

*Teaching Strategies for Students with Visual Impairments  
A Case Study of the School for Visually Impaired Children in Adrar  
Province*

استراتيجيات تدريس ذوي الاعاقة البصرية  
مدرسة الأطفال المعاقين بصرياً بولاية أدرار أنموذجاً

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**Abstract:**

The present study aims to identify teaching strategies for students with visual impairments. To achieve the objectives of the study, the descriptive method appropriate to the nature of the research was used. The study tools consisted of a questionnaire developed by the researcher. The study sample included (22) teachers at the School for Children with Visual Impairments in Adrar Province. The findings revealed that the teaching strategies employed are consistent with the educational needs of visually impaired students, and that these strategies are also suitable for developing life skills among them (task analysis, behavior shaping, modeling, and simulation).

**Keywords:** Teaching strategies, disability, visual impairment, children with visual impairments.

**المخلص:**

تهدف الدراسة الحالية إلى التعرف على استراتيجيات تدريس ذوي الاعاقة البصرية، ولتحقيق أهداف الدراسة تم استخدام المنهج الوصفي الملائم لطبيعة البحث، وتمثلت أدوات الدراسة في استبيان تم بنائه من طرف الباحثة، وتكونت عينة الدراسة من (22) أستاذ بمدرسة صغار المعاقين بصرياً بولاية أدرار، وتم التوصل إلى أن استراتيجيات التدريس المتبعة تتلائم مع الاحتياجات التعليمية للتلاميذ المعاقين بصرياً، كما أن استراتيجيات التدريس المتبعة تتناسب مع تنمية المهارات الحياتية لدى التلاميذ المعاقين بصرياً (تحليل المهمة، تشكيل السلوك، النمذجة والمحاكاة).  
الكلمات المفتاحية: استراتيجيات التدريس، الاعاقة، الاعاقة البصرية، الاطفال ذوي الاعاقة البصرية.

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## **1-Introduction:**

The education and rehabilitation of individuals with special needs, including those with visual impairments, is of great importance. Considering the significant proportion of visually impaired individuals in Arab societies and the many challenges that hinder their education and rehabilitation, it is crucial to address the obstacles that affect the achievement of their educational goals. Some of these challenges relate to the institutions where they receive education and the services provided therein, which often do not align with the nature of visual impairment.

Moreover, there is a clear deficiency in the preparation of teachers for the visually impaired, which affects their ability to fulfill the responsibility of educating these students according to their specific needs, using strategies, methods, and tools suitable for their disability.

Additional barriers to teaching visually impaired students are related to the curricula designed for sighted learners, which are not modified to meet the needs of blind students. This prevents blind learners from fully benefiting from the curriculum's content and from acquiring essential skills and knowledge that would enable them to adapt to their disability and to life in a sighted community.

Furthermore, schools for the visually impaired often lack educational materials, tools, and adapted technological innovations that could help overcome the many difficulties in the teaching process for these students. (Ibrahim Mohamed Shaeer, 2009,11)

## **2-Study Problem:**

Students with special needs, particularly those with visual impairments, have distinct educational and instructional requirements when compared to their peers without disabilities. Harwood (2003) highlights that the aim of educating blind students is not necessarily to produce physicists or chemists, but rather to equip them with a scientific background that enables them to understand ongoing events and adapt to life's demands.

Teaching strategies for students with visual impairments represent a crucial aspect of special education. They require specific pedagogical techniques and adapted methods to ensure both academic achievement and developmental progress. Research has shown that when curricula are modified to accommodate the characteristics and needs of visual impairments—and supported with appropriate tools and devices relying on the other senses—students who are blind can acquire a wide array of knowledge and conceptual understanding.

Furthermore, the use of modified tools and assistive devices that match the nature of visual impairment enables blind students to acquire practical scientific skills, such as using measurement instruments (e.g., measuring length and temperature). (Shaeer, 2009,221)

Based on the above, the central problem of this study can be summarized in the following research questions:

- Do the current teaching strategies align with the educational needs of students with visual impairments?
- Are the teaching strategies appropriate for developing life skills in students with visual impairments (including task analysis, behavior shaping, modeling, and simulation)?

