

Full Length Research

Orientation and Mobility Programmes for Students With Visual Impairment: Implication For Inclusive Education

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This paper examined orientation and mobility programmes for students with visual impairment and its implication for inclusive education. The concepts of orientation and mobility were conceptualized to serve as a basis for this discussion. Similarly, orientation and mobility programmes for students with visual impairment and inclusive classroom were discussed. The content of a typical orientation and mobility programme in Nigeria was highlighted. In addition the benefits of orientation and mobility programmes for students with visual impairment were also outlined. It was however recommended that teachers, parents as well as school administrators should understand the benefits of orientation and mobility programmes for students with visual impairment in order to enable them become aware of their surroundings promote safe and independent movement as well as ensure full inclusive community participation.

Keywords: Orientation and Mobility (O&M), Visual Impairment, Curriculum, Inclusive Education, Programme.

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INTRODUCTION

In our society today, persons with visual impairment are excluded from information conveyed through the visual sense. These special groups of persons require certain mobility skills and techniques to be able to move as independently as possible. As asserted by Martinez (2011), an individual without visual impairment may have some difficulty in moving around an unfamiliar environment. This is much more difficult for an individual with vision loss to move about in such an environment. Students with visual impairment are often excluded from most school activities (physical, social, leisure etc.) which

often affect their physical development and also the use of their tactile- kinesthetic senses. Orientation and mobility training (O & M) is incorporated into the curriculum to help an individual with visual impairment know where he is in space and also know where he wants to go (orientation). It also helps him/her be able to carry out a plan to get there (mobility) (Huebner et.al, 1995).

Orientation and mobility skills should begin to be developed in infancy starting with basic body awareness, spatial awareness, environmental awareness and

movement, and continuing on into adulthood as the individual learns skills that allow him/her to navigate his world efficiently, effectively and safely. It is therefore important to lay more emphasis on the training in mobility and orientation skills to enable the visually impaired person live an independent life. Orientation and mobility training actually began after World War II when techniques were developed to help veterans who had been blinded. Orientation and Mobility training first started in the United States in centers for the war-blind servicemen. However, in the 1960s universities started training programs for Orientation and Mobility Specialists who worked with adults and school-aged children. In the 1980s, the orientation and mobility field recognized the benefit of providing services to preschool-aged children (Martinez, 2011). Today, orientation and mobility specialists have developed strategies and approaches for serving increasingly younger populations of persons with visual impairment so that orientation and mobility training may begin from infancy. Similarly, inclusive education as posited by Stubbs (2002), involves the process of increasing the participation of students in, and reducing their exclusion from, the cultures, curricula and communities of local schools. It seeks to portray the facts that education should be flexible, responsive and most importantly creating an enabling and welcoming environment for easy access. Therefore, orientation and mobility are vital aspects of the education of students with visual impairments if they are to function maximally in inclusive schools.

Orientation and mobility training is an area of education for the visually impaired which has not yet received the maximum attention it deserves. However, this may be due to the lack of understanding of the meaning and importance of orientation and mobility especially in a developing country like Nigeria. However, there is need to highlight the benefits of orientation and mobility programmes as it will have an impact in the implementation of inclusive education for students with visual impairments in Nigeria. This paper therefore seeks to examine orientation and mobility programmes for students with visual impairment and its implication for inclusive education.

CONCEPT OF ORIENTATION AND MOBILITY

Orientation as defined by Blasch, Weiner and Welsh (1997) is the knowledge of one's distance and direction relative to things observed or remembered in the surroundings and keeping track of these spatial relationships as they change during locomotion. It is also a process of knowing ones environment and learning how to interact with the environment with the help of the remaining senses. It is also a process of becoming familiar with, establishing and maintaining ones position

and relationship to significant objects in the environment. It is the ability to know one's position in the environment he finds himself. If we are familiar with the areas in which we are moving, then we are oriented to the environment. If we notice things about unfamiliar environments: such as the location of the bathroom in relation to the entrance of a building as we move through them, then we are orienting ourselves to the environment. If an individual notices other details in the environment and remember such details, such details will assist the individual the next time he/she visits such locations (Huebner, et.al., 1995).

Mobility is an act of moving from one point of the environment to a desired point of another environment. Mobility training is often provided for the visually impaired persons to enable them move safely from one point to another. Mobility training is inevitable especially for young visually impaired children to enable them learn skills necessary for movement independently and efficiently from one place to another (Kelly, 1999). Families and teachers often tell young children to stop look both ways and listen before they cross streets. These set of actions constitute a special procedure or mobility technique that is used to enhance children's safety. According to Cartel (2012), during mobility training, an entire body of procedures exist that, once taught, enables persons who are visually impaired to move through the environment safely or efficiently.

