PREDYS: supporting children at risk of dyslexia at the transition period from pre-primary to primary

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PEDAGOGICAL FRAME REPORT

Information summarized by Latvia

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Introduction

INTRODUCTION

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, it does not mean a child will naturally and easily learn to read and/or write. If a child can count from 1 to 10, or to 20, or even further, it doesn't 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 a 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 have developed, many parents are surprised by how much their child is expected to know before starting school. Each teacher would say that the first school year is essential for children. Those who have prepared for it well, the chance to adapt and succeed at school is significantly higher. It is also a prerequisite for succesfull further education 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 behavior. 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.

1. RESEARCH ON THE PRACTICE IN OTHER EUROPEAN COUNTRIES

According to substantiated scientific estimates, the group of European Citizens with dyslexia and specific learning differences encompasses between 5 and 12 percent of the population, navigating through life in a largely non-'dys' friendly world. Dyslexia is the most widespread specific learning difference, making the acquiring and using of reading, spelling and writing skills and other communication-related cultural abilities difficult (commonly known as 'DYS-differences'). Quoting academic surveys, other learning differences as dysphasia, dyscalculia, dyspraxia and attention deficit disorder exist commonly with dyslexia; known as 'DYS-differences', (concluded under 'DYS'). A same person can also accumulate some of these differences, dyslexia being associated to dysphasia, dyspraxia, dyscalculia or attention deficit.

Co-occurrence of the DYS-differences is obvious:

- 20-40% of the persons with dyslexia are also having dyscalculia
- 20-55 % of persons with developmental language disorder are dyslexic.
- 10-20% of persons with dyslexia are having an anxiety disorder
- 2-14% of persons with dyslexia are having a depression
- 8-18% of persons with dyslexia are having an attention deficit and/or hyperactivity disorder

A lot of diversity is present across Europe with regard to issues related to dyslexia. Different countries adopt different definitions, have different norms concerning diagnosis and different regulations regarding support measures for dyslexic pupils and students.

It is generally (and indisputably) known and documented that the cultural abilities of reading and writing are among the most important prerequisites in our society for individual cultural, social and economic development and success. Furthermore, across Europe, the diversity of languages and the multilingual demands, socio-cultural backgrounds as well as educational opportunity, have a

significant influence on the manifestation of difficulties and life-chances for children, adolescents and adults with DYS differences.

Without sufficient knowledge in this area, failure in school, employment, general communication impairments and social segregation are common threats, with well-known consequences in the lives of those affected, their family members and society.

There have been significant advances in procedures that enable earlier identification of dyslexia, determine which interventions work best and then to develop appropriate support for people with dyslexia in schools as well as the workplace.

Despite that, dyslexia presents concerns and challenges for millions of children and adults across Europe

1.1. POLAND

Since dyslexic symptoms manifest primarily in reading and spelling deficits, dyslexia can be diagnosed only after children have received appropriate literacy instruction. However, till that time their academic failures will have been increased (M. Bogdanowicz, 2005). However, the deficits in psychomotor development which can predict specific difficulties in reading and writing can be observed as early as observing infants, toddlers, and pre-schoolers.

The term: risk of dyslexia also applies to students in the Reception Year and Year 1, who experience early learning difficulties (M. Bogdanowicz, 2005). According to Brzezińska (2004a), a child at risk of dyslexia is characterized by an average IQ and specific cognitive deficits underlying reading skills. The symptoms include: poor mobility, self-help difficulties, delayed lateralization and orientation in the body and space scheme, difficulties with: drawing, differentiating elements and blending them into the whole, the use of prepositional phrases, memory, time management, learning to read and write, pronunciation (M. Bogdanowicz, 2014; Krasowicz-Kupis, 2006; Rudzińska-Rogoża & Sinica, 2005). Risk factors also

include: complicated pregnancy and childbirth (M. Bogdanowicz, 2014), and family risk (Hallgren, 1950; Pennington & Olson, 2004), which is 50% (±11%) risk for reading problems (Fisher & Smith, 2001). Human Gene Nomenclature Committee has identified so far 9 susceptibility points: DYX1, 15q21; DYX2, 6p21; DYX3, 2p16–p15; DYX4, 6q13–q16; DYX5, 3p12–q12; DYX6, 18p11; DYX7, 11p15; DYX8, 1p34–p36; and DYX9, Xp27 (Williams & O'Donovan, 2006). Wysocka, Lipowska and Kilikowska (2010) report that DYX1C1, KIAA0319, DCDC2, and ROBO1 genes are linked to dyslexia. "

"The test battery diagnosing the psychomotor development of 5- 6 year-old children (5/6S Battery) (M. Bogdanowicz, Kalka, Sajewicz-Radtke, & Radtke, 2010). In the present study we used the selected subtests (with no ceiling effect in both groups) which examine: orientation in spatial relations (task: 3); linguistic skills: sound deletion (task 11); fine motor skills: drawing borders (task 8), connecting points (task 10), threading beads (task 13). We decided to use this Battery as the age range for our Year 1 participants was quite wide, following changes in the educational system: Year 1 students were born in 2007 (obligatory school entry) and 2008 (school entry based on parental decision). The next available test battery was for 8-year-old children who have received formal literacy training. Therefore, these tasks would be too difficult for our group, especially as we focused on children experiencing difficulties".

"The term "risk of dyslexia" was introduced in Poland by Bogdanowicz (2011b) in the early 1990s. It means the increased probability that this disorder will occur later in school time. Dyslexia risk symptoms manifest mainly in language related skills and later literacy and result in psychomotor development disharmony. According to the current Ministry of Education regulations, dyslexia is a disorder diagnosed after the third class of primary school at the earliest. However, the risk of dyslexia can, and even should be identified earlier – before the start of formal schooling, especially before reading instruction (Bogdanowicz, 2014)."

Nowadays in Poland we have a number of modern, reliable, normalized, standardized screening tools/tests. Identification takes place in psychological-educational clinics. The problem - it isn't obligatory (it depends on their parents/legal carers), so some children don't get diagnosed or it's done too late (parents don't want "to put a label"). Sometimes children have been diagnosed but their parents/legal carers don't want to share this information with teachers in school.