### **3- Study Hypotheses:**

In light of the study's problem and the aforementioned research questions, the following hypotheses were formulated:

- The current teaching strategies are aligned with the educational needs of students with visual impairments.
- The current teaching strategies are suitable for developing life skills in students with visual impairments (task analysis, behavior shaping, modeling, and simulation).

### **4- Study Objectives:**

This study aims to achieve the following objectives:

- To identify teaching strategies that are aligned with the educational needs of visually impaired students.
- To explore teaching strategies that are effective in developing life skills among students with visual impairments, including task analysis, behavior shaping, modeling, and simulation.

### **5- Significance of the Study:**

The significance of this study is outlined as follows:

- Education professionals working with students with visual impairments may benefit from the study's findings as general indicators for identifying effective instructional strategies. The study may also help in diagnosing existing challenges and proposing solutions across various educational domains.

- Due to the limited number of field-based studies focusing on teaching strategies for students with visual impairments, this study adds to the scarce literature in this area. It seeks to offer evidence-based recommendations that contribute to the planning and implementation of programs designed to meet the needs of this population.
- The study aims to raise awareness among educators, administrators, and policymakers regarding the challenges faced by teachers of visually impaired students, particularly in relation to teaching methods, strategies, and available resources.

## **6-Operational Definitions:**

### **6-1 Teaching Strategies:**

Linguistically, a strategy is defined as a set of plans used to achieve a specific objective. (Miloud, 2011, 152)

Instructionally, a teaching strategy is a predetermined set of actions designed by the teacher or instructional designer to be implemented during instruction in order to achieve targeted learning outcomes effectively and efficiently, based on available resources. (Al-Rubaie, 2006, 281)

### **6-2 Operational Definition:**

In the context of this study, teaching strategies refer to the instructional methods and techniques used by teachers to educate students with visual impairments, aiming to achieve the intended educational goals during classroom instruction.

### **Visual Impairment:**

There is no universally agreed-upon definition of visual impairment in the field of special education. According to (Khamees Aboudia Hanaa 2013, 5), visual impairment is a condition involving the weakening of the visual sense, which limits an individual's ability to use vision effectively, negatively affecting growth and performance. This includes impairments in both central and peripheral vision due to anatomical or pathological causes.

Visual impairment varies in degree, ranging from total blindness—where individuals have no light perception—to partial vision loss, where individuals may still distinguish visual details and benefit from residual vision. (Al-Quraiti, 2001,370)

### **- Legal Definition:**

Legally, visual impairment is defined from a medical and legislative perspective. A person is considered visually impaired if their visual acuity does not exceed 6/60 feet in the better eye even

with corrective lenses. This implies that an object visible at 200 meters to a person with normal vision must be 20 meters away for the visually impaired person to see it. (Al-Qamash, 2010, 129)

This legal definition plays a critical role in determining eligibility for specialized social care and support services.

**- Educational Definition:**

From an educational viewpoint, a blind person is one who cannot read or write except using the Braille system. Those with low vision are individuals who can read printed material with adaptations such as enlarged print or the use of magnification devices. (Botros, 2010, 241)

Given this, visual impairment from an educational perspective necessitates tailored pedagogical approaches, adapted curricula, and specialized instructional tools to support students' academic growth.

**- Operational Definition:**

In this study, visually impaired students are defined as those who meet the admission criteria of institutions dedicated to individuals with visual impairments and are enrolled at the School for Visually Impaired Children in Adrar Province during the academic year 2024/2025.

**7-Ethodological Procedures of the Field Study:**

**7-1 Research Methodology:**

The study adopted the descriptive method, which is appropriate for the nature of the current research topic.

**7-2 Temporal and Spatial Framework of the Field Study:**

The field study and the application of data collection tools (questionnaire) were conducted between 2February 2025, and 16 February 2025, at the School for Visually Impaired Children in Adrar Province.

**7-3 Study Sample and Sampling Method:**

**a. Sampling Technique:**

The study sample was selected using purposive sampling, comprising 22 teachers (male and female), which represents the entire teaching staff at the School for Visually Impaired Children in Adrar Province.

