

# THE ORIENTATION, MOBILITY AND MOVEMENT OF VISUALLY IMPAIRED PERSONS: A STUDY

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## **Abstract**

The purpose of this research study was to know the knowledge about orientation and mobility on the movement of the persons with visual impairment. So, it is much important for visual impaired children to join such institutions in which different activities are arranged to enable them to move, to travel and to find things efficiently using their senses. So the basic purpose of the study was to know the knowledge about orientation and mobility on the movement of the students with visual impairment. This research was a descriptive research in nature, qualitative by technique. Furthermore it was a survey research study. The accessible population for this research study was consisted of all the visual impaired individuals getting education and training at different public and private institutions of District Lahore. Out of the accessible population the researcher drew out a sample of 100 visual impaired individuals, 50 visual impaired individuals were selected from public special education institutions and 50 visual impaired individuals were selected from private special technique from public and private special education institutions of district Lahore. As students were visual impaired and interviews had to conduct so in order to collect the required data a list of close ended questions in the form of three point Likert scale questionnaire was developed by the researcher with the help of supervisor in order to explore the knowledge about the orientation and mobility on the movement of the students of public and private institutions. The instrument was validated through Experts' opinion. After collecting the required data, it was analyzed through SPSS software in order to explore the knowledge about the orientation and mobility on the movement of the persons with visual impairment of public and private institutions. Calculated t-test value was -10.69 that was lesser than the critical value -1.960. It means there was significant difference between the mean scores of students enrolled in public and private institutes about the awareness of orientation and mobility.

**Keywords:** Visual impairment, orientation, mobility, public institutions, private institutions.

## **Introduction**

Sight is one great blessing of God and no one can deny this great blessing of God. Many problems are created by reduction of vision in a person's life. Visually impaired person's need to know the knowledge about orientation to be in word fluency for the development of cognitive, motor and psycho-social abilities.

A study by Kef (2002) on the social support for Dutch teenagers with vision issues and impairments showed that the high percentage of

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youngsters feel happy and they accepted the fact of their impairment with high self-esteem. Very less variance was found between partial and completely impaired patients. No noticeable variance was found between these groups and sighted young people. Sighted adolescents are more social and have a greater group of friends and family.

Lopez-Justicia et al., (2001) conducted different studies to check whether Spanish children and teenagers with low-vision had low level of self-concepts compare to that of visually perfect peers. The children ranging from 4-11 years of age with low-vision are less attracted towards self-concept. Differences were not so major as far as family and security is concerned. This indicator shows that, they are enjoying the support from their family and class fellows. For children who are in between age of 8-11 years, big differences were known as far as relation with family members is concerned. While they feel uncomfortable, making new friends. Results for the youngster (aged 12-17) group showed that the significant differences are only in terms of physical self-concept. Individuals who have low-vision score lower than their sighted fellows. It shows that individuals of this age group are more attentive to their physical look.

Persons providing or receiving believes that mobility training is effective in increasing the performance of mobility. Three studies have assessed the effectiveness of training and findings are different. Geruschat and Del'Aune (1989) and later Straw and Harley (1991) all three found major improvements in mobility. But Soong (2001) found that performance of mobility did not start right after training of mobility.

As Soong et al. (2001) pointed out the results of by showing that some factor about mobility training are not being considered by others and questions remained unanswered. Gerushat and Del'Aune (1989) checked performance at start and at end and came up with a conclusion that the improvements are caused by practice effect. The conducted sample of Straw and Harley's study (1991) did not tell about exact figure of visually impaired patients, because only little percentage of samples had rational evidence.

According to Riley, (2000) many aspects are involved in the existing variation in losing the sight. These features are:

- Obtain ability and sort of family sustenance.

- The level of knowledge, responsiveness, physical, and mental ability of individual.

Consequently, the differences in the aspects should be considered when planning and constructing suitable learning programs for visually impaired individuals.

