

# Education Setting for Visually Impaired Students: A Review

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## ABSTRACT

*Visually impaired students are the part of our society. They have rights for education. This paper discussed the concept of visual impairment and its characteristics. The issues of inclusive education programmes of the visual impaired and the various strategies for teaching them are also presented. Furthermore, the educational provisions and support services needed for appropriate instructional delivery to person with visual impairment in inclusive settings are highlighted. In addition, some unique problems of inclusive education programme are discussed. The paper concludes with suggestions to classroom teacher for effective and appropriate teaching/learning process in an inclusive classroom setting.*

**Key words:** *Education, Visually impaired, Special School, Integrated School, Inclusive education and inclusive classroom*

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## INTRODUCTION

The constitution of the People Republic of Bangladesh has given right of education for all kinds of people of Bangladesh. Visually impaired students are also the citizen of Bangladesh. So they have rights for education. Life without sight is hard to imagine and is one of the most feared of human conditions (Hallahan and Kaufmann, 2000). Over half the information we receive about our world is through vision (Winzer, 1999). Visual impairment can interfere with the development of learning, mobility, social growth and adjustment. For this reason, persons living with visual impairment present unique educational needs which are best addressed early in life. These educational needs include concepts development, improving listening skills, and developing study and research skills.

Skills in daily living, socialization and recreation also need to be taught. Training to use any residual vision to the fullest extent is very important. They may also need to be taught alternative ways to read and write (Winzer, 1999). Visual impairment as a generic term is a wide range of visual problems. It is a concept that includes categories such as total blindness as well as mild and serves cases. Educational definition of visual impairment emphasizes the functional visual efficiency because visual efficiency is unique to each learner. The way the learner uses the residual vision is the main concern of the educator. Visual impairment occurs when the peripheral field of vision is reduced (Leonard Cheshire Disability, 2011).

Vision plays a critical role in an educational setting. Visual impairment which is severe enough to interfere with progress in normal educational programmes is considered a visual handicap. Students must be able to see clearly, focus on objects far and near, be able to co-ordinate hand and eye, discriminate small differences and remember what they see. Difficulty in any of these areas may pose problems in the classroom. Bangladesh government is trying to provide education for the visually impaired students and has taken different programmes for the spread and development of education for visually impaired students.

## Review of Literature

Lakshmi et.al (2009) reported that there was a significant difference in the attitude of the parents towards their visually impaired children in the area of social and emotional behaviour, sibling attitude and towards the concept of integrated education.

The good communication and positive societal interaction foster relationships and emotional adjustment, but for a visually impaired child, these channels are blocked, sometimes resulting in emotional instability Pradhan (2010).

Chaudhary and Phogat (2010) studied adjustment of visually challenged adolescents in relation to their anxiety and degree of impairment and concluded that low anxious totally visually challenged males are better adjusted than high anxious males while there was no significant difference between low anxious females and high anxious females, low and high anxious partially visually challenged males and low and high anxious partially visually challenged females on adjustment.

Reema (2010) conducted a study of relationship between self-concept and adjustment of visually impaired adolescents studying in inclusive and special schools. The findings of the study revealed that the development of self-concept was better in inclusive schools. It was even better in the case of male adolescent than the female ones. The relationship between self-concept and level of adjustment in the case of female adolescents was better in inclusive school settings than their male counterparts. This trend was reversed in the case of relationship between those aspects in special schools.

Were et al. (2010) studied gender differences in self-concept and academic achievement among visually impaired pupils in Kenya. A sample of 262 respondents (152 males and 110 females) was drawn from the population by stratified random sampling technique. Two instruments were used in this study: Pupils' self-concept and academic achievement test. The t test was used to test the relationship between self-concept and achievement. The data was analyzed using Analysis of Variance (ANOVA) structure. Results of the study revealed that there are gender differences in self-concept among visually impaired pupils. Girls scored higher than boys in self-concept and hence in achievement test.

Rani(2010) depicted that academic anxiety of visually impaired students was positively and significantly correlated with their academic achievement. Female students were academically more anxious than their male counterparts. Moreover school setting also has significant impact on academic achievement of visually impaired students.

Rani (2011) compared academic achievement of visually disabled students in integrated and segregated school settings. The results of the study revealed that students placed in integrated schools performed significantly better than their counterparts in segregated schools.

Daryl et al. (2012) reported that Adjustment to vision loss is significantly associated with depression and certain traits of personality (specifically neuroticism and conscientiousness), independent of the severity of vision loss.

