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# Literature Review: Impact of Teacher Support on Cognitive Development and Motivation in Visually Impaired Children

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**Abstract**

Blindness is a condition in which an individual experiences damage or impairment to their vision. Teachers who teach blind students not only provide material, but also act as facilitators in adaptive learning. This study aims to determine how teachers provide support to blind children and the factors that hinder this support. The method used was a Systematic Literature Review (SLR) of 10 literature sources with two questions asked, namely a. How do teachers provide support for cognitive and motivational improvement in blind children. b. What factors hinder teachers in providing support for cognitive and motivational improvement in blind children**.** The results of this study are: 1) utilising audio media and Braille boards, creating learning plans tailored to characteristics and abilities, using concrete learning media, and providing praise during the learning process; 2) lack of available facilities and infrastructure, limitations in flexible and accessible learning facilities, lack of adequate Braille resource books, an unsupportive environment, and lack of specialised training for teachers. This research concludes that the role of teachers is crucial in providing education for visually impaired students because teachers have a positive impact on students' cognitive abilities, motivation, learning engagement, and achievement. Providing guidance and direction and building self-confidence can increase their motivation.

**Keywords:** increased motivation; cognitive improvement; cognitive abilities; blindness; visual impairment; teacher support; teacher role; teacher challenges; challenges for blind children

## 1. Introduction

Etymologically, the term “tunanetra” comes from the word “tuna,” meaning damaged or impaired, and “netra,” meaning eye. Thus, a tunanetra is an individual who experiences damage or impairment to their vision. Visually impaired children face difficulties and limitations in processing visual stimuli or images. Because they cannot visualize, the development of their cognitive and neurological abilities is hindered, and they will face various challenges in learning. These cognitive abilities impact problem-solving skills, spatial mobility, abstract thinking, and learning ability. Additionally, individuals with visual impairments may exhibit flat and ambiguous facial expressions when communicating (Bahadır S & Bahadır O, 2024).

When teaching visually impaired students, teachers do more than simply present material; they serve as facilitators in adaptive and flexible learning, help develop life skills, guide students in reading and using Braille, and provide social-emotional support to visually impaired children (Simanjuntak et al., 2025). The support provided by teachers can take the form of adaptive teaching methods tailored to students’ abilities, instruction that utilizes concrete and tactile materials, offering praise or effective supervisory feedback, and the use of appropriate technology.

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However, not all teachers are prepared or capable of teaching and providing support to children with visual impairments. This is due to a lack of training for teachers in the use of assistive devices and teaching methods appropriate for visually impaired students. As a result, some teachers are unable to adapt effectively to the students' unique needs, thus requiring training programs in emotional and stress management (Marito et al., 2025). In addition, limited learning materials and available facilities and infrastructure also hinder teachers' ability to provide support and instruction to students with visual impairments.

## 2. Method

The method used for this study was a Systematic Literature Review (SLR). A Systematic Literature review is the process of systematically and critically collecting, evaluating, integrating, and presenting the results of a literature search. This study followed a procedure consisting of the following steps.

### 2.1. Formulating Questions

The study addresses two questions, namely:

**2.1.1.** How can teachers support cognitive development and motivation in visually impaired children.

**2.1.2.** What factors hinder teachers from providing support to enhance the cognitive development and motivation of visually impaired children?

### 2.2. Selecting Reference

The literature review for this study drew on various indexed national and international journal articles. The keywords used in the literature search included: increased motivation, cognitive improvement, cognitive abilities, blindness, visual impairment, teacher support, teacher role, teacher challenges, challenges for blind children.

### 2.3. Article Inventory

The author understands the abstract and identifies the relationship between variables or issues and the research keywords. Relevant journal articles can be used for further analysis to answer the research questions. The following is a list of articles used in this Systematic Literature Review.

| No | Questions | Sources | Authors, Year of Publication | Literature title |
|---|---|---|---|---|
| 1 | How can teachers support cognitive development and motivation | Frontiers in Education | Haakma, Janssen & Minnaert, 2018 | Need Support in Students with Visual Impairments: Comparing Teacher and Student Perspectives |
| | | Repository UPI Edu | Susilowati, 2009 | Peranan Guru Pendidikan Kewarganegaraan dalam Upaya Meningkatkan Kemampuan |