1.2. UNITED KINGDOM

Dr Pringle Morgan published the first article on dyslexia in the British Medical Journal in 1896. At that time, dyslexia was referred to as 'congenital word blindness'.

The Word Blind Centre was set up in Coram Fields, London in 1965. This was the first dyslexia association to appear in the country. The Helen Arkell Dyslexia Centre was established in 1971 in South West London and this was followed by The Dyslexia Institute and the British Dyslexia Association in 1972.

There is a number of different definitions and descriptions of dyslexia, which may be variously appropriate for certain contexts or purposes. In 2009 Sir Jim Rose's Report on 'Identifying and Teaching Children and Young People with Dyslexia and Literacy Difficulties' gave the following description of dyslexia, which was adopted by the BDA Management Board, but with the addition of the further paragraph shown below, which should always appear with it: The description of dyslexia adopted in the report is as follows:

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

• Characteristic features of dyslexia are difficulties in phonological awareness, verbal memory and verbal processing speed.

• Dyslexia occurs across the range of intellectual abilities.

- It is best thought of as a continuum, not a distinct category, and there are no clear cut-off points.

- Co-occurring difficulties may be seen in aspects of language, motor coordination, mental calculation, concentration and personal organisation, but these are not, by themselves, markers of dyslexia.

- A good indication of the severity and persistence of dyslexic difficulties can be gained by examining how the individual responds or has responded to well founded intervention.'

In addition to these characteristics, the BDA acknowledges the visual and auditory processing difficulties that some individuals with dyslexia can experience, and points out that dyslexic readers can show a combination of abilities and difficulties that affect the learning process. Some also have strengths in other areas, such as design, problem solving, creative skills, interactive skills and oral skills.

Assessment is differentiated for different groups as follows:

• Children: When additional support has been put in place for a child but it is insufficient to meet their needs, the school or the parents may request the local (education) authority for a statutory assessment. If the LEA/LA decides that a statutory assessment is not necessary, they are obliged to write a letter explaining the reasons and stipulating the provision they believe would meet the child's needs. Parents can appeal to the Special Educational Needs (SEN) Tribunal against such a decision. Some parents decide to pay for their child to be assessed independently.

• Students in Further Education and Higher Education: Students in Further Education may be able to obtain an assessment from the Learning Support Department. This is free of charge but there may be a long waiting list. In Higher Education, some universities may offer funding towards assessments but this would be once the student has already started the course and would mean that receipt of the Disabled Student's Allowance would be delayed. Students who have been offered a place at university should ensure that they have an assessment report

conducted by an educational psychologist or a specialist dyslexia teacher with a practising certificate for assessing students at Higher Education. This assessment should have been prepared after a yourng person turns 16. Assessors are required to renew their practising certificate every 3 years. Reports must include recommendations regarding tests and exams.

There are fairly strict guidelines on the format and choice of tests to be used for assessing for the Disabled Student's Allowance (DSA) for Higher Education. For more information, refer to the Working Group Guidelines which provides a list of tests which are considered suitable and has guidelines about assessing students who have English as an additional language. The materials can be assessed here: www.sasc.org.uk/SASCDocuments/SpLD_Working_Group_2005-DfES_Guidelines.pdf

In terms of the reports themselves, primary school reports are likely to have more details on testing of phonological awareness as teaching interventions will need to be planned. As far as assessment instruments are concerned, an assessment of a child generally lasts 2-3 hours and comprises various tests which will provide a full picture of the strengths and weaknesses of the child. These will normally include ability tests (verbal and non verbal reasoning), tests on phonological awareness, memory and processing speed as well as tests on reading, spelling, writing speed, comprehension and maths. The assessor should be able to explain their key findings at the end of the assessment and will also write a full report detailing all the results and outcomes.

Some examples of testing materials are the following:
- WRAT4 one word reading, one word spelling and sentence comprehension (wide range achievement test No. 4 (2006), Wide Range Inc.) (used with children and adults)
- The Nonword Decoding Test, Turner (2003) (used with children and adults)

• The British Picture Vocabulary Scale (BPVSIII) (2009) GL Assessment Ltd) (test of receptive vocabulary) (used with children)

• York Assessment of Reading for Comprehension (YARC) (2009) GL Assessment (used with children)

• Comprehesive Test of Phonological Processing (CTOPP) ((1999) PRO-ED Inc.) (used with children and adults but the ceiling is 24-11 so it has to be used qualitatively for older adults).

• Wide Range Intelligence Test (WRIT) ((2000) Psychological Assessment Resources, Inc.) (tests of verbal and non-verbal reasoning) (used with children and adults).

As far as legislation is concerned, dyslexia was first recognised in the 1970 Chronically Sick and Disabled Persons Act. It was defined as a Special Educational Need in the 1993 Education Act. The Equality Act 2010 aims to protect disabled people and prevent disability discrimination. It provides legal rights for disabled people in various areas including education. There is also the SEN Code of Practice (2002) which stipulates that schools must provide appropriate support so that all children receive an inclusive education. This is available for parents in summary form ('Special Educational Needs – A Guide for Parents and Carers') and provides information about the help that a child with special educational needs is entitled to and how it can be accessed.

Dyslexic pupils can receive access arrangements for exams. These vary from pupil to pupil but may include one or more of: extra time, a reader, an amanuensis (where the pupil dictates), a transcript (where the pupil's work is photocopied and illegible words are corrected), questions on tape, use of software, use of a computer, coloured overlays. Some of these adjustments must be applied for at the start of the course whereas others can be decided by staff (who must have supporting evidence available). There are specific criteria for each adjustment. For example, a pupil will

only be allowed to use a word processor if this is his / her normal means of producing work.

1.3. AUSTRIA

The term "Legasthenie" = dyslexia is rarely used in German everyday language. Most people use the term "LRS". But this use is often inaccurate in everyday language since some see LRS as a partial-achievement-weakness, others a reading-weakness, a spelling-weakness or both. The technically correct term for dyslexia is reading-spelling disorder = LRS = **Lese- und Rechtschreibstörung.**

The partial activities are the basis of mental development. Disturbances in these areas can lead to both motor developmental abnormalities as well as language abnormalities and in a broader sense then to school learning difficulties such as dyslexia or dyscalculia. These are difficulties in which the normal patterns of skill acquisition are disturbed at an early stage of development. However, difficulties should not be understood as a lack of intelligence. Nor are the difficulties the result of a brain injury or illness.

