



## **THE ASSESMENT OF VISUAL IMPAIRMENTS IN THE EDUCATIONAL CONTEXT**

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### *Abstract*

*Visual impairment represents a certain degree of vision loss in a particular person, in our case in students. This leads to the limitation of capacity, but also of visual performances. The causes of visual impairment can be multiple, it can occur as a result of certain diseases, traumas, certain degenerative conditions, which cannot be corrected by conventional techniques, such as pharmaceutical treatment, surgery, etc. Visual impairment in a psychoeducational context affects the visual acuity of the eye with better sight, less than 0,33, or with a significant visual field defect, significant peripheral and bilateral visual field defects, visual field narrowing defects. This article proposes to the reader methods of assessing children with visual impairments, an assessment focused on the needs of these children, with the purpose to develop a program that facilitates the acquisition of new skills.*

Keywords: visual impairment; psychoeducational assesment; student; education; methods of assesment

### **Introduction**

The assesment, in the psychoeducational context, takes into account the categorization of the classification terminologies according to the degree of visual impairment. The specialists who perform the assesment of visually impaired children need information related to the morphology and functionality of the visual system. In order to understand the level of functional development of the child, it is necessary for the morphological notions of the visual system to

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be used correctly. Thus, understanding these notions, we can move towards the correct selection of services, the appropriate choice of assessment tools, the most accurate interpretation of the results obtained following the assessment and, of course, the intervention through a custom plan.

The visual system is pretty complex and it comprises three major components (Albu, 1998):

- the peripheral segment (the receptor);
- the intermediate routes (the transmission channel);
- the central area (integration of visual information).

These three segments are particularly important, because they require the morphological and functional integrity of the visual system. Any injury or disturbance to at least one of the three segments of the visual system leads to the appearance of visual difficulties.

The visual system is part of the central nervous system and provides the body with the processing of visual details. Also, it consists of (Cziker & Hathazi, 2015):

- the eyeball (retina);
- the optic nerve;
- the optic chiasm;
- the optic tract;
- the lateral geniculate body of the thalamus;
- optical radiations;
- the visual cortex;
- the visual association cortex.

The visual system responds to a multitude of tasks, among which we mention: the perception of light, guiding body movement, visual identification of objects and then their categorization, etc. All these aspects are brought to the attention of the functional vision assessment process.

#### *Psychoeducational assesment within the visual impairment context*

According to the World Health Organization (*apud* Roman, Baker-Nobles, Dutton, Luiselli, & Flener, 2010), there are several types of levels of visual impairment, as follows:

- Partially sighted (the person receives specialized support in situations where he/she needs the use of visual functions).

- Low vision (the person cannot read from a distance of 30-40 cm even with the help of glasses);
- Represents a severe visual impairment.
- Legally blind (represents a visual acuity of less than 0.1 on the eye with good sight, with glasses).
- Totally blind (refers to people who need Braille to read, or other computer aided speech synthesis programs).
- Visual impairment of ocular nature (it is due to certain diseases or injuries to the optic nervous system, such as: cataracts, glaucoma, albinism, optic dysplasia, etc.).
- Cerebral visual impairment (it is due to bilateral dysfunctions at the level of the visual cortex or the optical radiations; in approximately 40% of visually impaired children, the cause is of cerebral nature).

Over time, the development of the visually impaired child has been compared to the development of the sighted child, the aspects that differentiated the two categories being identified. The advantage of this approach consists in the establishment of precise benchmarks in the development of the sighted child at the level of each chronological age. This approach is less valued, in favor of the differentiated approach that identifies intra-group differences and takes into account the causes of this disability. This approach allows the identification of information that favors development (Waren, 1994).

The purposes of evaluation represent diagnosis, monitoring of development, but also the identification of educational needs. Of course, one of the purposes of research is to collect information regarding the development of research (Hammill, 1987).

According to some authors (Salvia & Ysseldyke, 1981), evaluation practices consider comprehensive approaches and refer to:

- The health status;
- Socio-cultural factors (influences the child's performance);
- The attitude of the family;
- The current life circumstances;
- The child's historic record regarding development;
- The educational and intervention route;
- The joining approaches of specialists in the field;
- Administration of assessment tools (actual assessment);
- The prognosis and planning of intervention programs.

Psychoeducational assessment targets the development of programs that facilitate the acquisition of new skills of the child. Psychoeducational assessment is not very easy to perform, precisely because the needs of visually impaired children are varied (Bradley-Johnson, 1994).

