



ORIGINAL ARTICLE

Educational Attention: Preparation of Methodologists at the Primary Education Level for Students with Low Vision

Yaremy García-Felipe¹  , Jesús Vázquez-Campos² , Julio Antonio Conill-Armenteros² 

¹Directorate of Education. Pinar del Río, Cuba.

²University of Pinar del Río "Hermanos Saíz Montes de Oca". Pinar del Río, Cuba.

ABSTRACT

Introduction: educational support for schoolchildren with low vision represents a growing challenge in the field of inclusive education, where methodologists play an essential role in curricular and pedagogical adaptation.

Objective: to reflect on the theoretical-methodological foundations of the preparation of Primary Education Level methodologists in the educational care of students with low vision.

Methods: a pedagogical study was conducted using theoretical, empirical, and statistical methods in the municipality of Pinar del Río, between September 2024 and June 2025. The sample included methodologists and directors of the General Directorate of Education at the Primary Education Level, as well as support teachers.

Results: 71.4% of the methodologists held a Master's degree in Educational Sciences, with predominance of 25-35 years of professional experience. The analysis revealed shortcomings in methodological preparation: lack of knowledge of specific subjects such as visual stimulation and daily living skills, limited differentiation in lesson planning, and insufficient integration of optical and non-optical resources.

Conclusions: preparing methodologists to serve schoolchildren with low vision requires strengthening psychopedagogical knowledge, differentiated strategies, and the use of specialized resources. This process must integrate family, community, and multidisciplinary teams, ensuring inclusive, preventive, and compensatory education that promotes the integral development and future autonomy of students.

Keywords: Visual Impairment; Low Vision; Schoolchildren; Preparation.

Citación: García-Felipe Y, Vázquez-Campos J, Conill-Armenteros JA. Atención educativa: Preparación de metodólogos del Nivel Educativo Primaria para educandos con baja visión. Rev Ciencias Médicas [Internet]. 2026 [citado: fecha de acceso]; 30(2026): e6860. Disponible en: <http://revcmpinar.sld.cu/index.php/publicaciones/article/view/6860>

Recibido: 15 de agosto de 2025

Aceptado: 08 de enero de 2026

Publicado: 28 de marzo de 2026

INTRODUCTION

Educational support for schoolchildren with low vision represents a significant challenge in the current educational landscape. The figure of the methodologist plays a crucial role in implementing inclusive strategies that guarantee access and equity in education.

Educational attention to diversity, resulting from the recognition of its existence and equal opportunities for all children, adolescents, and youth with or without special educational needs—combined with an understanding of the potential of Special Education as a system of educational influences, resources, supports, and specific aids aimed at satisfying individual developmental demands in their variability—constitutes today not only a tangible reality but also a necessity for the development of our society.⁽¹⁾

Among the goals set forth in the 2030 Agenda, the fourth objective refers to ensuring free, equitable, and quality education, providing "equal access to all levels of education and vocational training for vulnerable persons, including persons with disabilities," and urging that "educational facilities take into account the needs of children and provide safe, non-violent, inclusive, and effective learning environments for all".⁽²⁾

Inclusive educational practice and equal opportunities for persons with special educational needs are enshrined in the Constitution of the Republic of our country, which emphasizes the need to readjust the educational system, adapting and contextualizing it to current political, social, and economic conditions. Therefore, from a legal standpoint, there is protection of their rights and respect for their dignity.⁽³⁾

One of the actions undertaken in our country to contribute to the equalization of opportunities is the provision of care for students with low vision, which may take place in General Education or Special Education centers, depending on each child's conditions and possibilities, as determined by family criteria.

Furthermore, teams of specialized professionals are established: ophthalmologists, opticians, psychologists, rehabilitation technicians, or teflotechnology instructors for schoolchildren who are integrated into regular educational contexts from their respective institutions.

In primary education institutions, the educational care process coordinates the actions of multidisciplinary and intersectoral teams alongside Diagnostic Support Commissions (CAD). The latter are comprised of the Special School director and specialists (teachers, including support teachers, visual stimulation instructors, psychopedagogues, Physical Education and Computer Science teachers, librarians, department heads, ophthalmologists, optometrists, and specialized staff from the Diagnosis and Guidance Center).