Attention: The term LRS is also often used for describing a "Lese- und Rechtschreib**schwäche"** = literacy difficulty. In this case normal tutoring sessions are sufficient because literacy difficulties have other causes (for example, bad schooling, family crises, or wrong learning techniques) compared to read-spelling disorders.

The different perspectives of research disciplines led to several focuses on dyslexia in Germany and Austria. The research results are discussed controversially.

The focus on a medical perspective (by ICD-10) turns students into patients. However, a medical diagnosis that excludes possible hearing, vision, mental health problems is also important. Giving medical diagnosis "dyslexia" there is no treatment.

The Austiran legislation even does not obligate social insurance companies to reimburse the costs for diagnostics. The main "treatment" measures are pedagogical measures. The Austrian legislation addresses

- compensation of disadvantage, e.g. special design of task sheets, conversion of written tasks into MP3 formats, extra time in written exams, use of calculator and formula collections, etc.
- protective measures: e.g. exemption from certain parts of the examination; exemption from reading aloud e.g. at the blackboard, in front of the class; different weighting of oral and written grades when forming the total grades and admission to tests despite inadequate performance, etc.

The Article 16 of the Austrian "Regulation on Performance Assessment in School" specifies language issues in case of assessment e.g. pupils written examinations. See also the Ministry Letter 32/2001.For the assessment the aspects like content, expression, correctness of speech and correctness of writing are indicated. Thus, correctness of writing cannot and must not be the sole basis of the performance assessment. There is a federal structure in Austria. That is why it has special additional rules for education. (http://www.schulpsychologie.at/lernen-lernerfolg/lese-rechtschreibschwaeche/regionales). In general, it is regulated, that dyslexic students can use all word processing programs e.g. that include spell checkers.

As said before, the Austrian countries (Lower Austria, Upper Austria, Burgenland, Styria, Carinthia, Tyrol, Vorarlberg, Salzburg, Vienna) have implemented additional specific regulations. A network of support activities has been set up to help the student to be a part of the school organization. Example: Regulations at schools in **Lower Austria**:

Teachers have the task to watch closely the written language acquisition or the development of reading and writing competences of their students. Particular attention should be paid to the early detection of children with LRS. If a LRS is

suspected, the teachers may require a pedagogical clarification and the development of an appropriate support plan by a learning consultant for LRS.

Learning consultants for LRS must have completed an appropriate training at an educational academy, a pedagogical institute, an educational University or equivalent education. Their tasks:

- assessment of weaknesses in written language acquisition
- consulting of teachers, recommendation of support measures
- consulting of parents
- providing courses for dyslexic students

Courses for dyslexic students start immediately after the clarification of LRS. The duration of a course is flexible and oriented to the needs of the supervised students. Only students with a clearly identified LRS (e.g. documented by a psychologist) can participate in the courses.

1.4. HUNGARY

Term dyslexia for reading, dysgraphia for spelling and writing, dyscalculia for counting difficulties is used for those who have difficulties in acquiring the basic school abilities. Also the term- specific learning difficulties- is used as an umbrella term for all these difficulties.

The term "Risk of dyslexia" is used for children until age 8 when a child shows deficits in sensory-motor and literacy skills.

It is believed that 10% of children have special learding difficulties, but this number is gradually increasing. Due to lack of standardized procedures for identifying these children, more precise data are not available. There are special classes and schools for children with specific learning difficulties. In more serious cases, special need teachers or speech therapists do identification and therapy individually or in small groups to treat dyslexia and other types of specific learning difficulties. More and more specialists agree that dyslexia is not a disease, not an

illness that can be cured. Dyslexia is a specific way of thinking, which is disadvantageous in acquiring some abilities and skills, especially ones that are essential in the academic achievements.

Dyslexia in Hungary is one of the major unsolved problems of public education. According to the most optimistic estimations, 25-30% of young people have low level of functional literacy; that is to say, they do not understand well enough the texts they read.

There is no official agreement, and it is very different what age is the identification done or allowed at all. Starting from this year (2019/2020 officially all 6 years old children have to go to school, which means if they are not mature enough, they will have an official examination to decide whether they are not prepared for school.

There are official institutions where speech therapists, special need educators and psychologists identify dyslexia, but early identification happens in the nursery-schools if teachers are prepared for it. Theoretically all children who go to school have to be assessed.

1.5. DENMARK

There are different programs for children at risk for any developmental disorder. Starting from the begining: Preborn and children with neuro-risk are monitored from the beginning of life. There is a register and they are controlled by SLT, psychologist, paediatrician, physiotherapist, physiatrist if needed. The kindergarten is responsible for screening for language disorders.

If language difficulties are not spotted, then the child can be put under the risk at the point of screenings for school readiness (from February). Among other experts, SLT also participates in these screening sessions. A standardized test is used for reading skills. If the child fails that test he/she will not enter the school for another year and can be included in a therapy.

The system is quite good, however there is no enough experts and sometimes it's hard to get therapy if you don't live in a bigger city.

The test for school readiness includes different areas, such as fine motor skills (colouring/cutting/drawing, etc.), knowing colours, days of the week, seasons, counting, grouping things, letter recognition, etc.

Another test is the PredCip test - test of pre-reading and pre-writing skills - it's a standardized test that only SLTs can do and includes: syllable comprehension, phonemic awareness, understanding of rhymes, narrative skills (discourse of the micro and macro structure of the language), measurement of language productivity, visual-motor coordination, several working memory tasks

(https://www.nakladaslap.com/pds/pregled/b558e590c715b4612b047725112898f5a). That is a screening, not a diagnostic test.

2. SUMMARY OF THE PREVIOUS TOPIC-RELATED PROJECTS IN PARTNER COUNTRIES

The following will provide an overview of the projects in each of the project countries, their idea and the possibility to adapt them.

2.1. SPAIN

LEEDUCA PROJECT – It is a program based on scientific research, prevention and stimulation of it phonological awareness and other oral skills in the Primary and Secondary Education stages course in Primary Education.

The aims of Leeduca are:

-To develop a permanent program of scientific research on the learning of the reading and transferring results to society.

