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ENHANCING THE ORIENTATION AND MOBILITY OF LEARNERS WITH VISUAL IMPAIRMENT IN UNIVERSITY OF ILORIN, KWARA STATE

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Introduction

Visual impairments refer to the loss of vision, even when a person makes use of corrective lenses (Kapur, 2017). It could be referred to as the reduced vision caused by eye diseases, accidents or eye conditions present from birth. Visual impairment is often categorized into blind and low vision which means a loss of vision imposes limitations upon learners. Learners with visual impairments are the heterogeneous group with varied nature of problems and difficulties that require appropriate attention in the implementation of curriculum and instructional systems in order to perform well academically (Kapur, 2017).

Visual impairment is a disability that affects the eyes function that although a person utilizes the corrective lenses, he might still acquire the low vision ability that can impact his education performance (Gargiulo, 2012). The individuals with visual impairment are assumed to have lower intellectual ability compared to their sighted peers, yet in fact, both the individuals with and without visual impairment own the similar intellectual ability (Gargiulo, 2012). Thus, visual impairment does not spontaneously generate lower intelligence (Dijkhuizen, et al., 2016). However, most visually impaired individuals tend to experience academic delays and require additional assistance to

follow the school activities due to the defiance they encounter in the learning process (Salleh and Ali, 2010).

Visually impaired people are known difficult to see objects clearly. To teach visually impaired students, especially English, it needs expertise, enthusiasm, and seriousness from teachers. Visually impaired students have difficulty to maximize the function of their eyes or even barely can use their eyes at all. Visual impairment is the condition of the eyes, in which the visual acuity in 20/200 or less in the better eye with the best correction and the field vision is so narrow that its widest diameter subtends an angular distance no greater than 20 degrees (Koeswiryono, Asori, &Setyaningsih, 2012). According to Kartikasari and Lestiono (2017) visually-impaired students commonly have faced difficulties in learning English especially in reading. More assistance from teacher and environment are needed by students with visual impairment. This assistance includes orientation and mobility program.

It is crucial that students who are visually impaired, as well as others with similar illnesses who require orientation and mobility (O&M) facilities, receive adequate training in orientation and mobility as soon as possible (Liyanage, 2022). They may find it useful for a variety of training and education purposes, from classroom instruction to extracurricular work (Raymond, 2022). Learners who are visually impaired should be able to find and keep jobs, advance in their careers, and participate more fully in community and family life if they receive the appropriate supports ((Liyanage,2022).

According to Stone et.al. (2019), Orientation and Mobility (O&M) is very important due to the fact that various associations and parents representing the comforts and welfares of visually impaired children have stated that these children are not gaining sufficient orientation and mobility services, and those necessary assessments of their requirements for these facilities are not being guided. Orientation is the ability to find one's way about in geographical space, whether familiar or unfamiliar but includes as well orientation of the person with regent to immediate space (Leonand, 2010). Leonard (2010) sees mobility as a group of skills which enable a blind person to walk about self-dependency and competency through familiar and unfamiliar environment. Welsh and Blasch (2010) saw mobility as the ability to move independently, safely and purposefully through the environment.

O&M refers to the capability to have a sense of where one is concerning other individuals and goals, and to move through the environment. Mobility skills vary among blind and visually impaired people. It is difficult to predict which people will be the best travelers (Perla&Maffit, 2019). Research has indicated that people who are blind can use cognitive mapping to navigate their environment (Hallahan et al., 2018). The tactile map also helps to decrease the load of memory in blind and visually impaired children, and this type of map is a useful means to inform the O&M (Papadopoulos et al., 2020). O&M enriches such concepts, abilities and skills that enhance a comfortable and independent movement of a blind person in the society (Jacobson, 2013). Orientation and mobility (O&M) program is one of the interventions that can help these students regulate their emotions and improve their quality of life (Hallahan et al., 2018).

Orientation and mobility are geared towards promoting purposeful, safe and graceful movement among individuals with visual impairments (Yakubu, Bodang&Amwe, 2017). The benefits of orientation and mobility according to Yakubu, Bodang and Amwe (2017) include provision of 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; provision of 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; providing and organizing early intervention activities that will enable young children with visual impairment become aware of body parts and movement; promotion of social awareness, special awareness, environmental awareness, self-esteem, self-determination and decision making behaviours, thereby facilitating independent travel among children/students with visual impairment and ultimately allowing 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.

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.

O&M must be integrated with cognitive, social, perceptual, self-advocacy, and language development (Vicki, 2017). Orientation and mobility services may also include: movement with a sighted guide, Indoor and outdoor cane skills, Street crossing, Use of public transportation, Use of landmarks, sounds, and other clues for orientation, Use of compass directions and electronic tools such as GPS devices, Use of systematic search patterns to explore novel objects and environment, Knowledge of where, when, and how to solicit help, Protective techniques, and building orientation and numbering systems (Vicki, 2017).

Some studies have been conducted about the effect of O&M techniques and vision rehabilitation on the quality of life and psychological well-being of people who are blind (Dewald, 2019). Wellbeing, quality of life, and O&M techniques may be related together according to some recent researches; however, few studies investigated the impact of O&M techniques on the well-being and quality of life in people who are blind (Jones & Bartlett, 2018). For example, the research finding of Connors and Lee (2020) indicated that visual rehabilitation teachers and specialists help to improve quality of life and daily living skills in children who are blind. Tellefson et al. (2019) found that O&M skills should be taught to people who are blind to improve their daily living skills. Zegeye (2019) stated that the resilience among blind adolescents is lower than their sighted peers and O&M training increased resilience among these adolescents.