To achieve this purpose, the methodologist assumes the responsibility of creating conditions for teacher preparation; therefore, they bear significant responsibility regarding their professional performance to attain personal and scientific-technical development levels aimed at improving the quality of the pedagogical process they oversee.⁽⁴⁾

Methodologists are professionals specialized in the design, implementation, and evaluation of pedagogical and curricular strategies. Their role is fundamental to guaranteeing the quality of teaching and learning by adapting methodologies to the specific needs of different educational contexts.⁽⁵⁾

Theoretical and empirical inquiries conducted as an exploratory study in the province of Pinar del Río since 2024 (interviews, surveys, document analysis related to methodological assistance visits and inspections during work cycles, as well as work summaries) revealed weaknesses, among which the following stand out:

- Insufficient preparation of Primary Education methodologists in topics related to educational care for students with low vision.
- Within the Planning System, methodological activities fostering the preparation of Primary Education methodologists in caring for students with low vision are insufficient.
- Limitations within subject commissions regarding the monitoring of differentiated, preventive, corrective, compensatory, and developmental work, as well as evaluation through class systems for the educational care of students with low vision.

This article presents results from the Project: *Diverse and Equal for an Inclusive Pinar del Río Society* (DISPIN), which corresponds to the aforementioned issues.

The following research was conducted with the objective of reflecting on the theoretical-methodological foundations of preparing Primary Education Level methodologists for the educational care of students with low vision.

METHODS

A pedagogical study was conducted using theoretical, empirical, and statistical methods in the municipality of Pinar del Río between September 2024 and June 2025. The sample comprised methodologists from the General Directorate of Education at the Primary Education Level, directors from the General Directorate of Education and Primary Education Level institutions, and support teachers.

The research was conducted according to ethical principles of respect for persons. A consent form was prepared for the involved professionals. Information regarding the research objectives, the significance of the results, and their scientific purposes was provided.

RESULTS

As shown in Table 1, all directors and support teachers hold a Master's degree in Educational Sciences, while 71,4 % of the methodologists from the General Directorate of Education at the Primary Education Level hold this scientific degree. Regarding years of experience, those with between 25 and 35 years of experience predominated in the sample (53,8 %).

Table 1. Distribution of teachers by scientific degree and years of experience.

Variable	Category	Methodologists* (n=7)		Directors (n=4)		Support Teachers (n=2)		Total (n=13)	
		No.	%	No.	%	No.	%	No.	%
Scientific degree	Bachelor's	2	28,6	0	0	0	0	2	15,4
	Master's	5	71,4	4	100	2	100	11	84,6
Years of Experience	5-15 years	2	28,6	0	0	0	0	2	15,4
	15-25 years	2	28,6	2	50	0	0	4	30,8
	25-35 years	3	42,8	2	50	2	100	7	53,8

Notes: *General Directorate of Education at the Primary Education Level.

In the Province of Pinar del Río, there are 28 students with low vision receiving care at the Primary Education Level. 47,05 % fall within the 8-to-10-year age range, with males predominating at 57,1 %. (Table 2)

Table 2. Distribution of students with low vision at the Primary Education Level by age groups and sex.

Age Group	Total		Males		Females	
	No.	%	No.	%	No.	%
7-8	7	25,0	5	71,4	2	42,8
8-10	17	60,7	9	52,2	8	47,05
10-12	4	14,3	2	50	2	50
Total	28	100	16	57,1	12	42,8

The distribution of students with low vision according to the most prevalent primary ophthalmological diagnosis included Operated Congenital Cataract OU, Myopia, and Ocular Albinism (Figure 1).