**b. Sample Characteristics:**

**Distribution by Gender:**

The study sample consisted of teachers from the aforementioned school, selected purposively. The distribution is as follows:

**Table (01): Distribution of the Study Sample by Gender**

Gender	Frequency	Percentage
Male	8	36%
Female	14	64%
<b>Total</b>	<b>22</b>	<b>100%</b>

The table shows that 36% of the participants were male, while 64% were female, indicating a higher representation of females in the sample.

**Distribution by Age:**

Participants' ages ranged between 27 and 43 years. The distribution is as follows:

**Table (02): Distribution of the Study Sample by Age**

Age Range (Years)	Frequency	Percentage
27–31	5	22%
31–35	7	32%
35–39	5	23%
39–43	5	23%
<b>Total</b>	<b>22</b>	<b>100%</b>

The highest percentage (32%) was found in the 31–35 age group, followed by equal percentages (23%) in the 35–39 and 39–43 age groups.

**Distribution by Teaching Experience:**

**Table (03): Distribution of the Study Sample by Teaching Experience**

Years of Experience	Frequency	Percentage
1 year	5	23%
2 years	2	10%
3 years	3	12%
4 years	4	18%
5 years	3	12%
6 years	2	10%

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7 years	2	10%
11 years	1	5%
Total	22	100%

The table reveals that 23% of participants had one year of experience, which is the highest percentage. Experience levels of 2, 6, and 7 years each represented 10% of the sample, while 4 years of experience represented 18%. The lowest percentage (5%) was observed for those with 11 years of experience.

#### **4. Research Instrument and Specifications:**

To achieve the objectives of the study, the researchers developed a questionnaire designed to explore the teaching strategies and methods used with students with visual impairments. The initial version consisted of 30 items, divided into two sections:

- Section One included demographic data (gender, age, professional experience), treated as independent variables.
- Section Two included the main questionnaire items focusing on the strategies and methods used to teach students with visual impairments, the educational tools employed, and whether these tools effectively facilitate learning for this group.

The questionnaire used dichotomous answers (Yes/No) and some multiple-choice items.

#### **8. Psychometric Properties of the Instrument:**

##### **8.1 Validity of the Instrument:**

###### **a. Expert Validity:**

To verify the validity of the questionnaire, it was presented in its initial form to a group of experts and specialists in the field. They evaluated the clarity, relevance, and appropriateness of the items from educational and linguistic perspectives. Based on their feedback, some items were modified or removed. Out of the initial 30 items, 25 items were approved unanimously by the experts for inclusion in the final version.

###### **b. Internal Consistency Validity:**

This type of validity was assessed by calculating correlation coefficients between each item score and the total score of the questionnaire. The results are presented below:

**Table (04): Correlation Coefficients Between Each Item and the Total Score**

Item No.	Correlation	Item No.	Correlation
1	0.47**	16	0.44**
2	0.43**	17	0.60**
3	0.54**	18	0.59**
4	0.48**	19	0.05
5	0.57**	20	0.51**
6	0.48**	21	0.72**
7	0.12	22	0.68**
8	0.44**	23	0.52**
9	0.57**	24	0.49**
10	0.55**	25	0.61**
11	0.56**	26	0.60**
12	0.46**	27	0.18
13	0.52**	28	0.54**
14	0.26	29	0.64**
15	0.53**	30	0.22

**Significant at the 0.01 level (\*\*)**

**Significant at the 0.05 level (\*)**

The table shows that 25 items were statistically significant at the 0.01 level, while items 7, 14, 19, 27, and 30 were not significant. This supports the reliability of the remaining items in representing the intended construct.

**8.2 Reliability of the Instrument**

Two methods were used to assess reliability:

**a. Test-Retest Reliability:**

The questionnaire was administered to the same sample twice, with a two-week interval between applications. The **Pearson correlation coefficient** for the total scores across both administrations was **0.85**, indicating high test-retest reliability.