Physical activity for the visually impaired involves motor learning and movement related to environmental safety and convenience (Chen and Hsieh, 2003). Significant differences exist between the physical exercise regimes of the visually impaired and the normally sighted. Chang (1991) asserted that the blind suffer from a lack of exercise and that walking alone imposes a psychological burden and variety of dangers.

The abilities of the visually impaired can be improved through education, but to achieve this goal, the government must seek the advice of experts to develop teaching aids to enable participation in team sports and other activities. Since childhood, most visually impaired individuals suffer from a lack of life experience; nonetheless, they are able to use tape recorders, Braille materials, tactile aids, blind computers, and visual aids to learn and reach their maximum potential. Regardless of the development in these areas, orientation remains the most important skill for the visually impaired (Liu, 1975).

Regardless of one's visual acuity, the ability to walk confidently, safely, and purposefully is extremely important, but encountering an unfamiliar environment is especially challenging for the visually impaired. Previous researchers have revealed an Inhibitory govern deficit in children suffering from developmental coordination disorder (Tsai et al., 2009). Tsai (2009) showed arranged a ten-week team based body activity programmes and resulted in significant improvements in mechanical and intellectual ltasks in visually impaired children.

With adequate orientation skills and mobility, the visually impaired are able to perform many living skills independently, such as using the toilet, walking to classrooms alone, and avoiding falling which are crucial to their self-esteem and sense of independence. Many of these individuals are even capable of returning home without assistance, thereby reducing the psychological burden on teachers. Gaining experience and knowledge, expanding their living space, adapting to new social situations, improving relations with classmates, and receiving

encouragement from teachers make life for the visually impaired far easier and more fulfilling. Several studies have made references to living environments, in which the visually impaired are able to use their residual vision or other sensory organs to identify their relative position within the environment (Mao, 1995).

### **Orientation and Mobility**

#### ***Definition of Orientation***

Orientation is the ability to know the location where a person is and where he/she wants to go while moving from one room to another or going upstairs and downstairs or getting in the bus or walking on the footpath.

#### ***Definition of Mobility***

The mobility is the skill to move efficiently, safely from one place to another even crossing the roads and using the public transportation without falling or meeting with an accident.

#### ***Visual Impairment***

Visual impairment can be defined as “visual impairment include people have never visual function. Vision may decrease gradually or suddenly may be partially or totally”. Such people might have visual loss or they may have problem in optic muscle control (Ian L Bailey, 1989).

Mobility is a combination of skills which enables visually impaired personsto spend their lives correctly, safely and independently. “The movement from one point in the environment to another is reffered to as mobility”. (Hill & Pondes 1976, Lydon & McGraw 1973).

Orientation is an ability of one’s to locate him in an environment and to manage his position according to the situation. “Use of the remaining senses to establish one’s position and relationships to other objects in the environment”. (Jo Anne Murphy).

The reason that visually impaired persons mobility is possible at all is largely due to the ability of the individual to use his residual vision and congestive process to maximum effects, and as rehabilitators, its our job to ensure that our clints are doing it to the best of their abilities. It is very essential for us to know about mobility and orientation that we must have knowledge and information about it. A person with vision loss often accompanies with a sighted human guide, so it is essential that the knowledge and information must be delivered to visually impaired persons.

There are lots of techniques for orientation and mobility. These techniques are developed to feel comfortable and to efficient in the role of a sighted guide. For the particular application of these techniques it is instructor's duty that not only he provide information and valid knowledge to visually impaired persons information but also learns daily usage in their daily life. With the teaching procedure, it is also essential that the instructor must tell its precaution, so the possibility to use the techniques of orientation and mobility, it can be sue special devices and special techniques are must to provide the orientation and mobility training. However, it is important, that the teacher understand the nature of training and major methods and modes of travel.