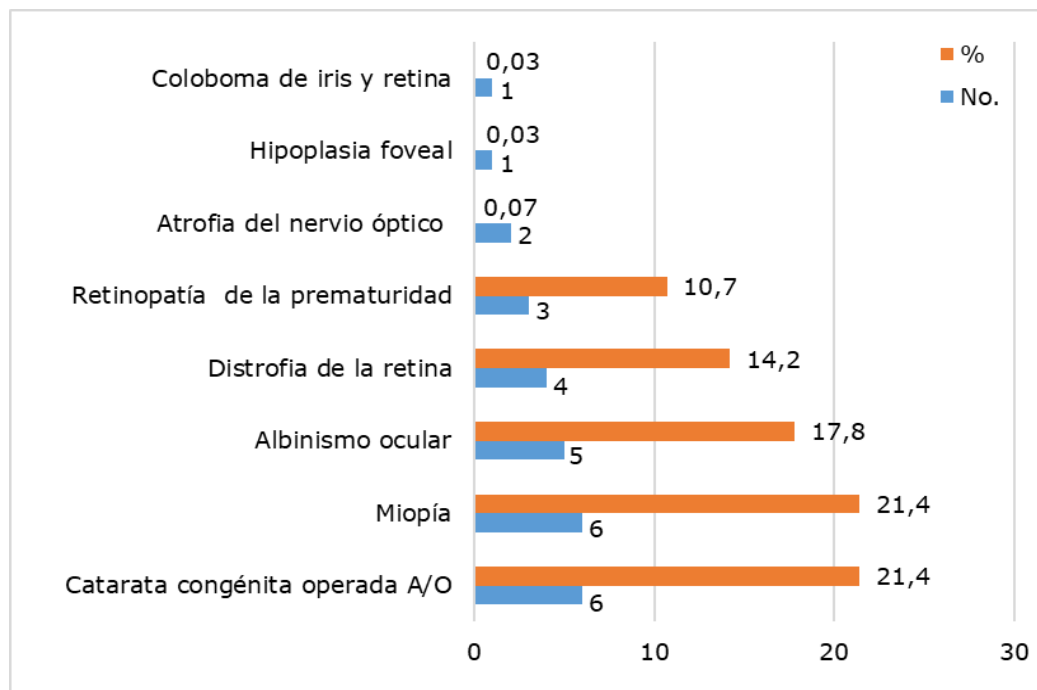


Fig. 1 Distribution of students with low vision by primary ophthalmological diagnosis.

Content analysis results in their empirical variant—including sources related to the Methodological Assistance Program of the Primary Education Department (from which three programs corresponding to different work stages of the current academic year were selected)—revealed that although objectives, contents, and demonstrative and control activities to be carried out with municipal structures are well defined, actions to provide educational care for students with low vision are not designed in a differentiated manner.

Within the planning system, methodological activities promoting the preparation of Primary Education methodologists in topics related to the care of these students are insufficient.

Content analysis results regarding the General Directorate's Annual Plan showed that while methodological preparation activities for methodologists aimed at addressing diversity in general are planned, those specifically referring to elements distinguishing developmental variability in students with low vision are not explicitly detailed. These missing elements include onset timing, causes, low vision classification, the affective-emotional sphere, and the school-family-community environment.

In Subject Preparations sampled from five methodologists representing 71,4 % of the total (Spanish Language, Mathematics, The World We Live In, History, and Natural Sciences), class systems are planned with adequate didactic-methodological structuring. However, 100 % demonstrated limited knowledge regarding the formulation of varied learning tasks consistent with low vision classification, available resources, and access to technologies.

In interviews conducted, 100 % of Primary Education Level methodologists stated they are prepared to perform their duties regarding content mastery, general and subject-specific didactics, management tasks, educational work methods in institutions, methodological work direction, and curriculum. However, 57,1 % referred to having limited command of essential elements in the educational care of students with low vision, leading to an assessment of inadequate preparation.

Another notable element is that 100 % agreed they are unfamiliar with specific subjects taught within the general curriculum; thus, they require preparation in this area to guide curricular output through complementary activities.

Consequently, in the survey administered to support teachers, 100 % acknowledged that the topic of specific subjects has been addressed more extensively in educational institutions with teachers attending to these students—specifically in visual stimulation, orientation and mobility, and Activities of Daily Living—but not with methodologists. They declared being unprepared in this regard and lacking solid knowledge to subsequently train municipal structures on these elements.

Analysis of the collected information allowed for the identification of certain shortcomings regarding preparation, differentiated work, and the use of media and resources for adequate educational care of schoolchildren with low vision.

Therefore, as part of the Third Continuous Improvement of the General Education System, a critical examination is being conducted on the preparation of directors and methodologists to weigh the provision of quality educational care for all students with Special Educational Needs, specifically those with low vision in Primary Education.

To achieve this purpose, it is necessary to conceive a system of psychopedagogical and clinical influences covering different developmental areas with a preventive, corrective, compensatory, and developmental approach, adjusted to the potential and needs of each student, involving family, community, and the National Association of the Blind of Cuba (ANCI).