- To promote training to implement a program to prevent the difficulties of the reading.

- To Interve early in all the students in order to detect learning difficulties of the reading.

- To prevent reading difficulties.

- To compensate for inequalities in the environament

We are given access to all the materials and resources created to work in the classroom with pre-school and primary school students."The moodle webpage http://cefire.edu.gva.es/course/view.php?id=18568 will provide us ideas about diferent ways to work in preventing dyslexia.

PRODYSLEX - Understanding the characteristics of dyslexia is essential to know how and in what way we should act. Protocols have been developed within the project. They were developed in collaboration of Disfam and the UIB, as well as with the supervision of professors and professionals of the General Directorate of Innovation and Teacher Training. You will find diagnostic and execution protocols for infant dyslexia, primary education (first, second and third cycle), secondary education (first cycle, second cycle and third cycle) and vocational training (secondary and tertiary).

On these websites, we have access to various dyslexia diagnosis protocols in pre-school and primary education.

https://integratek.es/blog/2013/03/04/prodislex/

https://integratek.es/wp-ontent/uploads/2013/03/primaria1.pdf

We believe that most of them are so brief and do not pay individual attenttion to the student. It could be interesting to observe the different aspects they take into consideration for a previous alert on dyslexia.

TECLE READING EFFICIENCY TEST - The project is currently being carried out by a research team from the University of Murcia, comprising Carrillo, Sánchez and Miranda, in collaboration with Professor Jesús Alegría of the Free University of Brussels. DIS-ESP, an assessment tool, has been developed to detect

specific reading difficulties and to be able to detect dyslexia. This tool is divided into three parts that would be applied sequentially.

The developed project has not shown "viable" results. However, the research is very important for the structure of our project in Spain. https://www.ladislexia.net/bateria-dis-esp/

2.2. BULGARIA

CALLDYSC (2006-2008) - A set of games for mobile devices was created to help dyslexia students learn English easily and in a more interesting manner.

Although these games are old-fashioned and no longer available online; some ideas and exercise structures could be used in the classroom, especially for students with disabilities.

ADYSTRAIN (2006-2008) - Set of 12 manuals in electronic format.

EDYSGATE (2006-2008) - 175 educational games on dyslexia for young people in different languages. The games cover the seven areas relevant for a perception training. Unfortunately, EDYSGATE and DYS2 games are no longer available.

DESSDYS (2009 - 2011) - The project aimed to directly support young adults with dyslexia through e-learning tailored to their specific needs. Some materials, with some adaptation for younger students, could be included in the training manual as part of the PreDys project.

VETO DYSLEXIA (2009-2011) - All materials for the implementation of Dyslexia-Friendly Quality Labeling standards are available in different languages. Take into account considerations on dyslexic quality label standards, in particular for teacher training, dyslexic documents / materials

CALDYS2 (2010-2012) - Within the project, 6 adaptable game structures have been created. They have special content. In total, there were almost 200 games that support the teaching of English as a second language and aim to develop problem areas for dyslexia students.

DYSLANG (2012-2013) - This project supported the multilingual dyslexic Individuals in learning an additional curriculum language. The main aim of Dyslang was to develop and implement an e-learning course and best practise guide for teachers and parents so they will be able to support the multilingual individual in learning an additional language that is different to his/ her mother tongue. Some of the materials could be used in PreDys training. Involving teachers in all participating countries in testing project products.

DYSVET (2012–2014) - Provision of reliable knowledge on dyslexia as well as physiological and educational consequences and the barriers faced by dyslexic individuals in accessing education and later in the labour market along with ways of eliminating them, - Developing an active attitude in teachers and managers supporting dyslexic individuals as regards access to knowledge and the labour market. Equipping teachers, tutors and others who have a duty of care towards the dyslexic student with the ability to teach and support them successfully and efficiently. The modules were developed in different formats (text, audio, etc.) - there are simple ways to convert text to another format and make it dyslexia friendly.

RoboBraille SMART (2013-2015) - The project was based on the use of RoboBraille (online converting software). The aim of the project was to implement into practice a new methodology for developing of educational materials in diferent formats that are more suitable for people with reading difficulties (dyslexia) and visually impaired people. Some materials could be used to create a handbook within the PreDys project, especially in the section on available formats - RoboBraille itself can be used to prepare learning materials in different formats.

MoDYS (2014-2016) - It was a KA2 (adult education) project which objective was to improve the mobility and availability of educational services for adolescents with dyslexia and other specific learning disabilities (SLD) in general education. Some of the material could be used to create a learning manual for

Dys2Go, especially in the sections on learning preferences / learning styles and the use of ICT in dyslexia.

INFINITUS (2014- 2016) - Partners developed some training materials that were used to train a group of teachers/tutors, as well as a some youngsters (14-16 y/o) with dyslexia. Sharing knowledge, experience, materials between partners - Some of the materials could be used for training.

Reading with Ease and Fun (2015--2017) - The objective of the project was to develop a training course for primary school teachers and SEN staff, and a set of activities that aimed at enhancing students' interest and motivation to read. Materials - manuals and worksheets can be used as training activities.

INCLUTECH (2015- 2017) - To document fundamental pedagogical principles, methods and tools for teaching key subjects to the blind, partially sighted and dyslexic by exploring the practice at specialised educational institutions; - To collect and document good practices to support the transition from segregation towards inclusion amongst mainstream and specialised educational institutions; - To create scalable educational material on the RoboBraille service to ease adoption of automated production of alternate media. Some of the material could be used to create a handbook for PreDys, especially on strategies for teaching languages, math and music to dyslexia students.

DYSTRANS (2016-2018) - The aim of the project was to develop a transition support kit, a combination of a transition checklist, a template (s), a handbook for teachers and a handbook for parents, which not only provides detailed information about the child's history and needs, but also information for both the new school and parents on how best to support their children in the transition between schools.

DYS2GO (2018-2020) - The main objective of DYS2GO is the provision of a range of mobile, highly motivating and stimulating learning games for a carefully selected range of skills known to be important for young dyslexic adults. The focus

will be on 7 areas. The games will be ready for testing by the mid of 2020, so they can be used by PreDys partners as a training material, too.