Kumar and Singh (2013) concluded that there is significant relationship between emotional intelligence and adjustment and sighted students have better intelligent and adjusted than visually impaired students.

Mishra (2013) reported that there is positive relationship between ego-strength and adjustment. He further concluded that. Ego-strength of sighted students is better than that of visually impaired. It means blindness affect ego-strength.

Pandey (2013) reported that adjustment of visually impaired adolescence varied significantly when compared with sighted adolescence in special set up. There was significant difference in adjustment of visually impaired adolescence when compared to VI in special and that of in integrated schools. There was no significant difference in adjustment sighted adolescence and that of visually impaired adolescence in integrated set up because of similarity in environment that provide plenty of experiences for visually impaired.

Gill (2014) investigated Emotional, Social and Educational Adjustment of Visually Handicapped Students of Special Schools students. By the application of mean, standard deviation, and t-test indicated is no significant difference between the educational, social and emotional adjustments of special school Students belonging to boys and girls.

Rajkonwar et al. (2015) studied Adjustment and Academic Achievement of Visually Handicapped School Children in Assam and the study reported that the adjustment of visually handicapped boys and girls was found similar on overall adjustment.

The study was carried out by Parua (2015) to determine the difference in emotional development among visually impaired students studying in integrated and special schools. The results show that there is a significant difference between visually impaired students studying in integrated and special schools on emotional development in general and all the dimensions of emotional maturity scale. Further, the visually impaired students studying in integrated schools were more emotionally matured than the 2566 Comparative Study of Adjustment of Visually Impaired Students those were in special schools.

Pant and Joshi (2016) revealed that children with visual impairment studying in inclusive setup are more emotionally stable than the children with visual impairment studying in special school.

Singh et al. (2016) revealed that there is a significant adjustment difference between disabled children and normal children.

Dutta and Talukdar (2016) reported that majority of the students with vision impairment obtained low scores on all dimensions of self-concept, namely physical, moral, personal, family, social and academic, some students obtained normal scores in relation to family and academic self-concepts but there is no significant differences between female and male students with vision impairment across the six dimensions of self-concept and thus total self-concept.

Gahlawat (2017) reported that on the whole, personality and mental health of visually challenged adolescents are significantly lower than their normal counterparts.

Banoo et al. (2017) revealed that emotionally, physically deformed children have better adjustment than visually impaired. Physically deformed are more adjusted at School than visually impaired children.

Visually impaired have similar needs as sighted. They continuously interact to their surroundings to satisfy their needs, it may be home, school or personal and even their own emotion. Visually impaired having limited experience and opportunity posed serious problem to adjust. Thus, for proper adjustment of visually impaired, it is essential for parents, teachers and peer groups to have positive attitude which in turn develop positive self-concept and positive attitude. Adjustment is essential for rehabilitation. To cater the needs of visually impaired children, special and integrated institutions are established.

Special Education is as a separate system of education for children with special needs. It was based on the assumption that children with disability had some special needs that could not be met in mainstream schools and therefore, they need to study in a separate school with other children having similar needs. Special school exists in the form of day or residential schools, and also special classes are attached to the mainstream schools. In residential one, a child is separated from the family and community and it is pealed institutionally with other children who have similar problems requiring specific services from staff. An alternative to residential schools was provided by a day school. The day school has the merit of keeping the child in the family and community while providing care of specially trained teacher and professionals to guide the child's educational development.

For special education some special infrastructure is needed. Also it can be included in mainstream education with some special facilities for it. Special education requires following three elements trained professionals – including teachers, educationist, and physiotherapists. Special curriculum-made for students with different disabilities. Infrastructure facilities- like building, study places, materials and equipments.

The major disadvantages of separate education in separate environment are that, the children staying away from families may find it hard to readjust to their families' peers and communities. Children usually have to leave their families and communities to stay in a residential setting because these schools are usually not available in their immediate environment.

The special schools however, have some advantages like they can play an active role in giving resource support for the mainstream schools by providing specialized services. Also since the children

are taught by a specialist having expertise on specific impairments, their needs may sometimes be understood better. In special schools children grow up with their disability peers and develop a common culture. In spite of the benefits of inclusive education, if a child with disability is not getting the required resource support in the mainstream school and is not developing up to her/his potential a special school remains a viable option.