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|---|---|---|---|---|
| | in visually impaired children? | | | Kognitif Siswa Tunanetra Total Di SLB-A Negeri Kota Bandung |
| | | JPK (Jurnal Pendidikan Khusus), 20 (1), 15–21 | Iranda & Ramayanti, 2024 | Kemampuan Literasi Informasi pada Siswa Tunanetra |
| | | Jurnal Bunga Rampai Usia Emas, Vol. 10, Issue 2 | Aprilya, dkk., 2024 | Sensory Board Dalam Mengembangkan Kemampuan Kognitif Anak Disabilitas Tunanetra |
| | | Educational Policy Analysis and Strategic Research, 18(4), 142–164 | Bayar & Ağgül, 2023 | Needs Analysis of Teachers Providing Science Education to Visually Impaired Students and Their Students |
| | | Jurnal Pendidikan Inklusi Volume 3 Nomor 1 Tahun 2019 | Savira et al., 2019 | Apa yang Berbeda? Kemampuan Kognitif pada Anak Tunanetra Tanpa Pengalaman Visual (Congenital Visual Impairment) |
| 2. | What factors hinder teachers from providing support to enhance the cognitive development and motivation of visually impaired children? | Education Sciences, 10(11), 1–15 | Miyauchi, 2020 | A Systematic Review on Inclusive Education Of Students with Visual Impairment |
| | | Jurnal Ilmiah Literasi Indonesia | Rahmayani & Selian, 2025 | Tantangan Anak Tuna Netra dalam Pembelajaran |
| | | Global Regional Review, VII(I), 231–243 | Zahra, Butt & Mariam, | Difficulties Faced by ESL Teachers in Teaching English to Visually Impaired Students |
| | | Med Edu Bull, 5(2), 1001–1004 | Bahreini, 2024 | Visually Impaired Students in Education: Challenges, Innovations, and Solutions |
| | | Journal of ICSAR Volume 6 Number 2 | Anwar et al., 2022 | A Study on the Experience of the Visually Impaired In an Effort to Minimize Stereotypic Behaviour through Self-Management: Barriers and Support |

## 2.4. Extracting Data

Use a form to filter and note down what is interesting and worth highlighting from the research.

### 2.5. Analyze and Present the Results

After compiling a list of articles, the author conducts an analysis using the data obtained, which is then summarized and grouped according to the research questions.

### 2.6. Interpreting the Results

Include answers based on the results of the analysis and grouping of the research questions that have been raised, and organize them into paragraphs.

## 3. Results and Discussion

### 3.1 Result

Children with special needs refer to children who require special attention and care due to developmental issues, disabilities, or conditions they experience, one of which is visual impairment. Visually impaired children face difficulties and limitations in processing visual stimuli or images, which affect their cognitive, social-emotional, and communication skills, as well as their ability to carry out daily activities. Visually impaired children face learning challenges, including problem-solving, spatial skills and mobility, abstract thinking, and learning abilities. Education for visually impaired children must be tailored to their needs and abilities.

The cognitive development of children without visual sight is generally similar to that of children with normal vision. The cognitive abilities of visually impaired children and adolescents include reasoning, spatial orientation, memory, vocabulary, and verbal reasoning (Ina Savira & Laksmiwati, n.d.). Factors considered by teachers in enhancing the cognitive aspects of students with visual impairments include the students' emotional development, given their limitations. There are several key priorities in achieving these goals, including ethics, manners, discipline, and student independence (Susilowati, 2009).

Instruction for visually impaired students must support their needs that is, learning methods that prioritize students' well-being and their psychological, cognitive, and motivational development throughout the teaching-learning process, which involves teachers in providing structure, support for autonomy, and student engagement. This enables teachers to support students' primary psychological needs namely, the need to feel competent, autonomous, and connected. Supporting these needs has a positive impact on students' cognitive development, motivation, engagement in learning, and academic achievement (Haakma et al., 2018). In this regard, teachers play a crucial role in creating a learning environment that provides clear guidance, supports student autonomy, and encourages active student participation.

The role of teachers in facilitating learning to enhance the cognitive development of visually impaired students includes learning through audio, taking notes, assigning tasks, learning to understand sentences one by one in detail and carefully, developing writing, reading, and math skills, accessing information via the internet, utilizing specialized literacy resources for the visually impaired, and learning skills such as music and traditional medicine (Iranda, A. & Ramayanti, R., 2024). Teachers' efforts in delivering instruction to enhance the

cognitive development and motivation of visually impaired students include: 1) presenting lesson material using Braille or orally to aid their understanding. By understanding students' specific needs, teachers can create tailored lesson plans. Adapting teaching methods to students' learning styles can help them succeed in improving their academic performance. 2) Providing education to visually impaired students using technological devices is crucial. Screen readers, Braille keyboards, and audio materials help students access and acquire lesson content more easily. 3) Teachers must actively support and assist students throughout the learning process and during their study sessions. Answering questions, providing guidance and direction, and building self-confidence can boost their motivation (Bayar & Ağgül, 2023)

In a study (Aprilya et al., 2024), teachers' efforts to enhance the learning motivation of students with visual impairments included the following: a) By using concrete materials, students with visual impairments maintain a high level of focus on details, both small and large, which requires them to pay attention to every concept or object they are learning. It is possible to use concrete objects, whether real or artificial, as sources of information during the teaching and learning process. b) Providing effective praise and supervision of students' work is crucial for fostering motivation and a passion for learning among visually impaired students. 3) Using singing as a teaching method: Teaching students with special needs requires a unique and distinct approach because their needs differ from those of typical children.

