda.uoa.gr/epam/pdf/el/ab.pdf
- Read and paint http://www.nipio.gr/worksheets-activity.php/3/1/
- Learning readiness activities for the oral speech by Pedagogical Institute http://www.pi-schools.gr/content/index.php?lesson_id=200&ep=15
- Quick learning program http://www.dyskolies.gr/index.php/reading1/9-mathdys/49-fats-reading
- AEROSTATO (Educational portal with activities) http://www.mikrapaidia.gr/ccs2/#%CE%B5%CF%80%CE%AF%CF%80%CE%B5%CE%B4%CE%BF-1
- Website with interesting electronic material and many classic fairy tales www.paramithia.net
- "Little Odysseus on the island of letters and sounds". Educational material suitable for first reading, teaching and writing. https://www.youtube.com/watch?time_continue=3&v=q-0hl1LOdBc&feature=emb_logo
- "How I write and read" , Educational software for first reading and writing (1st grade,Special education, Learning disabilities, Dyslexia)
    - https://www.youtube.com/watch?time_continue=1&v=7pdqCO32hlo&feature=emb_logo
    - https://www.youtube.com/watch?time_continue=1&v=zB7VKaMjmzE&feature=emb_logo
    - https://www.youtube.com/watch?v=dpoFGxguy3c&feature=emb_logo
    - https://www.youtube.com/watch?v=r_05DYCdE24&feature=emb_logo
    - https://www.youtube.com/watch?v=AdBq3weN2Fo&feature=emb_logo
    - https://www.youtube.com/watch?v=943p7KfHYD0&feature=emb_logo

- https://www.youtube.com/watch?v=ETbXK0wprC0&feature=emb_logo
- https://www.youtube.com/watch?v=GS0vvEogdpA&feature=emb_logo
- https://www.youtube.com/watch?v=xCCVqEHvpC4&feature=emb_logo