Integrated education has its roots in various movements which did not recognize segregation. Its basis is recognition of equal rights for all citizens and equally equality of educational opportunities for all children. It emphasizes on education of disabled children in general schools. Integrated education refers to education of disabled children in common with others in general schools with provision of extra help for the disabled. It refers to integration visually impaired and physically disabled children with non disabled children in regular classroom and providing specialized services to meet their special need. Integration can be of following types-

**Physical integration**-it involves planning for location of special programmes in schools building with regular education programmes.

**Social integration**-it involves planning for regular personal interaction between students who have disability and those who do not have.

**Academic integration**-it involves planning to ensure students with and without disability simultaneously use of school resources.

**Societal integration**-societal integration involves planning designed to enable students with moderate and serve disabled to work, live and spend leisure time with their fellow non disabled.

Integrated Education covers following types of disabled children-

- (i) Educable mentally retarded.
- (ii) Orthopedically impaired
- (iii) Partially sighted
- (iv) Mildly and moderately hearing impaired
- (v) Blind children who have completed preparation in Braille reading and writing, orientation and mobility training.
- (vi) Deaf children who have acquired communication skills and learnt speech reading.

Integrated schools are less expansive as compare to that of special schools because a special learning material and specially trained teachers are not appointed. It helps to remove inferiority complex among disabled children because It provides affection, love and respect for disabled children among normal children .And its' environment is conducive for disabled or challenged students where they not only get help from peers for learning but also get motivated for learning. Thus; integrated schools ensure social integration by providing opportunity for full participation to enjoy life without fear and anxiety among disabled children along with normal children (Singh 2010).

The adjustment of visually impair varied according to setting. The main purpose of this study was to investigate how school (special/integrated) placement influences the adjustment of visually impaired students. The present study is a humble endeavor in this respect.

## DEFINITION OF KEY TERMS

**Education:** Education means harmonious development body, mind and soul.

In other word, education is the process through which desirable changes occur in human body.

### Visually Impaired

In an educational(functional) definition, visually impaired or totally blind are those who are so severely challenged that must learn Braille to read and write while low vision students can still use their residual vision as a primary sense to deal with day-to-day visual demands with suitable assistive devices.

### Special School:

A residential educational set up where visually impaired students admitted exclusively in order to cater their special needs accordingly to special curriculum by special teacher.

**Integrated school**

A Non-residential educational set up where visually impaired students admitted students admitted with non-disabled counterparts with little or no modification in the existing curriculum for non-disabled students taught by general teacher while the resource teacher provides them curriculum.

**Orientation & Mobility:**

The training that teaches the visually impaired person to move around the environment freely and independently is popularly known as orientation and mobility.

**Functionally blind**

Functionally blind means learners learn mostly through other senses but may be able to use vision to supplement information receive from the other senses. They would need to use Braille to learn to read. Functional vision cannot be measured using visual field and visual activity tests.

**Low vision learners**

Low vision learners primarily use vision as a means of learning and with magnifying devices. They may learn to use print (Mild to moderate impairment)

**Visual efficiency**

Visual efficiency refers to how well a person uses whatever vision present. This includes the ability to control eye movements to discriminate objects from their background, and to pay attention to impairment details (Beatrice and Janet 2003, Yao and Prosper 2011).

**Inclusive education**

Inclusive education is an approach to improve the education system by limiting and removing barriers to learning and acknowledging individual students needs and potential.

Inclusive education has been internationally recognized as a philosophy for attaining equality, justice and quality education for all children, especially those who have been traditionally excluded from mainstream education for reasons of disability and other characteristics. Inclusion education came as a rescue mission in the actualization of educational and psycho-social services for person with visual impairment. Ajuwom (2008) identifies the following principles of full inclusion to include: placement in the neighbourhood schools, zero rejection philosophy, no special classes or school, co-operative teaching, and special education support given to regular education. For children or students with visual impairment to maximally benefit from inclusive education programmes, there is need for a formal and clinical assessment of vision. In our society, most of the communities used the Snellen “E” and “N” charts as assessment tool. The purpose of it is to determine the nature (type and degree) of disability inherent in each individual with visual impairment. This will enable the class teacher and the specialist make provisions for them in terms of materials and support services (Beatrice and Janet, 2003).