There are experts and specialists in Orientation and Mobility profession who guide the students to develop the skills and concepts which are very important while travelling safely and independently within house and outside of his home. They teach infants and children in schools and rehabilitation center.

There are code of ethics and required level of knowledge and teaching skills for a certified Orientation and Mobility Specialist which are helpful in developing the followings:

- To maximize sensory development among the visually impaired children
- To focus the combination of senses with self protective techniques to move efficiently and effectively from one place to another within house and in the community.
- To use cane and other devices for walking purpose
- To use landmarks and compass directions for crossing roads
- To develop problem solving skills in case of loss of road and changing the bus.

The knowledge of orientation and mobility plays an important role in many areas of a man's life like in home, at school, relatives, neighbors and public places. In visual impairment area the orientation and mobility knowledge is very essential part of education and also rehabilitation for the independent movement of visually impaired person. There is no research work in an important area of this field therefore this topic of work is selected to know the knowledge about orientation and mobility on the movement of visually impaired persons.

### **The Basics of Mobility Skills**

#### ***Guided Travel***

Mobility technique which is included in walking with an individual is "Sighted Guide Travel." According to this method, children that are blind hold guide's arm while following the guide. The child has to hold the guide's arm so the fingers gripping the inside of the arm and the thumb is not inside the arm but outside it. A child allows the guide to give "cues" about the environment by standing half step behind the guide. The guide indicates that they are passing by narrow path and they will have to walk one by one by guiding his arm on the back of patient. Signs and signals must have suitability with the communication and learning standards of individuals.

#### ***Protective Techniques***

In Protective techniques students safely travel in familiar places. They protect their bodies while locating objects. These abilities are basically used in accustomed inner settings. Protection skills are used in which the arm is placed at height of shoulder, parallel to the floor, will protect patient from objects which will come at chest and shoulder level. To protect lower body, arm is extended down. These techniques sometimes use simultaneously, but they can be tiring. These techniques are used when needed. For example, trailing skills may be used by patient while he was passing through hallway which is known and makes use of the safety procedure when the end of lobby comes.

#### ***Trailing***

While trailing refers to extension of student's arm at about 45 degrees, while maintaining contact with a wall. This technique can teach patient, how to make alignment. It gives information about the environment as well as protection. This skill can be used in different conditions. Example includes walking through hallways while looking for a door, or during the outdoor travel from the building that is situated in a way. In trailing mobility device is also considered useful, or in concurrence with forearm and upper hand protection.

#### ***Teaching Techniques for the Blind***

It is observed that different teaching techniques for the blind are used. It includes adaptation and instructional materials for visually impaired patients; special environment for visually impaired students is created at classrooms (Massachusetts; Division of Special Education, 2011).

***Adaptation Material for Visually Impaired***

Adaptation materials for the visually impaired include computer programmed, computer machine, and Vincent work station. Braille writing machine, parking machine, Kurzweil reading machine, talking books, thermoform machine, tape recorders, talking calculators. Instructional adaptation for visually impaired includes increase use of verbal descriptions, explanations and instructions. There is frequent use of questions. Discrimination techniques are used in instructional adaptation. Training programmes for the parents, tutor, guardian, about Braille or other behavior modification techniques are arranged. Students are encouraged to choose a partner for play and academics. It also includes communication with the child's parents or caregivers with other teachers about students' progress (Massachusetts; Division of Special Education, 2011).

***Daily Living Skills***

These skills refer to the ability to perform the routine activities, such as washing and dressing. These activities play vital role in self-esteem of person. It is an easier and faster way to do things for visually impaired child, but in the end it results in "teaching helplessness" (Massachusetts; Division of Special Education, 2011).