**b. Cronbach’s Alpha Coefficient:**

Cronbach’s Alpha was calculated for internal consistency, and the reliability coefficient of the overall questionnaire was **0.80**, indicating an acceptable level of internal consistency.

### Conclusion on Psychometric Properties:

The results confirm that the questionnaire possesses **adequate validity and reliability**, making it a **suitable and trustworthy tool** for data collection in the current study.

### 9- Statistical Methods Used:

The following statistical methods were used to analyze the data, with the aid of **SPSS version 20.00**:

- **Frequencies and percentages** to describe sample characteristics.
- **Cronbach's Alpha coefficient** to assess the reliability of the questionnaire.
- **Pearson's correlation coefficient (r)** to determine internal consistency validity of the items.

### 10-Presentation and Discussion of Results:

#### 10-1 Presentation and Discussion of the First Hypothesis:

The first hypothesis states that the teaching strategies used are compatible with the educational needs of visually impaired students.

**Table (05): Educational Tools Used in the Teaching Process**

<b>Educational Tool</b>	<b>Percentage</b>
Braille board + pen	20%
Arithmetic board	17%
Adapted book	20%
Models	16%
Geometrical tools	12%
Talking calculator	10%
Raised maps	5%

From Table ( 05) we notice that the most important educational tools used by teachers across all subjects primarily rely on the Braille board and adapted book, each accounting for 20%. The highest percentage was recorded for the Braille board and adapted book because the Braille board helps the blind student write lessons and curriculum content. The second most used tool was the arithmetic board at 17%, which is used in scientific subjects like mathematics and helps learners perform basic operations such as addition, subtraction, multiplication, and division. The third most used tools are the models, estimated at 16%. In many educational situations, teachers use models to convey

information and help learners understand sizes. Fourth are the geometrical tools used in mathematics, with a usage rate of 12%. The talking calculator usage rate is estimated at 10%, and lastly, raised maps are used at a rate of 5%.

**Table (06): Distribution of Sample According to Their Training in Using Educational Tools**

Response	Frequency	Percentage
Yes	7	30%
No	15	70%
Total	22	100%

From the above table, we notice that most teachers have not received training in using educational tools, with 70% of teachers not trained. The training on using these tools such as the Braille board, adapted books, and arithmetic board was only provided briefly at the School for Visually Impaired Children during their training period. Meanwhile, only 30% of teachers received training in specialized institutes and centers.

Specialized teachers try to teach the curriculum content by adapting textbooks according to educational needs, writing books in Braille with the help of adapted computer devices. The primary goal is to ensure that the teaching strategies used by teachers are compatible with the educational needs of visually impaired students.

**Table (07): Whether Teachers Benefit from the Experience of Their Predecessors in Using Educational Tools**

Response	Frequency	Percentage
Yes	16	80%
No	6	20%
Total	22	100%

It is clear from the above table that 80% of teachers benefit from the experiences of their predecessors in the field. They believe it is necessary to learn from the experiences of previous teachers regarding the selection of appropriate teaching methods and the correct use of educational tools to assist in lesson explanation and achieve curriculum objectives. It is important that the teacher knows how to correctly handle educational tools to avoid negative effects on visually impaired students. Meanwhile, 20% of teachers have not benefited from such experiences.

**Table (08): Basis on Which Teachers Choose Appropriate Educational Tools for Lessons**

Basis for Choosing Tool	Percentage
Lesson requirements	60%
Learner's abilities and ease of use	30%
Familiarity of the tool to the teacher	5%
Teacher's ability to control the tool	5%
Total	100%

The table above shows that 60% of teachers select educational tools based on lesson requirements to help convey content effectively to visually impaired students. The tool must relate to the lesson's specific objectives, with behavioral goals playing an important role in tool selection. For example, if the goal is to teach students about a certain material like phosphate, a sample of phosphate is the most suitable tool.

30% of teachers select tools based on the learner's abilities and ease of use since imposing a tool beyond the learner's mental capacity becomes a barrier to comprehension. A small percentage (5%) base their choice on familiarity with the tool or their ability to control it.