2.3.GREECE

Detection and research of reading disorders in kindergarten and A (B) class, 2007 - The Reading Detection and Investigation Test includes four manuals. The first is the description of the test, the second is the examiner's guide, the third is the exam booklet, and the fourth is the material for presentation. Purpose: The purpose of the tool is to help to diagnose the level of development of the cognitive-linguistic factors of preschool-age children, which presuppose reading learning later.

Detection of speech and speech disorders through narration in preschool children (Panteliadou & Antoniou, 2007a). Purpose of the Test: The Speech and Speech Test is a psychometric tool aimed at detecting and generally investigating speech disorders related to learning difficulties.

The test objectives are:

(a) identification of speech difficulties in pre-school;

(b) recording upcoming activity and speech changes during development;

(c) continued ability to compare the performance of pre-school children with this test.

Detection and investigation of memory disorders in kindergarten and primary school (Bezevegis, Economou, Mylonas, 2007). - The memory test includes a "Description" form relating to the purpose, theoretical basis, use of psychoeducation, choice of scale and use of the test in research, an "Examiner's Manual" containing instructions for administration and assessment, and "Brochures". "Test" for two age groups, two white alley frames and nine two-color chips.

Identification and research of learning and grading disorders in kindergarten and primary school (Economou, et al., 2007b). The examination

sonsists of two scales – learning and cathegorizing. Initially, the term learning emphasizes the acquisition of new information, while categorization presupposes the ability to perceive, evaluate and manipulate the individual receiving.

Determining psychosocial adjustment of preschool and school-age children, (Hatzichristou, et al., 2007). The Psychosocial Adaptation Test for preschool and school children is an assessment scale aimed at identifying skills or deficits in the social and emotional domain primarily, but also related to school adaptation of children with learning disabilities.

Identifying reading errors in 8-15 year old students (Panteliadou & Sideridis, 2007) - The reading test (Test-A) consists of three textbooks: a description, an examiner's manual, a presentation of the material and three examination leaflets. Aim: The aim of the A-test is to provide a comprehensive assessment of students' reading skills, starting in primary school (grade 3) and secondary school, and to identify pupils with severe reading difficulties in compulsory education.

Automated research (with the development of specialized software) for specific learning difficulties in the development and acquisition of written and oral speech for B'-D 'Primary school students (Scaloubakas & Protopapa, 2007a). The LAMDA software system is based on the multiple choice system. If evaluation hadn't been fully automated, specialized staff would have been needed, and, on the other hand, the issue of subjectivity would be raised. The screening tests were designed based on international literature and clinical experience.

2.4. LATVIA

Providing opportunities for parents to support their children with dyslexia (2013-2015) - The aim of the project was to educate parents so that they could better support their children with dyslexia. The project focused on several objectives – to give parents evidence based information for a student with dyslexia, what information and communication (ICT), accommodation and compensation are effective and also how to be an effective advocate for one's child when

addressing various educational situations. http://www.disleksija.lv/data/gramatas/empowering-parents-manual-final.pdf

CorSer: Coordination of help for students with dyslexia - right service, right time. (2017-2019) - CorSer aims to exchange good practice in coordinating and providing quality, evidence-based services for students with dyslexia in primary and secondary education, and to improve the coordination of these services - identification, use of ICT, support in other subjects such as second language learning - between teachers and also for different levels of education. This is all so that students with dyslexia have strong literacy skills, and when it cannot be achieved, understand how to use tech support so they can learn. The main target groups are teachers and students. The presentation provides tips and guidance for language teaching for students with dyslexia:

https://ec.europa.eu/programmes/erasmus-plus/project-result-content/1b555498-5e73-4bal86fee8e19f4afa4a/Dyslexia_Foreign_Lge_Acquisition_090218%20%5BAutom%C4%81tiski%20saglab%C4%81ts%5D.pdf

The use of evidence based learning instruction:

https://ec.europa.eu/programmes/erasmus-plus/project-result-content/83d661a7-2350-47c8-8aa0-eab8883d05a5/Reading_instruction_050218.pdf

Mobility of educational services for adolescents with dyslexia (2014. - 2016) - The project sought to improve the mobility and accessibility of educational services for adolescents with dyslexia and other specific learning disabilities in mainstream education.

ERASMUS + project "Reading with ease and fun - REF", 2015-1-BG01-KA201-014354 - The aim of the project is to improve the reading skills of students with dyslexia and to improve their interest and motivation to read involving them in various activities leading to improved reading skills as well as further development of students' ability to work with written information, as well as improving teachers' competences. Use previously developed and implemented materials as a basis for new ones.

LINKS - cooperation of speech therapists to acquire new knowledge and skills (2018–2019) - In response to the problems, YMDRAB, in cooperation with

Romanian, Lithuanian, Latvian and Estonian speech therapists' associations, developed the project "LINKS - Speech Therapist interact for new knowledge and skills". The project idea is to provide quality training to those working with young people with communication problems in rural areas in order to increase their professional capacity and to improve the quality of the services they provide. There are many ideas; however, we might be interested in the reading section. http://www.ymdrab.eu/images/links.pdf

2.5. TURKEY

"Understand and teach" 2016-2018 The "Understand & Teach" project has been developed on the achievements of the EUPALT. New simplified tests and a guide have been added. Although the project is less academic, through extensive research and the development of high-quality questionnaires, it (the project) has achieved a more accessible result, not for professionals who work with children with learning difficulties, but for teachers, educators, parents and students with a relationship with people suffering from dyslexia. Some materials could be used to develop a handbook - Direct involvement of dyslexia learners at all stages of the project (starting with a survey of their needs, development of materials and a pilot test).

"ABOUT DYSLEXIA FOR TEACHERS WHO TEACH ENGLISH" 2016–2018. The project aimed to reinforce support for dyslexic students in mainstream education through foreign language teacher training on inclusive classroom practices with dyslexic foreign language learners. The project addressed the shortcomings of the English language - teacher training, which often does not pay enough attention to the special educational needs of dyslexic students. Some of the material can be used for the manual within the Dys2Go project, especially the section on available formats

REF - READING EASY AND WITH FUN (2015-2017) - The REF / project aims to develop a training course for primary school teachers and SEN staff,

as well as a set of activities aimed at increasing students' interest and motivation to read. The Materials developed within the project will provide proper knowledge and understanding of the reading process and problems children may encounter in the reading-acquisition stage, as well as a set of practical advices and exercises for initial formation and improving of the reading skills. Each model lesson can be reused or it can inspire you to create your own model lessons tailored to the specific needs of pupils or students.