***Getting Dressed***

Start with undressing. Tell your child to put off clothes away in proper way. Choose dresses that are easy to wear. Prefer dresses and pants with zips instead of buttons. Choose large buttons rather than small ones. Those garments should be preferred whose fronts and backs are obvious. (Massachusetts; Division of Special Education, 2011)

***Washing***

Teaching about body parts can be best done during bath time and to differentiate relative size with siblings. (M. N. Mani, 1992)

***Brushing Teeth***

Teach the child to clean their teeth by putting toothpaste onto its fingers and then start doing brushing (M. N. Mani, 1992)

***Toilet Training***

Children started learning about the toilet skills at different range of ages – what matter is that patient should feel comfortable to get on this project. Patience is required by the parent in case of any accident. Have you got a potty with a proper base, and you put it within reach of a wall,

where it is easy to locate? Does patient know that mother and father go to the toilet? (M. N. Mani, 1992)

### ***Food Glorious Food***

One of the most important skills to teach is feeding. Mealtimes are the best ways to develop social skills and creating fun. Eating could be a difficult task for visually impaired children. Key steps can be used to avoid problems. (M. N. Mani, 1992)

### ***Research Design and Methodology***

This proposed study was targeted to explore the knowledge about the orientation and mobility on the movement of the persons with visual impairment of public and private institutions. This research was a descriptive research in nature, qualitative by technique. Furthermore it was a survey research study. Two groups of visual impaired individuals were selected from public and private special education institutions to explore the knowledge about the orientation and mobility on the movement of the persons with visual impairment. One of the groups was visual impaired individuals of public special education institutions and the other group was visual impaired individuals of private special education institutions.

### ***Data Analysis***

After collecting the required data, it was analyzed through SPSS software in order to explore the knowledge about the orientation and mobility on the movement of the persons with visual impairment of public and private institutions.

### ***Testing of Hypothesis***

H0: There is no significance difference in the level of awareness about orientation and mobility of public and private visual impaired students.

**Table-1: I can move in my house without any difficulty.**

| Type of Students                        | N  | Means | Standard Deviation | t-test value | Critical value           | Level of significance |
|-----------------------------------------|----|-------|--------------------|--------------|--------------------------|-----------------------|
| Students enrolled in public institutes  | 50 | 2.46  | 0.787              | -3.086       | t<-1.960<br>&<br>t>1.960 | 0.05                  |
| Students enrolled in private institutes | 50 | 2.84  | 0.370              |              |                          |                       |

Table shows that mean score and standard deviation of students enrolled in public institutes are 2.46 and 0.787 respectively and mean



score and standard deviation of students enrolled in private institutes are 2.84 and 0.370 respectively. The table also shows that there is significant difference between the mean scores of students enrolled in public and private institutes on the statement that I can move in my house without any difficulty

### ***Results and Discussion***

- The mean score of visual impaired students enrolled in public institutions is 64.28.
- The mean score of visual impaired students enrolled in private institutions is 72.64.
- The standard deviation of visual impaired students enrolled in public institutions is 3.45. institutions is 4.32.
- Independent samples t-test value is -10.69 that does not fall between the critical values  $t < -1.690$  and  $t > 1.690$ . It means there is significant difference between the mean scores of students enrolled in public and private institutes about the awareness of orientation and mobility. So, null hypothesis is rejected.

### ***Conclusion***

It was concluded that most of the visually impaired children have training and knowledge about orientation and mobility. But with this most of students do not know the proper terminology of orientation and mobility. Mostly students, who are not provided latest training and technologies which are important requirements of the children with visual impairment. It was also concluded that mostly children do not like to hold canes in their hands but they like to travel with a sighted guide who may be their teacher, friend or family member. There are a large number of students, who do not use white canes in their schools and home environments rather than they like to use white canes in their social or public places like parks. Visually impaired students are well known about their home and school environments, so they do not use white canes.

Mostly visually impaired students are well known about the use of senses in the surrounding. There are a large number of students who are able to search objects by themselves with the help of searching techniques. Almost all students are aware of the use of daily living skills.

The research has also concluded that a large number of visually impaired students are aware of orientation and mobility techniques and their use in home, school and neighbors.

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