**Table (09): Whether Teachers Take Into Account the Characteristics of Visually Impaired Learners When Choosing Educational Tools**

Response	Frequency	Percentage
Yes	22	100%
No	0	0%
Total	22	100%

The above table shows that 100% of teachers consider the characteristics of visually impaired learners when choosing appropriate educational tools. This is due to the specificity of this group. Teachers must consider the learners' age, interests, personal inclinations, and educational needs. Ignoring these characteristics renders the tools ineffective. The tools should match learners' abilities and motivations and not just the lesson requirements. Tools should be age-appropriate not too simple or too advanced so learners can understand and connect with their prior knowledge, stimulating their motivation. Additionally, the language level and abstract symbols used must align with learners' abilities.

Some teachers, especially in scientific subjects, use more than one teaching method to convey a particular idea while considering the educational characteristics of visually impaired learners.

Visually impaired individuals face challenges in understanding abstract concepts such as space, location, and distance. Therefore, teaching this group requires adjusting teaching methods, strategies, and educational tools to fit their educational needs.

**Table (10): Teaching Methods Used to Deliver Adapted Curriculum Content**

Teaching Methods	Frequency	Percentage
Competency-based teaching	17	75%
Objective-based teaching	5	25%
Total	22	100%

The above table shows that 75% of specialized teachers rely on competency-based teaching due to the nature of modern educational curricula, where the teacher acts as a guide and the learner is the center of the educational process. Meanwhile, 25% use objective-based teaching to deliver adapted curriculum content.

**Table (11): Basis for Choosing Appropriate Teaching Method**

Basis for Method Choice	Frequency	Percentage
Learner’s abilities and characteristics	11	50%
Curriculum requirements	7	32%
Nature of activities	4	18%
Total	22	100%

This table shows that 50% of teachers select teaching methods based on learners' abilities and characteristics, 32% based on curriculum requirements, and 18% based on the nature of activities.

**2- Presentation of the Second Hypothesis:**

The second hypothesis states that the teaching strategies used are suitable for developing life skills in visually impaired students (task analysis, behavior shaping, modeling, and simulation).

**Table (12): Teaching Strategies Suitable for Developing Life Skills in Visually Impaired Students**

Life Skills	Percentage
Task analysis	40%
Behavior shaping	35%

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Modeling and simulation	25%
Total	100%

From the above table, the teaching strategies suitable for developing life skills among visually impaired students are task analysis (40%), behavior shaping (35%), and modeling and simulation (25%) as the smallest percentage.

**Conclusion:**

Based on the study's problem and hypotheses, which aim at teaching strategies for visually impaired students, and according to the collected data, the researchers reached the following conclusions:

- The results of the first hypothesis showed that the teaching strategies used are compatible with the educational needs of visually impaired students.
- The results of the second hypothesis showed that the teaching strategies used suit the development of life skills among visually impaired students (task analysis, behavior shaping, modeling, and simulation).

The study showed that visually impaired students have educational needs similar to sighted students. The curriculum taught to sighted students is the same as that for visually impaired students but adapted with strategies, methods, and educational tools suited to the specificities and needs of visually impaired learners.

Visits to the School for Visually Impaired Children showed the availability of a qualified staff of specialized teachers, educators, administrators, psychologists, and pedagogues, all working to meet the educational needs of visually impaired students.

**Study Recommendations:**

- Train teachers and instructors in specialized institutes to increase their expertise in special education and provide them with a comprehensive view of developing various aspects of visually impaired students' personalities.
- Continuous training for teachers through intensive seminars and scientific conferences to learn appropriate teaching strategies and how to use educational tools effectively.
- The educational system currently does not consider the special characteristics and needs of this group, treating each individual as responsible for their actions without regard to their

degree of disability and educational needs. Therefore, it is necessary for the educational system to accommodate the needs of visually impaired students in curriculum development.

- Reconsider the length and content of lessons and classes to suit the age and comprehension level of this group.
- Adopt an educational strategy that respects individual differences of visually impaired students and aligns with their educational needs.
- Conduct studies aimed at understanding teaching strategies for students with other disabilities.
- Conduct similar studies on larger samples.

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