

DETECTION, DIAGNOSIS AND INTERVENTION IN STUDENTS WITH DYSLEXIA. GUIDE FOR STUDENTS OF EDUCATIONAL SCIENCES

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Abstract: This article aims to provide more information and collect key ideas for educational intervention with students who have dyslexia. To this end, keys are given for the detection, diagnosis and intervention for students who have special educational needs, specifically dyslexia. Dyslexia is defined as a specific neurobiologically based reading learning disorder that persistently affects phonological decoding and/or word recognition, interfering with academic performance with a reading delay of at least two years. This work is intended for future teachers or education professionals who will have to provide an appropriate educational response to these students. In this work you will find its definition, classification, etiology, instruments for psycho-pedagogical evaluation, educational response and a section intended for guidance for families or legal guardians.

Keywords: dyslexia, educational-intervention, students, detection, diagnosis, intervention, teachers.

I. INTRODUCTION

The Instructions of March 8, 2017 define students with special educational needs (SEN) as “students who require, for a period of their schooling or throughout it, specific attention, derived from different degrees and types of personal abilities.” physical, mental, cognitive or sensory. For these purposes, specific attention will be considered the application of specific measures that necessarily involve the provision of specific personal and/or material resources. Consequently, if a student with a different degree and type of personal capacity of a physical, mental, cognitive or sensory nature does not require specific attention, he or she will not be considered a student with SEN and therefore will not be the subject of a schooling ruling.” Below are some guidelines for detection, diagnosis and intervention in students with dyslexia.

II. DYSLEXIA: GUIDELINES FOR DIAGNOSIS AND INTERVENTION

A. Definition

Dyslexia is defined in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) as “a pattern of learning difficulties characterized by problems with accurate or fluent word recognition, poor spelling, and poor spelling ability” [1]. Dyslexia is a learning disorder that directly affects language skills; that is, listening, speaking, reading and writing, reading being the most affected area because one of the main problems is related to identifying, relating and decoding spellings, words, phrases, and in general the texts that one intends to read [2].

B. Classification

Dyslexia can be classified into acquired dyslexia and developmental dyslexia [3,4]:

- Acquired dyslexia is that which occurs after a specific brain injury.
- Developmental dyslexia is that which occurs in the student who inherently has difficulties in achieving correct reading skills, without an apparent reason to explain it.

As educational professionals, it is important to know that there are different types of dyslexia to make a good diagnosis and a good intervention. In reference to acquired dyslexia, [5] and [6], mention several subtypes:

- Peripheral dyslexias: it can be diagnosed through errors when trying to identify a letter or a word.
- Central dyslexias: they do not recognize the words in a sentence [6].
- Phonological dyslexias: this type of dyslexia is identified by the difficulty of reading new words, however, known words can be read without any inconvenience [6].

In reference to acquired dyslexia, [5] speaks of deficits such as:

- Deficit in perceptual processes: the boy or girl cannot follow his or her eyes when reading.
- Deficit in word recognition: may be due to difficulty in the phonological or visual route.
- Deficit in syntactic processing: difficulty relating words to each other.

C. Etiology

Due to its etiology, dyslexia is often highly confused with learning disorders and normal neurodevelopment such as ADHD, dyscalculia, among others [7]. Although the causes are not fully confirmed, it is currently recognized that there are hereditary factors that predispose one to suffer from it and that it creates certain neurological anomalies in the brain. Dyslexic people do not use the same parts of the brain as non-dyslexic people. However, other factors that may be involved in the course of the disorder are still unclear, such as genetic causes, difficulties in pregnancy or childbirth, brain injuries, emotional problems, spatiotemporal deficits or problems with sequential orientation. of visual perception or adaptive difficulties at school [8].

D. Instruments for identification (psycho-pedagogical evaluation)

Interviews and evaluation of the context. The evaluation of the family context aims to know the aspects of the student's family life that are affecting their teaching-learning process, such as structure and composition of the family, family roles, relationships of the student with their brothers and sisters. ... To this end, it is essential to establish a dynamic of collaboration where families are made to participate in the why and why of the different aspects that are asked of them, and those variables that, from the family's point of view, are collected. They are relevant. To evaluate these aspects, observation of the student, individualized interviews, analysis of the academic record or completion of questionnaires are fundamentally used.

Test and batteries. The Wechsler intelligence scale, the Kaufman evaluation battery, some reading tests, the Phonological Test, the Object Identification Test (PEABODY), the Boston Vocabulary Test, the Continuous Performance Test (CPT), the Assessment Questionnaire are usually used. attention (Conners), Questionnaire to assess psychopathological profile (CBCL), Battery for evaluation of reading processes in Primary Education (PROLEC), Battery for evaluation of writing processes in Primary Education (PROES), PROLEXIA and Gestaltic-Visual Motor Test Laurenta Bender.

E. Educational Response

Following the Order of May 30, 2023 Primary Education Secondary Education, a series of general measures to address diversity are established for primary and secondary education. But before explaining these measures, this concept is defined. The general measures are actions of an ordinary nature that, defined by the center in its educational project, are aimed at achieving comprehensive development, promoting learning and school success for all students through the use of both personal and personal resources. as materials with a global and inclusive approach and are carried out when it is detected that a student may have temporary or permanent educational needs. The purpose is to respond to the different levels of curricular competence, motivation, interests, styles and learning rhythms of the students, through the implementation of organizational and methodological strategies aimed at facilitating the achievement of the objectives of the stage and the acquisition of the key competencies. The general measures that will be carried out with students with dyslexia are:

- Support in ordinary groups through a second teacher.
- Group splits.
- Flexible groupings.
- Distribution of the teaching schedule in freely configurable subjects (EP).