2.6. PORTUGAL

Paula Tele Method of Phonological Programs - There is a method based on the results of scientific research, research by the author, teacher and educational psychologist and long practice in educating children and young people with reading and writing disorders. It is not widely used in our school. It consists of materials that have to be purchased.

Distema Method - Dyslexia- Teles- Machado - It is a multisensory, phonetic, structured and cumulative teaching and retraining method for reading and writing. The project was prepared on the basis of recent research on dyslexia and Dr. Paula Teles and Leonor Machado professional experience as educational psychologists. Dyslexia website with scientific articles, news, warning signs, former dyslexic errors.

I'm still studying at Minho University - In this panel you will find a set of information about the evaluation process in the following dimensions:

1. Phonological awareness
2. Letter identification
 3. Articulation of syllables and syllabic constituents
4. Reading fluency
5. Fluency of text
6. Comprehension

Although this platform is currently deactivated due to data protection issues (it is expected to be fixed), it allows teachers to adapt, develop and monitor students' learning to read using a number of features. It also allows students to develop their ability to work independently, remotely. There is also talk of feedback, which is one of the most important aspects of the teaching-learning process.

It is an interactive educational platform that aims to provide:
- a review of the issues and problems surrounding assessment and intervention in Difficulties in Learning to Read (DAL);
- assessment materials and activities that allow the characterization of the pattern of acquisitions and difficulties of students in reading;
- intervention materials and activities that make it possible to respond to reading difficulties presented by students.
Some of the information has restricted access.

<u>Language skills: Phonological awareness building (PNEP)</u> - This brochure emphasizes that the correct development of phonological comprehension also depends on better students' performance in writing and reading. Along with the reinforcement of the practice on both in speech perception and in its production, the nature of the exercises developed is extremely important.

How to start reading and writing? Professionals from different areas, namely research in psycholinguistics, teaching, pedagogy, didactics, as well as health areas related to therapy and rehabilitation, have observed that success in learning to read and write is correlated with performance of the subject in orality. Here we can find training with students / proposals for activities which could be helpful within the project, namely: training on hearing discrimination; phonological awareness training and evaluation schedule.

<u>Language and Communication in Kindergarten (PNEP) Language and Communication in Kindergarten (PNEP)</u> - Developed by Ins Sim-Sim, Ana Cristina Silva and Clarisse Nunes and coordinated by Ins Sim Sim, Language and

Communication in Kindergarten formulates theory and practice, incorporating theoretical and didactic information and recommendations for classroom activities in an integrated way.

It provides teachers with very useful suggestions for deepening the dynamics of conversation in kindergarten, providing a diverse, challenging and meaningful experience that motivates children to interact and share experiences, ideas and feelings, and what is expected at the end of pre-school education.

<u>Phonological comprehension assessment test</u> - This handbook was created for use by pre-primary educators and teachers in primary education cycle 1 who have been trained in this field because they know the children they work with and there are parents as a reference resource.

This manual provides evidence for the assessment of phonological comprehension (Forms A and B1). This work is licensed under a Creative Commons License, Non-Commercial Attribution Without Derivatives 4.0 International / This work is under a Creative Commons License of Attribution - Non Commercial - No Derivatives 4.0 International (CC BY-NC-ND 4.0). This evidence can be used to identify children at risk, therefore, children who are the target of a more focused intervention and of monitoring progress.

<u>From cradle to letters</u> - Recent research shows that children who start learning to read and write but do so without any particular results rarely recover. According to studies by Juel (1988), about 90% of children who at the end of the 1st year of schooling have reading and writing difficulties, reach the 4th year with the same difficulties.

This project or the experience gained as a result can be an advantage of the Predys project as it can provide us with guidance through strategies and working methodologies. Similar results are being investigated: to improve children's metalinguistic skills and to train educators and teachers.

It is a Project, in several phases that include the training of educators in the application of diagnostic instruments, as well as in the programs for the

development of metalinguistic competences and in the implementation of these instruments with the children of the last year of Pre-School Education.

The entire implementation process will be monitored by the coordinating team, in order to support the educators at any time in the possible difficulties that may arise.

The study of the impact of this project, both on children and schools, will be done with the collaboration of the educators responsible for the implementation in each establishment.

https://sites.google.com/site/dobercoasletras/o-projeto/contexto

<u>Speaking, reading and writing in kindergarten - FLE - JI -</u> It is a program developed in partnership between Minho University and some kindergartens. The product of several years of work, which combines the results of literacy research with the systematic implementation and evaluation of its activities. This chapter presents the objectives, the options taken, the justification for them and, whenever relevant, includes an assessment of the implementation process.

It has a folder of files / images that we can use in Interactive Games to develop Phonological Awareness and to build teaching materials to be used by collaborating teachers and educators. These games are free to access and are available on the program page. Download is free of charge. http://falarlerescrever.lusoinfo.com/

3. PRE-REQUISITES FOR A SUCCESFULL SCHOOL START

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

3.1. PERCEPTION

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 reproduction, encoding, storage, and acquisition of acquired neurons. 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 (ie. form or a face of a person) and/or aural/auditory information (ie. 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 don't 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 wants 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. When 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 basics of attention: 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. FINE 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 the 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 require 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 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 aboutmathematics, 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 chocolate 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 copes 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 features 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 object with a specific shape in the environment. It would be helpful if the child can 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 young 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. QUATITIES – 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 (2 balls are more than 4 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 express 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. SUMMARY OF THE DYSLEXIA SITUATION IN THE PROJECT COUNTRIES

The project countries conducted a survey on the study and understanding of the dyslexia situation in the project countries. After summarizing the project partner countries' responses to the questions, it is concluded that the risk assessment for dyslexia differs. Diagnosis of dyslexia and assessment of risk factors are predominantly focused on school age, not pre-school. For example, in Greece and Turkey, specific learning difficulties and dyslexia are diagnosed in pupils who study in grades 2-3, but pre-school assessment of a childs' development

is based on observations. Turkey is conducting in-depth child monitoring in key areas, recording results in forms approved by the Ministry of Education and Science (Turkey) by teachers, school counselors with the aim of providing information to health professionals referral to a medical institution.