**CHARACTERISTICS OF PERSONS WITH VISUAL IMPAIRMENT**

Characteristics of children with visual impairment are usually defined by degree of visual impairment, age onset, cognitive development, language development, motor and mobility development social and emotional development (Beatrice and Janet 2003). However,, there are educational characteristics of persons with visual impairment. These characteristics depend on the extent of visual efficiency of an individual learner. Learners with visual impairments demonstrate the following characteristics:

- Intellectual abilities are similar to those of sighted peers
- They are unable to use sight to assist them in the development of concepts
- Their concepts development depends on their tactile experience
- They are unable to use visual imagery
- They may display repetitive, stereotyped movement for example, rocking or rubbing of eyes.
- They are withdrawn, dependent and are unable to use non-verbal cues
- They have difficulty using spatial information and visual imagery and imagery problems with functional implications
- They have unusual facial behaviours such as a squinting, blinking or frowning while reading or doing close work.
- They are unable to locate or pick up small objects

- Physical indicators may include red eyes, swollen eyelids watery eyes or discharge eyes that do not appear straight, uneven seized eyes, eyes with drooping eyelids and crusts on lids between the eye lashes.
- They may have poor eye-hand coordination
- Usually have problems in distinguishing similar shaped letters, numbers or words for example b and d
- They have difficulty in writing or are not able to write within the lines
- They have difficulty in reading books within the normal range thus bringing the book/object closer to the eyes.
- Some students may be sensitive to bright light and may shut their eyes or squint.
- They may have difficulty to seeing in dim light or have inability to see in the dark (UNESCO, 2001, Yao and Prosper, 2011).

### **INCLUSIVE EDUCATION AND INDIVIDUALS WITH VISUAL IMPAIRMENT**

Inclusive education is essentially a programme that enables all learners with or without disability to participate fully in the life and work of mainstreamed settings to meet his or her learning needs. It gives equal opportunity for all learners to jointly undertake learning situations without discrimination and any learner considered to have a deviation as a result of a lost or damage in physical and mental development is given the right to belong to the mainstreamed setting. The understanding is that students with disabilities do not only have the right to education, they also have the right to be part of the mainstream education system (Iheaneho and Osuorji, 2008). For this reason, individuals living with visual impairment have it as a right to be in an inclusive classroom setting for teaching/learning process.

The practice of inclusive education is part of the universal rights to education which is extended to all children, the youth and adults with visual impairment inclusive. These rights are enshrined in the rights of the child, addressed in the international declarations like Education for All (1990), Equalization of Educational Opportunities for person with disabilities (1993) and the Salamanca Framework for Action (2000). To achieve education for all, inclusive education emphasizes the placement of children in the regular class.

That is why the Salamanca declaration stated that, schools should accommodate all children regardless of their physical, intellectual, sensory emotional, social, linguistic and other conditions. To achieve this, public schools in Cameroon are integrating persons with visual impairment to provide appropriate educational programmes.

### **CURRICULUM CONSIDERATION FOR INDIVIDUALS WITH VISUAL IMPAIRMENT**

As earlier mentioned, visually impaired person have the same range of intellectual ability as other students they typically have had fewer opportunities to acquired information usually learned visually (Pogrund and Fazzi, 2002). For example, students generally learnt maps by looking at them. Although students who are visually impaired can learn by feeling a raised map, this method is not as efficient as seeing it. The same problem can occur with academics. Students with visual impairment often experience learning difficulties simply because they cannot easily use vision to process information. With this, it is necessary to consider their curriculum within the classroom setting in order to meet up with the teaching/learning processes (Sacks & Silberman, 2000) as is true for all individuals; students with visual impairment vary in their social and emotional development. Some students encounter little difficulties making friends, interacting appropriately with peers and adults, and developing a positive self-concept. Other students need support in these areas (Sacks & Silberman, 2000). The class teacher needs to adjust, to teach social norms that are valuable and necessary within the classroom setting. An appropriate inclusive school environment for children with visual impairment should provide infrastructure that are disability friendly, teaching facilities(materials and equipments), human resources and other related services needed for the well being of the students within school milieu (Jatau, Uzo & Iere, 2002 )

### **STRATEGIES FOR TEACHING INDIVIDUALS WITH VISUAL IMPAIRMENT**

The key element for decision making/ teaching adaptation is on the selection of medium of instruction and teaching strategy which enables the learners with visual impairment to be most proficient in

learning and in life achievement. UNESCO (2001), Leonard Cheshire Disability (2011), state some of the strategies for handling learners with visual impairment in the classroom. The strategies include:

- Using large writing on the chalk board or visual aids. The use of coloured chalks is recommended. Let the children come close to the board or teaching aids so that they can see more easily.
- Read aloud what is written on the chalkboard
- Prepare teaching aids that learners can read more easily such as large print materials. Other learners in the class could help prepare these or they can be produced by enlarging font sizes on computer printout. This can also help learners who have difficulties in reading.
- Learners may have difficulties seeing the lines on writing papers. They can be given papers with thicker lines drawn on it.
- Some learners will benefit from using magnifying aids. Two types are available. Ones that enlarge the whole page or line magnifiers, which are a useful aid to reading
- Encourage the learners to use a pointer or their finger when reading. Cover the rest of the page with paper except for the paragraph they are reading.
- Use a bookstand to avoid reflection.
- Children with poor vision need to learn through touch as well as through hearing. They should be given a chance to handle objects.
- Pair the pupil or student with a seeing classmate who can assist him/her to organise their work. The partner can help find the correct page, repeat your instructions and so on.
- Use verbal praise or touch to give the children encouragement
- Use the name of the pupil's or students during class discussions so that the individual knows who is talking.
- Computers offer particular support to learners with visual impairment. They can print out a large print copy, read text on the screen using the text on a voice synthesizer or convert it in to Braille.
- When teaching Mathematics, the teacher should make use of abacus, tactile geometrical shapes, talking calculator and Braille ruler.
- Lessons can be taped using a cassette recorder for later playback at home or as revision. Learners who experience difficulties in writing can also provide information on audiotape. Taped versions of books are sometimes available in libraries and resource rooms.

### **EDUCATIONAL PROVISION FOR INDIVIDUALS WITH VISUAL IMPAIRMENTS IN THE INCLUSIVE CLASSROOM**

There are sensitive educational gadgets and services that are needed by visually impaired for successful inclusion. These range from equipments/facilities to educational arrangement and provision of services which include:

- Orientation and mobility (Cane skill)
- Portable note taker
- Larger format books
- Slate and stylus
- Magnifying glasses
- Specialized computer software (Jaws, Zoomtext etc)
- Electronic Braille writer
- Perkins Braille (Nsagha, 2012)

Classroom instruction for the visually impaired will require orientation and mobility, that is, the sense of where they are in relation to other objects and people in the environment and ability to move about within a space. They need to know where furniture, doorways, bookshelves and the teacher's desk are in the classroom, in relation to their own location. In addition, they need to be able to move from the classroom to the auditorium to the cafeteria and out of the bus in a timely manner.

The task of the class teacher is to make sure that the classroom is spacious enough, well arranged and furniture place for proper learning opportunities for the visually impaired (UNESCO, 2001; Mawutor & Selete, 2004).

Teaching learning process would need to be modified to accommodate students with visual impairment. For example, you might need to identify the text books you plan to use in class prior to the start of the school year so they can be ordered in Braille, large-print, or audiotape format. For visual clarity, you might need to use a whiteboard with a black felt tipped marker instead of a traditional chalkboard, or to provide the student with paper that has heavy black line instead of traditional light blue ones.

## **SOME UIQUE PROBLEMS OF TEACHING LEARNERS WITH VISUAL IMPAIRMENT IN AN INCLUSIVE EDUCATION SETTING**

The visually impaired can excel in academic as every normal human being but there are unique problems they faced in classroom which include:

- Constraints of knowing and reading Braille. Braille reading and writing as beneficial as it is to the visual impaired has some problems or difficulties in learning it. These problems vary with individuals that is, the onset of the visual problem and age of the individual. For instance, when one is visually impaired from childhood, the problem is reduced as the sense of touch on the finger tips are easily developed unlike adult age and not to talk of teacher who need to know Braille in order to teach better (Nsagha, 2012).
- Difficulty in using assistive technology. The teaching/learning process offers the visually impaired unique needs, facilities and equipments. Many of these face difficulty learning how to use them. For example using the slate and stylus is writing from left to right as if you are writing Arabic. Problems of using Perkins brailier, all computer software and its accessory due to lack of training and even non-availability of those equipments (Nsagha, 2012)

### **CONCLUSION**

It can be concluded that maximum learning outcome expected of the children with visual impairment in an inclusive educational setting can be achieve if the classroom teacher should observe the following:

- 1) Master the use of assistive technology devices necessary for classroom teaching/learning processes
- 2) Ensure adequate classroom organization to ensure easily movement and classroom interaction
- 3) Adopt effective use of chalkboard by ensuring that essential information are written bullly on the chalkboard for the partially sighted to see and
- 4) The teacher should use appropriate tactile diagrams or models (instructional materials) while teaching in order to concretise concepts being taught.

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