This presupposes guaranteeing quality education enabling relevant and effective learning outcomes, particularly through the use of necessary methods, media, aids, resources, and curricular considerations tailored to their needs, preparing them for independent adult life; hence, accompanying them in this process is essential.

DISCUSSION

This study confirmed a predominance of ages between 8-10 years for both sexes, and analysis of schooling showed a prevalence at the primary level; both findings align with the study by Hernández L, et al.⁽⁶⁾

Regarding the primary ophthalmological diagnosis, findings coincide with Hernández L, et al.,⁽⁶⁾ Jaramillo A, et al.,⁽⁷⁾ and Roselló Leyva A, et al.,⁽⁸⁾ in that Operated Congenital Cataract OU constitutes one of the most prevalent causes among students with low vision.

These students have the right to receive quality educational care as a means of teaching those sharing the same classroom, despite and considering their developmental variability.

A review of national and international publications on the term "educational attention" confirms its use in works related to diversity and educational inclusion, associating it with individual differences, assistance to each student according to their potential and limitations, and respect for individuality.

In this regard, Figueiredo C, et al.,⁽⁹⁾ stated that the educational attention process presupposes coordinated actions involving various government sectors collaboratively addressing social needs. In practice, an approach to educational attention is observed that presupposes intersectoral actions inherent to education, which do not correspond to social reality and must be properly articulated to provide timely assistance.

Agreeing with the above, Hernández L, et al.,⁽⁶⁾ assert the vital importance of intersectoral work for the educational system due to its positive impact on comprehensive care for students with visual impairments.

On the other hand, Chaswell Q, et al.,⁽¹⁰⁾ argue that educational attention relates to the nature of general education and regular schools. The challenge lies in having a school that substantially modifies its structure, functioning, and pedagogical proposal to respond to the educational needs of every child, including those with disabilities.

The goal is to achieve a school without entry requirements or selection or discrimination mechanisms of any kind.⁽¹⁰⁾

Therefore, inclusive management in addressing educational needs determines that inclusion entails equity and equality of rights and opportunities in sociocultural and educational fields.⁽¹¹⁾ The current challenge materializes in being responsible for offering access and quality educational opportunities to everyone without distinction.

In this sense, the current improvement of the Cuban educational system poses challenges supporting the need for transformations generating quality education for all students without exception. Consequently, various positions emerge highlighting the importance of teacher preparation.

Caring for students diagnosed with low vision, like other Special Educational Needs from the current inclusive education perspective, presupposes guaranteeing quality education enabling relevant and effective learning outcomes in all settings, particularly the school environment. This includes employing necessary methods, media, aids, resources, and curricular considerations tailored to their needs, preparing them for independent adult life.⁽¹²⁾

This care relies on optical and non-optical aids, technological resources, and current ophthalmological treatments, thereby enhancing possibilities for functional use of residual vision for better access to written information.

Quality education must be provided,^(11,12,13) through meaningful inclusion; this does not require inclusive schools per se, but rather schools responsive to each student's needs, where educational institutions offer spaces open to inclusion with continuous support from administrators and the community at large.⁽¹⁴⁾

Another important aspect is highlighted by Casallas F, et al.,⁽¹³⁾ who state that this inclusion process involves adapting the physical environment. This implies arranging resources so they do not obstruct movement while incorporating appropriate safety measures to prevent accidents.

Therefore, it is necessary to emphasize that materials intended for students with visual impairments must account for the degree and type of deficit each individual presents, as this determines their educational needs.⁽¹⁴⁾

Likewise, low vision encompasses a wide range of visual possibilities. According to visual functioning patterns, functional vision groups can be established (for study purposes) requiring specific supports and resources beyond enlarged photocopies or larger fonts.⁽¹⁵⁾

Specifically, students with low vision are recognized as having moderate or severe visual impairment within the visual disability spectrum. The World Health Organization classification in ICD-10R and ICD-11 defines low vision in terms of visual acuity (VA) ranges, understood as best-corrected VA worse than 20/60 but equal to or better than 20/400 in the better eye, or visual field loss corresponding to less than 20° in the better eye with best possible correction.⁽¹⁶⁾

As a starting point, keeping the medical-ophthalmological diagnosis in mind is fundamental, as the specialist is trained to determine clinical parameters required for classification, encompassing visual function in both eyes, depth perception, color vision, visual field, and visual acuity. Therefore, educational institutions require physical resources such as Braille books, talking books, sound software, and speakers for teachers to incorporate into pedagogical activities.