The Spanish Dyslexia Association recognizes that diagnostics are conducted too late in the country. 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. All in all, the situation varies from country to country and from school to school. The State Education Law (Articles 71, 72) focuses on students with reading disabilities and the need for appropriate assessment.

Bulgaria is the country where the diagnosis of learning difficulties at preschool age is determined by the Ministry Decision no.5. The view focuses more on the assessment of 5-6 year-olds' readiness for school. Professor Bijkova designed the test to detect a child's readiness for school, not to evaluate the child. The result is informative and aimed at providing reliable information to the child's teachers and parents, whereas early age diagnosis (3-3,6 years) is not mandatory, but it can be conducted with parental consent. The evaluation is done by pre-school teachers and the consent of the parents is not required for the evaluation of the child.

In Latvia, the difficulty of acquiring a child's reading literacy is paid more attention in special education institutions or groups, where the team of specialists work with children. In general institutions, where 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 about the child's ability, literacy, speech and language in-depth examination are made by the child's parents, through their pediatric medical committees, and their consent to educate the child in special groups and classes.

Observation of the abilities and skills of preschool children occurs in the following areas:

	Bulgaria	Turkey	Greece	Latvia	Spain	Portugal
General observation, evaluation		X		X	X	X
Child's Achievements in psychic development				X		
Language and speech development	X	X	X	X	X	X
Literacy		X	X	X		X
Writing skills		X	X	X		X
Mathematical abilities	X	X		X	X	
Social skills, the development	X			X		X
Behavior			X	X		X
Emotions			X	X		X
Motor skills	X	X	X	X		X
Visual, auditory, kinesthetic perception		X	X	X		X
A child's physical development achievements				X		

Analyzing the research areas of preschool children, there is a difference in the formulations that are broader in Latvia eg. the child's mental development, which includes language and speech development, reading and writing skills, and mathematical concepts. The development of the social sphere involves the development and evaluation of communication skills, feelings, behaviors and emotions, willpower. The assessment of physical development includes the assessment of the child's high and low motor activity, the child's activity, including the ability to work with writing tools. A similar model of assessment exists in

Bulgaria, where there is a test developed by Professor Bijkov for this purpose, while in other countries the indicators for the study of children are more fragmented.

The assessment of pre-school children in all countries is carried out by pre-school teachers, specialists (speech therapists, special educators, clinical psychologists) in medical institutions, in the case of learning disabilities -in newly created centers, in the private sector. The set of methods and techniques used varies from country to country, eg the Desforgers-Lindsay scale in Greece and English-translated tests (CERenfrew (1988), fononlogical development test (Pan-Hellenic Association of Greek Speech Therapists), in Spain reading tests (EDIL, EL TALE, PROLEX-R, PRPLES - SE, DIS-ESP), in Bulgaria Diagnostic Albums of Professor Bojanov, Slavejkov, Ignatov, in Latvia the development test Acadience (DIBELS Next), Turkey- O-DMP (Dyslexia Intervention Program in Preschool), DMP (Dyslexia Intervention Program) Intervention Program), Child's Observation, Academic Assessment and Intelligence Test Summary. In all project partner countries mentioned tests are used by professionals with relevant education, working in the public and private sectors. Within the partner countries support for children with specific learning disabilities are coordinated as follows:

	Turkey	RAM (Guaidance and Research Center)
	Greece	Education and Counseling Support Center (KESY) SMEAE (Association of Special Education Schools)
	Spain	Dyslexia Association
	Bulgaria	Dyslexia Association
	Latvia	VISC (National Center for Education of the Republic of Latvia)
	Portugal	Portuguese Association of Dyslexia (APD) Multidisciplinary Learning Support Team (EMAEI)

Turkey, Greece - children with specific learning disabilities can be supported in integrated classes or in individual classes (during lessons), in Latvia in special education groups (classes) or in mainstream education. 1) Intervention classes have been developed in the country to promote literacy within Acadience (DIBELS Next)as well as a set of stimulus exercise books and reading games are worked out.

In Spain, there are downloadable materials, games, exercises for children with learning disabilities, as well as a platform (LEEduca) offered by the dyslexia association. Summarizing the partner countrie's experience, it can be concluded that:

1) countries do not have specific tests or specialized tests to determine the risk of dyslexia at pre-school age;

2) childrens' research, observation-based assessment of abilities take place in all countries, some of which are nationally regulated and prescribed;

3) there is no uniform procedure for the applicability of research results in children;

4) the learning difficulties of children, difficulties in reading literacy are determined by observation which is carried out by pre-school educators, through in-depth research, by professionals with appropriate education;

5) each country has a different system for assessing the likelihood of dyslexia or children 's abilities and skills, but all countries decide on support for special education or inclusive education;

6) countries have developed dyslexia risk reduction materials for work with children, which can be used by teachers, professionals, and families.

A brief summary of the answers to the questions regarding dyslexia and early indentification in partner countries:

1.   Whether and how your country determines the risk of dyslexia in pre-schoolers?

Greece- Diagnosis of dyslexia occurs until Grade 3, there is a three-level system of intervention. In the first - children are observed; the second - divided into groups and within the third - children with no developmental dynamics are evaluated by specialists. The purpose of the assessment is to determine the type of disorder, to distinguish dyslexia from other learning disabilities.

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 counselors, but is not intended to diagnose, but to recommend researching children to identify specific learning difficulties.

Spain - Diagnosis of dyslexia does not take place in the preschool, it is voluntary and teacher-initiated in the school, although the Education Act (2013) contains articles on the need for appropriate assessment measures that can be adapted to children with special needs.

Bulgaria - the diagnosis of learning difficulties at pre-school age is established by Decision No 1/99.5 on inclusive education is compulsory at the end of pre-school, following a test developed by Professor Bijkov. Early diagnosis (3–4 years) is not mandatory and is performed with parental consent.

Latvia - assessment of learning achievements in pre-school is carried out in accordance with Cabinet of Ministers Regulations No. 716 (Nov 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.