Therefore, the role of teachers is crucial for visually impaired students. They expect teachers to help and support them in developing their potential despite their limitations (Muhammad Rayhan Lubis et al., 2024). When teaching visually impaired students, teachers face many limitations, difficulties, obstacles, and challenges, stemming from both internal and external factors. Internal factors stem from the teachers themselves; not all teachers are prepared or capable of teaching and providing support to visually impaired children, and teachers may not be able to adapt well to the students' unique needs, resulting in suboptimal instruction.

External factors include a lack of facilities and infrastructure; limited access to flexible and accessible learning resources, such as assistive technology for visually impaired students (screen readers, computers with accessibility software, Braille machines, Braille books, and text scanners); barriers faced by the students themselves; and an unsupportive environment. Although students with visual impairments are capable of learning all academic subjects just like their peers, they are often excluded from participating in subject-related activities, particularly in Math, Science, and Physical Education classes (Miyauchi, 2020). Furthermore, the number of available teachers is not yet sufficient to provide individualized attention to every student. This situation makes it difficult for teachers to provide individualized attention to each student. These conditions clearly pose a challenge for teachers in managing the learning process to ensure it remains effective and aligned with students' characteristics and abilities (Ratna Putri Pradita et al., 2024).

Susilowati's (2024) study, several barriers identified in efforts to improve the cognitive abilities of visually impaired students included the lack of adequate Braille textbooks designed for the visually impaired, as well as limited facilities and infrastructure available to support student learning at school. Visually impaired students are highly dependent on and require Braille books as a means of accessing information for reading, writing, and learning. For some visually impaired students, Braille books are not only used within the scope of teaching and

learning activities but also to express hobbies, such as reading storybooks, and can help them learn to be more independent (Meutia Nahlisa & Christiani, 2015). Students with visual impairments or who are blind require more time to read or write using Braille or tactile resources, which can hinder their academic progress compared to their peers with normal vision (Bahreini, 2024). Reading and writing Braille requires high concentration and good fine motor skills, which are acquired through continuous practice. As a result, students who are blind often learn and complete assignments more slowly. Therefore, teacher support in adapting instructional materials is crucial to ensuring that students who are blind have equal learning opportunities.

Another study by Rahmayani et al. (2025) revealed that a lack of teacher training is one of the factors hindering the learning process. Teachers also reported difficulties in conveying visual concepts. Weak systemic support and difficulties in accessing learning materials result in low academic achievement. The lack of teacher training exacerbates the teaching methods students are exposed to. Consequently, teachers lack the instructional skills necessary to adapt to the needs and abilities of visually impaired students, resulting in suboptimal and inadequate learning experiences for these children. Limited physical facilities within the school environment also pose a major challenge to the mobility and comfort of visually impaired children. They have fewer opportunities to express their opinions, engage in discussions, or collaborate in groups.

Other research findings reveal that teachers face various difficulties in teaching visually impaired students, such as behavioral issues, short attention spans, lack of motivation, shortages of teaching resources and learning aids, and a family environment that is not supportive of completing homework assignments (Zahra et al., 2022). These situations increase the challenges teachers face in achieving optimal learning outcomes. Visual impairments and a lack of visual stimulation can trigger stereotypical behaviors in students with visual impairments, who may use their own bodies to seek stimulation and engage in activities. There are various forms of stereotypical behavior among visually impaired children, as each child with a visual impairment has different ways and behaviors for seeking stimulation and engaging in activities. It is clear that these stereotypical behaviors can hinder the learning process at school (Anwar et al., 2022).

### 3.2 Discussion

Teachers play a crucial role in supporting the cognitive development and motivation of visually impaired students. Visual impairments mean that these children have different access to information compared to sighted children. To enhance their cognitive abilities and motivation, teachers can facilitate learning through audio and concrete objects. However, in practice, teachers face various obstacles. When teaching visually impaired students, teachers face many limitations, difficulties, obstacles, and challenges. Obstacle is the lack of adequate Braille textbooks designed for the visually impaired. Additionally, there is the issue of limited teacher competence; not all teachers have experience or training related to visual impairment. Teachers do not merely serve as conveyors of material but also as facilitators who provide accessible learning experiences, as motivators, and as mentors who help children develop independence.

## 4. Conclusion

This literature review concludes that the role of teachers is crucial in providing instruction that enhances the cognitive development and motivation of visually impaired students. Teachers serve as facilitators in adaptive and flexible learning environments. Their role in enhancing the cognitive development and motivation of visually impaired students involves providing instruction through audio materials, Braille textbooks, Braille boards, and teaching reading and writing. Teachers' efforts to boost the motivation of visually impaired students include using concrete learning materials, offering praise or feedback during the learning process, and providing support and guidance to these students. These approaches help build self-confidence, enhance cognitive development and motivation, improve academic achievement, and foster independence in these students.

However, teachers face obstacles and challenges in delivering instruction, such as a lack of learning materials and assistive technology, limited facilities and infrastructure available to support the education of visually impaired students in schools, a lack of specialized training for teachers, and teachers who are unprepared or unable to teach and provide support to visually impaired children, Therefore, continuous efforts are needed to provide learning facilities, accessible learning resources, and specialized training for teachers so that they can deliver more effective and efficient instruction to visually impaired students.

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