Students diagnosed with low vision attending general education institutions require timely and systematic psychopedagogical guidance to promote and develop configurations of specialized help and support providing adjusted, quality responses in institutional and other contexts.

To achieve this purpose, the Primary Education methodologist must acquire adequate preparation enabling transformation of management structures' performance modes to guarantee efficient attention to diversity for these students.

From this perspective, given changes and transformations arising under the Third Improvement of the National Education System, it becomes imperative for this professional to acquire psychopedagogical and didactic tools, as well as necessary resources and supports consistent with the principle of attention to diversity.

Integrating cognitive, procedural, and attitudinal indicators is necessary for methodologist preparation in educational care for students with low vision, addressing: developmental variability, psychopedagogical characterization, educational care strategy, preventive, corrective, compensatory, and developmental work, types of aid and support, specific curriculum subjects, and physical/environmental adaptations as key elements for achieving Universal Design for Learning.

Consistent with the above, methodologists must be prepared and knowledgeable about special resources facilitating curriculum access for these students, such as optical aids (filters, glasses, telescopes, handheld magnifiers). Technical resources for enlarging visual material include screen magnifiers or CCTV for reading texts via monitor.

Non-optical aids include appropriate lighting, contrast, and size; lined paper to ensure writing; media adapted to writing type; photocopied material with sufficient contrast; and typoscopes. Resources for approaching visual material include adjustable tables, easels, and macro-types. Additionally, light-control aids exist, such as caps or visors, which are very comfortable for people with photophobia.

These didactic and material resources must be made accessible or adapted to these schoolchildren's needs and functional vision assessment so the educational proposal suits the presented degree of impairment, as well as tactile, auditory, or visual perception, facilitating learning access for each student.

Preparing methodologists in essential specialty elements means ensuring teachers and specialists in primary education institutions can efficiently implement intervention and evaluation strategies for each schoolchild to address educational needs and guarantee an adequate relational climate in the school context, thereby raising learning levels and achieving increasingly flexible educational practices open to diversity.

Preparing methodologists to serve schoolchildren with low vision involves equipping them with knowledge, skills, strategies, and willingness to adapt the educational environment and teaching to specific needs based on developmental variability.

Conflict of Interest

The authors declare no conflict of interest.

Authors' Contribution

YGF: Participated in conception, research design, data collection and processing, drafting, and final manuscript review.

JVC: Participated in research design, data collection and processing, drafting, and final manuscript review.

JACA: Participated in data processing, drafting, and final manuscript review.

Funding The authors declare no funding was received.

BIBLIOGRAPHIC REFERENCES

1. Llopiz Guerra K. La atención educativa a la diversidad y las demandas educativas actuales. RETOS XXI [Internet]. 2022 [citado 18/06/2025];6(1):1-15. Disponible en: <https://revistaseug.ugr.es/index.php/RETOSXXI/article/view/26599>
2. Naciones Unidas. Informe de los Objetivos de Desarrollo Sostenible 2024 [Internet]. Nueva York: ONU; 2024 [citado 18/06/2025]. Disponible en: <https://unstats.un.org/sdgs/report/2024/>
3. Asamblea Nacional del Poder Popular de Cuba. Constitución de la República de Cuba [Internet]. La Habana: Gaceta Oficial; 2019 [citado 18/06/2025]. Disponible en: <https://www.parlamentocubano.gob.cu/node/1125>