The concepts orientation and mobility is defined as 'services provided to blind or visually impaired students by qualified personnel (orientation and mobility specialist) to enable those students to attain systematic orientation and safe movement within their environments (home, school and community). As Martinez (2011) rightly pointed out the focus of orientation and mobility training involves training in sensory awareness, special concepts searching skills, sighted guide as well as cane skills. As maintained by Abosi (1991), any educational programme for the visually impaired which does not include some basic mobility and orientation training is not complete. In addition to mobility skills, orientation provides the totally blind or partially sighted child with the ability to know where he is in the environment, where he wishes to go and how to use environmental clues to get there. It is therefore important to lay more emphasis on the training in mobility and orientation skills to enable the visually impaired person live an independent life. Orientation and mobility is a related service that is provided for students with visual impairment from birth throughout life regardless of additional disabilities. It is a lifelong process and involves the acquisition of skills that will enable the individual move safely and gracefully.

ORIENTATION AND MOBILITY PROGRAMMES FOR INCLUSIVE PRACTICE

Several research studies have shown that orientation and mobility training programmes are vital in educating persons with special needs. Students with visual impairment have unique educational needs which are most effectively met using a team approach (professionals, parents, students) as well as special services (orientation and mobility), books and materials in appropriate media, braille, specialized equipment and technology. These mobility skills are aimed at ensuring equal access and to enable them compete favorably with their peers (Milaham, 2000)

The American foundation for the Blind (AFB) (2014) in an executive summary asserted that orientation and mobility training is vital to the achievement and physical development of students with visual impairment in schools. It provides them with the opportunity to have access to teaching materials and promoting equal participation. Teachers of students with visual impairment should be able to include orientation and mobility skills in their learning instructions. According to Dignan, (2014), the skills learnt through orientation and mobility tends to reduce isolation by giving students a common ground for interacting with family, friends, and future employers. Inclusive education for persons with visual impairment will better be more fully included in the society than the current exclusion practice. Educators of children with visual impairments have pioneered special education and inclusive programme options that will provide a least restrictive environment for students with visual impairment.

As outlined by AFB (2014), orientation and mobility is a unique need which must be provided by teachers, parents and qualified orientation and mobility specialists. The teachers of students with visual impairments may share in the responsibility for reinforcing learned skills in orientation and mobility. However, these programmes usually should commence at an early stage and must be collaboratively carried out by parents, specially trained teachers and the orientation and mobility specialist. Similarly, Yakwal (2004) maintained that solving architectural and or architectural problems through modifications to existing structures will go a long way in implementing the inclusive policy. Inclusion in the regular classroom provides continuity of curriculum for students with fewer interruptions for orientation and mobility during the day. The instruction on compensatory skills such as the use of adaptations or assistive technology is more effective and generalized when taught within the regular curriculum in regular classroom activities. These Assistive Travel Devices (ATDs) are aimed at facilitating and encouraging independent travel for users.

Consequently, the entire school staff and students are enlisted to help students with visual impairment to assist

students properly use mobility skills during the regular school day. The classroom teacher can put into place incentive plans to encourage the student to travel safely and gracefully. Parents are also encouraged to ensure that mobility skills are taught and emphasized at home and the neighborhood environment and participating in community activities where functional application of skills will take place. The acquisition of orientation and mobility skills enable students use a variety of skills in a variety of environments in the presence of supportive school environment and family members and also help students to recognize that these skills can be transferable to any circumstance. Similarly, inclusive practice ensures that all architectural barriers to mobility are removed to ensure safe travel. Equal access to buildings and educational facilities is provided by building ramps and trails that will provide suitable environment for independent travel. Environmental barriers pose a great danger to independent travel and it prevents safe movement.

CONTENT OF A TYPICAL ORIENTATION AND MOBILITY PROGRAMME IN NIGERIA

Globally, there is no available literature that agrees on the format and content of mobility training programmes for use in schools for the visually impaired globally. Therefore, there is lack of uniformity in the orientation and mobility training programmes offered. These differences exist in physical environment, levels of technological advancement, variations in social and cultural needs, philosophy of education and also variations in the use of orientation and mobility terms and methodology/ approach to teaching mobility.

However, the level of technological advancement of a nation determines to a great extent the development and planning of its mobility training programmes. In addition, human and material resources are also key factors to be considered. However, the specific special needs of the clients are considered when planning mobility training programmes in order to provide mobility instructions as it is best provided in the learner's real environment. According to Martinez (2011), when planning an orientation and mobility program for children with visual impairment, the focus of training may include such things as: sensory awareness: gaining information about the world through hearing, smell, touch and proprioception; spatial concepts: realizing that objects exist even if not heard or felt, and understanding the relationships which exist between objects in the environment; searching skills (locating items or places efficiently); independent movement: which includes crawling, rolling, walking, etc; sighted guide: using another person to aid in travel; protective techniques; specific skills which provide added protection in unfamiliar areas; cane skills: use of various cane techniques to clear one's path or to locate objects along the way. Table 1