Environmental factors in which the assessment takes place, familiarization with the materials used in the assessment, the process of assessment can influence the obtained results, but also their interpretation. The process of assessment first manages the obtaining of information regarding the way of acquiring of the acquisitions. Psychological tests, questionnaires, interviews, observation sheets, practical tests, behavioral analysis can be used in the assessment.

When psychological tests are used, they must present normative data regarding visual impairments and their manifestation in children. If certain items are omitted due to lack of sight, but also if the administration of the scores is changed, the results cannot be reported as normative data. However, this data can provide us with information about the diagnosis, the child's performance, about the identification of his difficulties, and intervention programs can be approached (Hall, Scholl, & Swallow, 1986).

The use of tests is important in determining the eligibility for educational services. In adapting tests to visual impairments, it is recommended that the interpretation of the results be analyzed and interpreted with great attention. Testing within the group is advised, and not the reporting to the norms of children without visual impairments (Bradley-Johnson, 1994).

#### *Tools of assesment*

As tools of psychopedagogical assesment of visually impaired children, we can present the following list (Cziker & Hathazi, 2015):

The Battelle development inventory

- it is developed in 1984 by Newborg, Stock, Wuek, Guidubaldi and Svinicki;
- is addressed to children aged 0-8 years;
- allows taking certain decisions regarding the diagnosis and then the planning of educational services within the school curriculum;
- comprises five fields (each field also icludes subfields): cognitive, motor, communication, adaptive behaviour, social behaviour;
- some items cannot be noted because they require sight;

- the purpose of the test is to provide means by which barriers can be exceeded.

The Bayley development scale

- It was developed in 1969 by N. Bayley;
- Is addressed to children aged 2-30 months;
- the information provided refers to the child's level of performance in cognitive and motor development.

The Maxfield-Buckholz scale

- Is addressed to the assesment of children under the age of 5;
- highlights the difficulties caused by lack of vision, but also the specific delays within development;
- is based on the observational method and on the discussions and interventions of the members;
- is considered an inventory of social skills of the blind preschooler.

The Reynell-Zinkin scales

- Is aimed at children with severe visual impairments who have various associated disabilities;
- Five development areas are assesed: social adaptation, exploring the environment, expressive language, sensory-motor understanding, sound response and verbal comprehension;
- the purpose of these scales is to develop custom intervention plans.

The Wechsler intelligence scale (WISC-IV)

- Is addressed to children aged 6-16;
- Evaluates cognitive development;
- only verbal tests are applied to visually impaired children.

Intelligence Test for the Visually Impaired

- Consists of a number of 13 verbal and touch scales;
- The scales are grouped around four factors: spatial orientation, reasoning (attention, memory), spațial abilities, verbal abilities.

The Brigance diagnostic inventory for early development

- Was developed in 1991 by A. Brigance;
- is addressed to children up to 7 years old;
- Covers subtests that include: motor behaviours, general motor skills, fine motor behavioral skills, personal autonomy skills, communication, socio-emotional development, read-write skills, mathematical skills.

The Comprehensive diagnostic inventory of basic Brigance skills

- is addressed to children starting with kindergarten and up to ninth grade;
- evaluates the grammatical aspects, the read-write skills, the mathematical skills.

#### The Oregon Project for Visually Impaired Children

- Was developed in 1986 by S. Anderson, S. Boigon and K. Davis;
- Is addressed to children aged 0-6;
- Covers 8 visual evaluation areas: cognitive, language, social, personal autonomy, fine mobility, compensatory skills, the visual function, rough mobility;
- Facilitates the assurance of development of competence in preschoolers with developmental delays.

### Conclusions

Depending on the visual impairments we need to select certain specific tools at a lower and upper level. The assessment of functional vision covers aspects such as vision within communication, which takes into account all areas of communication. Vision within orientation and mobility is performed depending on the context. It can take place in the school environment, outside the institution, in the family environment. It is necessary for the child's functioning to be observed in different conditions and areas that the child knows, but it is important that the assessment also takes place in areas unknown to the child. Vision within the activities of daily living must be observed in different tasks of visual nature, usually a series of problems of visual functional nature.

At school, close-up visual tasks are carefully assessed through a series of tests to evaluate the child's ability to read and to see images with various optical auxiliaries. Therefore, it is necessary to plan tasks or tests which highlight the possible functions of visual nature and the application of rehabilitation programs.

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