4. Taquechel Román G, Matos Columbié ZC, Revilla Vega A. La preparación del metodólogo de la educación preuniversitaria: un reto los momentos actuales. EduSol [Internet]. 2020 [citado 18/06/2025]; 20(73): 177-189. Disponible en: <https://edusol.cug.co.cu/index.php/EduSol/article/view/297/1870>
5. Liben Santiesteban F, Benavides Perera Z. La preparación del metodólogo de la educación preuniversitaria en el contexto del III Perfeccionamiento Educacional. Horiz Pedagógico [Internet]. 2025 [citado 09/07/2025]; 14(1): 9-22. Disponible en: <https://www.horizontepedagogico.cu/index.php/hop/article/view/445/807>
6. Hernández Estrada L, Vázquez Campos J, González Reyes S, Quinzan King A, García Cejas I. Caracterización de los educandos con discapacidad visual atendidos en la Escuela Especial "José Martí" de Pinar del Río. Rev Ciencias Médicas [Internet]. 2024 [citado 19/06/2025]; 28(1): e6250. Disponible en: <https://revcmpinar.sld.cu/index.php/publicaciones/article/view/6250>
7. Jaramillo-Cerezo A, Torres-Yepes V, Franco-Sánchez I, Llano-Naranjo Y, Arias-Urbe J, Suárez Escudero JC. Etiología y consideraciones en salud de la discapacidad visual en la primera infancia. Rev Mex Oftalmol [Internet]. 2022 [citado 19/06/2025]; 96(1): 31-41. Disponible en: https://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S2604-12272022000100027
8. Roselló Leyva A, Hernández Baguer R, González Cabrera Y, Leal Hernández B, Roig Castillo R. Caracterización de la baja visión en el Centro de Recursos y Apoyo "Abel Santamaría Cuadrado". Rev Cubana Oftalmol [Internet]. 2022 [citado 19/06/2025]; 35(2): e1144. Disponible en: <https://revoftalmologia.sld.cu/index.php/oftalmologia/article/view/1144>
9. Figueiredo Canivete CY, García Reyes O, Conill Armenteros JA. La intersectorialidad: un desafío para la atención educativa a la diversidad escolar en Mozambique. Rev Mendive [Internet]. 2022 [citado 18/06/2025]; 20(3):746-756. Disponible en: <https://mendive.upr.edu.cu/index.php/MendiveUPR/article/view/2874>
10. Chaswell Quiroga Y, Domínguez Randulfe M, Serpa Valdés M, Vilar Salas S. Inclusión educativa en niños con discapacidad visual en Cuba. Rev Cubana Oftalmol [Internet]. 2023 [citado 18/06/2025]; 36(4): e1759. Disponible en: <https://revoftalmologia.sld.cu/index.php/oftalmologia/article/view/1759>
11. Bustamante Montoya PF, Zambrano Giler MA, Prieto López Y. Modelo de gestión inclusivo para la atención a los alumnos con déficit visual de cuarto grado de la Institución Nicolás Infante Díaz. 593 Digit Publ [Internet]. 2022 [citado 26/06/2025]; 7(1-1): 66-82. Disponible en: https://www.593dp.com/index.php/593_Digital_Publisher/article/view/981
12. Batista Arnaiz M, Arnaiz Páez Y, Vázquez Quintana LC. Estrategia para docentes que atienden educandos con baja visión incluidos en el nivel educativo primario. Joven Educador [Internet]. 2021 [citado 26/06/2025]; (39):18-31. Disponible en: <http://revistas.ucpejv.edu.cu/index.php/rJEdu/article/view/1355>
13. Casallas Flores LD, Villabona Vega BJ, Prada Núñez R. ¿Están preparadas las instituciones educativas para el proceso de inclusión de estudiantes con necesidades educativas especiales? Espacios [Internet]. 2020 [citado 26/06/2025]; 41(35): 247-260. Disponible en: <https://www.revistaespacios.com/a20v41n35/a20v41n35p19.pdf>

14. Zamora López P, Marín Perabá C. Tiflotecnologías para el alumnado con discapacidad visual. ACADEMO [Internet]. 2021 [citado 09/07/2025]; 8(1): 109-118. Disponible en: <https://revistacientifica.uamericana.edu.py/index.php/academo/article/view/427/406>
15. Rotella CB. Recursos, materiales y apoyos para estudiantes con discapacidad visual. Ruedes [Internet]. 2024 [citado 09/07/2025]; (11): 2-15. Disponible en: <https://revistas.uncu.edu.ar/ojs3/index.php/ruedes/article/view/8210>
16. Organización Mundial de la Salud. Informe mundial sobre la visión [Internet]. Ginebra: OMS; 2024 [citado 31/08/2025]. Disponible en: <https://iris.who.int/items/e850087a-0fdf-4785-8867-78e7661e21f2>