Table 1. It is proposed that the future mobility training programme in Nigeria should have the following features:

ORIENTATION AND MOBILITY	PROGRAMM CONTENT
Assessing students mobility needs	Assessment of mobility needs and aids needed by the clients taking into consideration interest, nature of visual impairment and even time of onset of visual impairment
Conceptual awareness	Awareness of body image, body parts, body concept, body schema and functions in relationship to movement; spatial, awareness, time, distance, direction, position, compass direction, knowledge of sizes shapes, etc.
Sensory training behaviour and skills	Training in the use of the senses of: (a) Auditory (hearing to localize sounds and their sources) (b) Olfactory and Gustatory (to localize smell/odour and to identify its source) (c) Tactile (touch/feeling) to differentiate and identify surface and texture and kinesthetic (for movement and control).
Physical health education (PHE) activities	Maintaining good posture and gait while walking or sitting; general fitness exercises; gross and fine motor development activities, running, mental and physical games/activities.
Sighted guide techniques.	Basic sighted guide, reversing directions, transferring sides, narrow passage ways, Hines break stairways, seating doorways.
Special technique (self-protection).	Upper hand and forearm; lower hand and forearm, trailing, direction, taking, self/room familiarization; localization or retrieving objects.
Mobility techniques for indoor and outdoor travel.	Trailing, alignment, squaring off, car familiarization; sidewalk, escalators, elevators, revolving doors, street crossing, drop-offs, street crossing of traffic lights, soliciting aids, etc.
Cane techniques.	Cane placement, diagonal cane technique for doorways, diagonal technique trailing, use of electronic travel aids
Daily living skills	Practical knowledge in body grooming, personal health, social skills, eating habits, accepted behaviors and mannerisms, etiquettes etc.

Source: Adapted from Milaham (1996)

BENEFITS OF ORIENTATION AND MOBILITY PROGRAMMES FOR STUDENTS WITH VISUAL IMPAIRMENT

Orientation and mobility is geared towards promoting purposeful, safe and graceful movement among individuals with visual impairments. The benefits of orientation and mobility include the following:

1. Orientation and mobility provides sensory awareness, muscle tone and coordination which in turn facilitates coordinated movements and good posture which are vital for the effective development of effective motor skills and purposeful movement (Huebner, et.al., 1995).
2. Static balance can be maintained through effective training in mobility techniques which will

maintain good posture when standing, sitting, walking because it has been observed that students with visual impairment often exhibit poor (unstable) posture. Typical characteristics of the posture observed include head hangs downward, rounded shoulders, flat dragging feet etc.

3. Orientation and mobility provides activities that will trigger movement in isolated body parts, development of gross and fine motor skills, facilitates trunk and pelvic rotation as well as development of muscle tone.
4. It is aimed at providing and organizing early intervention activities that will enable young children with visual impairment become aware of body parts and movement.
5. Orientation and mobility technique promotes social awareness, special awareness,

environmental awareness, self-esteem, self-determination and decision making behaviours, thereby facilitating independent travel among students with visual impairment.

6. Acquisition of mobility techniques gives persons with visual impairment the ability to protect self, ensure personal safety, earn respect and dignity, as well as living independent lives. Instead of relying on sighted guides.

A WAY FORWARD

The implementation of a national policy on inclusive education will lay a foundation for effective inclusion of students with visual impairment from the elementary to tertiary levels of education. There is need to provide training and re-training for special educators and orientation and mobility specialists, provide support services and equipment (assistive travel devices, laser canes etc.) and also the provide accessible classroom setting and environments. However, the following recommendations are thereby proffered:

1. Special education departments in Nigeria institutions should make it a priority to train orientation and mobility specialist at the diploma, degree, masters and Ph.D. levels of education. This is aimed at augmenting the lack of orientation and mobility specialist on Nigeria.
2. Parents should be encouraged and trained to provide essential orientation and mobility to their children with visual impairment at an early age (from birth). This training should be provided in major areas that will enable students with visual impairment become aware of their body and also have knowledge of sizes, shapes, positions etc.
3. Training and re-training programmes should be provided for special education teachers on the relevant mobility skills and techniques to accommodate their teaching styles as outlined in the Individualized Education Plan (IEP).
4. There is need to train special educators on the proper use of assistive technological gadgets available for students with visual impairment as the world is becoming more technologically advanced.
5. There is need to promote equal access to students with special needs through eliminating architectural barriers to educational facilities and buildings.

CONCLUSION

The contemporary state of special needs education in

Nigeria is faced with major challenges in providing services for children with special needs especially students with visual impairments. However, special needs education in Nigeria has in recent times drawn global attention with the much advocated inclusive education. Orientation and mobility training services are essential in the education of students with visual impairment for full implementation of inclusive education in Nigeria. If students with visual impairment are included in the regular school system and given equal access, it will signify a milestone in the education of students with visual impairments in Nigeria.

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