Portugal - The diagnosis of dyslexia is clinical. Teachers and educators tend to be the first to suspect that the child has a specific learning disability, by comparing their performance with that of other peers. It is up to the educator / teacher to be attentive, to have knowledge to be able to act in face of the difficulties presented by the child, since the existence in schools of students with specific learning difficulties, namely dyslexia, implies on the part of teachers, habits of reflection, updating and deepening their knowledge in this area.

2.   Who carries out a risk assessment for dyslexia in pre-schools?

Greece- probabilities of dyslexia risk assessment is carried out by independent diagnostic centers, medical-pedagogical institutes, special education institutions, education and counseling support center (KESY).

Turkey- Children with specific learning disabilities are researched at the Advisory and Research Center with a Pediatric Psychiatrist, and special education support is offered based on a decision of the hospital committee.

Spain - The risk assessment of the likelihood of dyslexia is primarily done at school by a teacher or a group of teachers, and a diagnosis at school or a clinical psychologist is recommended. Basic evaluation involves the evaluation of behavioral and cognitive processes.

Bulgaria - dyslexia is diagnosed when the period of literacy development is reached (grades 1-2). In-depth assessment can be performed in specialized medical centers, if necessary, in cooperation with psychologists, speech therapists, psychiatrists, neurologists. The speech therapist tests the children's speech and language and obtains data on reading problems. Assessment consists of a neuro-psychological and cognitive assessment.

Latvia- In-depth research of children, with the consent of the parents, is carried out by psychologists, clinical psychologists, psychiatrists, neurologists and, if necessary, conclusions are made by the pedagogical-medical commissions. There is an opportunity to have a general assessment of children's health and mental development through examinations at Children's Clinics at University Hospital.

Portugal - From the moment that learning difficulties are observed in a child, the child should be referred to a psychology and / or special education consultation, where a psycho-pedagogical evaluation will be carried out, to detect dyslexia. This assessment is a comprehensive assessment that includes the student's clinical history, cognitive and behavioral analysis, and the assessment of reading (decoding and understanding), oral and written language, in some cases also quantitative language, to identify the type of errors, their intensity and duration.

Multidisciplinary Learning Support Team (EMAEI) assesses the situation and indicate the measures to be applied.

3.   What methods are used to detect dyslexia in pre-schoolers?

Greece- assessment tests, the assessment of basic skills used in the Anglo-Saxon countries and the Desforgrs-Lindsay scale are used.

- Preschool Language Scale-3 (PL-3) (Zimmerman, Steiner, Pond, 1992)
- Language Fundamentals Clinical Assessment - Preschool (CELF)
- Pebody Picture Dictionary Test III (PPVT-III) (Dunn & Dunn, 1997)
- Renfrew Image Test (CE Renfrew, 1988).
- Phonological Development Test (Pan-Hellenic Association of Greek Speech Therapists)
- A brief evaluation of phonological skills, which includes aspects such as: separation of words in a sentence, how the child copes with difficult words, division of words into syllables, and ability to distinguish sounds.
- Evaluation of phonological comprehension.
- Assessment of reading and writing.
- Assessment of visual and tactile perception.

Turkey - no specific tests have been developed by the Guidance and Research Center for dyslexia, the evaluation is as a combination of child observation, academic assessment, and intelligence test scores

Spain - The evaluation of dyslexia is like an overall evaluation of standardized literacy tests (EDIL, EK TALE, PROLEX-R, PROLES-SE, DIS-ESP), intellectual ability, phonological memory and phonological awareness tests.

Bulgaria - There is no specific practice for determining the risk of dyslexia. Assessment of preschool children is based on professor Bijkova's test.

Latvia - there is no test to determine the risk of dyslexia. In order to determine children's phonological abilities and reading difficulties Acadience (DIBELS

Next) test for 6-year-olds is used; based on observations and children's activities, the children's overall skills and intelligence are assessed.

Portugal - The results of this comprehensive assessment will serve as a basis for building an intervention plan with appropriate methodologies for each student, which must be shared between health professionals, family and teachers, to ensure teamwork. APD requires the Ministry of Education to carry out tests to detect that disorder in children in pre-school education.

4. Are there materials in the country for dyslexic risk reduction work in pre-school establishments? If so, who uses these materials, works with them?

Greece- Tests are used by trained professionals with appropriate training!

Turkey- There are several dyslexia programs in the country, O-DIST (Pre-School Detection of Dyslexia Symptoms) and O_DMP (Pre-School Dyslexia Intervention Program), PREP (Reading Program Update), TILLS (Integrated Language and Literacy Test).

The tests and intervention program are carried out by professionals with appropriate training and professional skills. Families have access to programs at special counseling centers, special education or rehabilitation centers.

Spain - A platform (LEEDUCA) has been set up, which is based on an activity-based reading literacy program, many of the dyslexia-related materials are available on the Internet, and are also offered by the Dyslexia Association. Such as dyslexia stories to understand why these children learn differently, downloadable materials, task strategies to improve spelling, board games. The materials are intended for use by teachers, associations, families, professionals, psychologists, students.

Bulgaria -There are no standardized materials or programs for working with pre-school children to reduce the risk of dyslexia. Materials for improving children's speech and reading skills are prepared by each specialist and adapted to the child's needs. Support groups are formed in social networks to share resources. The materials are divided into three groups: Materials developed and used by

special education teachers for children with learning disabilities. Materials developed by parents and teachers for work with children at home. Materials developed by parents based on personal experience.

Latvia – Interventions to promote literacy have been developed within Acadience (DIBELS Next)as well as a set of stimulus exercise books and reading games are available. These materials have to be used by professionals who have completed a training course and obtained a certificate.

Portugal - Nationally, there is a shortage of materials and psychometric instruments suitable for assessing the risks of dyslexia. Dyslexic students are entitled to adaptations in the classroom and in the assessment processes, so that they can have the same opportunities for success (Decree-Law nº54 / 2018). We also have DUA (Universal Learning Design) that builds inclusive pedagogical practices. It is essentially carried out by professionals outside the school, by private clinics, by the Portuguese Association of Dyslexia, psycho pedagogical offices, education professionals, SPO (psychology and school guidance service) and Special Education.

Thus, summarizing the results, it can be concluded that most project countries do not have specific materials or programs in place to work with pre-school children to reduce the risk of dyslexia.

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