Regarding the specific measures to address diversity in Early Childhood, Primary, ESO and Vocational Training, the following will be carried out: Significant Curricular Adaptations. Infant, Primary, ESO and Baccalaureate: Adaptations for Access to the Curriculum (AAC).

There are also a series of programs to address diversity that can be carried out: Reinforcement programs in basic instrumental areas: Ensure basic learning in Spanish Language and Literature, First Foreign Language and Mathematics to allow students to continue taking advantage of the teachings. Reinforcement programs for the recovery of learning not acquired for students who do not promote. Curricular diversification programs: Students who require a different organization of the contents and subjects and a specific methodology to obtain the ESO graduate degree [10].

In addition, it is also important to carry out curricular adaptations such as the following [10]:

- Offer alternatives to teaching through written text, for example, through the auditory or visual channel.
- Provide them with computer resources and assisted technology.
- Increase the time required to do certain tasks that involve written language, such as exams.

Regarding the specific Intervention, the following can be carried out:

- Multisensory education
- Psychomotor education
- Perceptual training
- Psycholinguistic development
- Reading and writing training
- The analytical or global method
- The synthetic method

To carry out the intervention adequately, it is important to have the following human and material resources [10]:

- A PT and an AL.
- Faculty.
- Counselor.
- The classmates.
- Magnetic whiteboards, self-dictation games, etc.
- Own-made materials.
- Evaluation sheets to check improvement/worsening.
- Computers.

III. CONCLUSION

Dyslexia is a learning disorder whose etiology is not exactly known, but it is important to have an early diagnosis of dyslexia, since it is of utmost importance for the child's development. This allows you to work immediately at school and in the child's life. It also allows the child to regain confidence, comfort and well-being in their school activities. What must be taken into account is that educational support must be provided to alleviate the difficulties of these students so that their academic performance is not affected to a greater extent. A boy or girl diagnosed with dyslexia can be a great student, have

good academic performance as long as they have the general and specific measures they need. To conclude, some guidelines are proposed so that families can also work from home accompanied by the educational center at all times.

- Maintain regular contact with the teaching staff. Try to familiarize your classmates with what it means to be dyslexic and explain how they can help.
- Use color codes to mark all books and bags, so you will recognize them immediately.
- Make sure that all your school supplies are always prepared and organized in the same place.
- Teach your son or daughter to prepare and empty their purse and organize their pencil case. Do not assume that you will acquire these skills on your own.
- Keep a record of the time your son or daughter spends doing homework and share this information with the teachers, so they will be aware of the time they need.
- If you suspect that there may be an educational problem, do not ignore it. Seek help from qualified people who can perform a complete evaluation.
- Make your home a safe and friendly place.
- Encourage any special talent that the boy or girl exhibits, such as painting, sports or music. Make them feel like they can succeed in at least one facet of their life. Activities in small groups can be a great help.
- Praising the boy or girl will encourage him or her to have positive behavior. Remember that you have more characteristics of normality than those that can make you seem different. Insist on your strengths and particular abilities.

The advantages of this work are that there is a lot of research and information about this disorder and the literature is increasingly enriched, also providing quality of life to the minor.

REFERENCES

- [1] APA -American Psychiatric Association-. (2014). Manual Diagnóstico y Estadístico de los Trastornos Mentales (DSM-5). Editorial Médica Panamericana
- [2] Atencia, A.E, Correa, R. A., y Mendoza, Z. M. (2021). Dislexia: Revisión de manifestaciones sintomatológicas y signos en etapas escolares. *Tempus Psicológico*, 4(2). <https://doi.org/10.30554/tempusp-si.4.2.3377.2021>
- [3] Böhm, P. (2004). Alexias y agrafias: Del enfoque clínico topográfico al enfoque cognitivo. En J. Peña Casanova (Coord.), *Curso de Neurología de la Conducta y Demencias* (pp. 76-106). Sociedad Española de Neurología.
- [4] Jiménez Ruiz, J. L., & González Martínez, T. (2023). La hipótesis evolutiva en el análisis funcional de la dislexia. *Aproximación lingüística al estudio de caso en gemelaridad*. *Lengua y Sociedad*, 22(2), 65-104.
- [5] Cuetos Vega, S. (2011). *Psicología de la lectura*. España: Wolters Kluwer.
- [6] Ellis, A.; Young, A. (1992). *Neuropsicología cognitiva humana*. Barcelo: MASSON S.A.
- [7] American Academy of Pediatrics. (10 de marzo de 2017). Tipos de problemas de aprendizaje.
- [8] Londoño-Hernández, C. D. (2022). Dislexia: manifestaciones socioemocionales en el trastorno de aprendizaje y su intervención multidisciplinar. *Ciencia y Academia*, (3), 76-92. <https://doi.org/10.21501/2744838X.4486>
- [9] Orden de 30 de mayo de 2023, por la que se desarrolla el currículo correspondiente a la etapa de Educación Primaria en la Comunidad Autónoma de Andalucía, se regulan determinados aspectos de la atención a la diversidad y a las diferencias individuales, se establece la ordenación de la evaluación del proceso de aprendizaje del alumnado y se determina el proceso de tránsito entre las diferentes etapas educativas.
- [10] Angulo-Domínguez, M.C., Gonzalo-Ocampos, J., Luque-Vilaseca, J.L., Rodríguez-Romero, M.P., Sánchez-Cantero, R., Satorras-Fioretti, R.M., Vázquez-Uceda, M. (2012). *Manual de atención al aluMnado con necesidades específicas de apoyo educativo derivadas de dificultades específicas de aprendizaje: dislexia*. Cúbica Multimedia, S.L.