Malik and AbdManaf (2018) concluded that O&M curriculum training improved the academic achievement of children who are blind. Malik et al. (2018) found that O&M training in a unique education curriculum improved the social adjustment of children who are blind. The finding of Rainey et al. (2016) suggested that life aspects of children are affected by visual impairments, and appropriate support such as O&M skills had significant effects on the quality of life in these children. Chavda et al. (2014) reported that rehabilitation services improved daily living activities and quality of life among people. Kuyk et al. (2008) showed that O&M and daily living activities training had a positive and significant effect on the physical function and health-related quality of life in people who are blind. It is against these existing literatures that this study aims to address the gaps in orientation and mobility support services for students with visual impairment at the University of Ilorin, Kwara State

Statement of the Problem

Students with visual impairment face significant challenges in navigating university campuses, accessing academic materials, and participating in social activities (World Health Organization,

2019). The University of Ilorin, Kwara State, has a significant population of students with visual impairment, but the university's infrastructure and support services are not fully equipped to meet their unique needs (University of Ilorin, 2020). Orientation and mobility training is crucial for students with visual impairment to navigate their environment independently. However, many universities in Nigeria, including the University of Ilorin, lack trained orientation and mobility specialists and adapted infrastructure to support students with visual impairment (Nigerian National Blind Association, 2018). This study aims to address the gaps in orientation and mobility support services for students with visual impairment at the University of Ilorin, Kwara State.

Objectives

1. To identify the current challenges faced by students with visual impairment in navigating the University of Ilorin's campus.
2. To examine the perceptions of students with visual impairment, faculty members, and support staff on the effectiveness of the support services and adapted infrastructure

Research Questions

1. What is the level of challenges faced by students with visual impairment in navigating the University of Ilorin's campus?
2. What are the perceptions of students with visual impairment, faculty members, and support staff on the effectiveness of the support services and adapted infrastructure?

Methodology

This study adopted a descriptive research survey design. The population includes all learners with disabilities in the University of Ilorin. Simple random sampling technique was used to select 20 learners with visual impairment in the school. A self-designed questionnaire was used to collect information from students on orientation and mobility. Data collected was analysed using descriptive statistics (Mean and Standard Deviation).

Results

Research Question 1: What is the level of challenges faced by students with visual impairment in navigating the University of Ilorin's campus?

Table 1: Challenges faced by students with visual impairment in navigating the University of Ilorin's campus?

S/N	Challenges	Mean	SD	Remark
1	Navigating the campus is difficult for me due to a lack of tactile and audible signs, non-uniform walkways, and physical obstacles.	1.35	.508	Low
2	Inadequate or non-existent ramps, elevators, and other accessible infrastructure have complicatedmy mobility.	1.61	.580	Average
3	Difficulty in accessing textbooks, handouts, and other reading materials in accessible formats.	1.61	.710	Average
4	Limited availability of assistive technologies, such as screen readers and Braille displays, in classrooms and libraries.	1.57	.660	Average
5	Inadequate access to or training on assistive technologies that can help with reading, writing, and navigating digital content.	1.65	.665	Average
6	Incompatibility of educational software and platforms with assistive technologies	1.78	.736	Average
7	Challenges in accessing visual information presented on whiteboards, screens, and other visual aids during lectures.	1.56	.732	Average
8	Difficulty in participating in laboratory work, practical sessions, and other hands-on activities.	1.66	.701	Average
9	Inadequate accommodations during exams and assessments, such as extra time, accessible formats, or the use of assistive technologies.	1.56	.712	Average
10	Difficulty in demonstrating knowledge and skills in standard assessment formats.	1.59	.700	Average
	Weighted Mean	**1.59**		

Decision rule: 0.00-1.44 (Low), 1.44-2.44 (Average), 2.45-3.00 (High)

Table 1 data shows the challenges faced by students with visual impairment in navigating the University of Ilorin's campus. The challenges faced by students with visual impairment include; inadequate or non-existent ramps, elevators, and other accessible infrastructure, difficulty in accessing textbooks, handouts, and other reading materials in accessible formats, limited availability

of assistive technologies, such as screen readers and Braille displays, in classrooms and libraries and difficulty in demonstrating knowledge and skills in standard assessment formats among many others. However, difficulty in navigating the campus due to a lack of tactile and audible signs, non-uniform walkways, and physical obstacles was not a major challenge. The weighted mean is 1.59 which is between 1.5 and 2.4 (Average) and which is a numeric indicator that the level of challenges faced by students with visual impairment in Unilorin is average.

Research Question 2: What are the perceptions of students with visual impairment on the effectiveness of the Orientation and Mobility Support?

Table 2: Perceptions of students with visual impairment on the effectiveness of the Orientation and Mobility Support?

S/N	Perception	Mean	SD	Remark
1	The Orientation and Mobility training provided by the university adequately prepares me to navigate the campus independently	1.20	.508	Positive
2	The instructors for Orientation and Mobility training are knowledgeable and approachable.	1.81	.580	Positive
3	The content of the Orientation and Mobility training covers all necessary aspects of campus navigation	1.71	.710	Positive
4	The campus has adequate accessible routes, tactile pathways, and audible signals to aid navigation	1.57	.660	Positive
5	The Orientation and Mobility support has significantly increased my confidence in moving around the campus on my own	1.75	.665	Positive
6	The university provides sufficient resources (e.g., canes, guide dogs, assistive devices) for effective Orientation and Mobility	1.68	.736	Positive
7	The Orientation and Mobility support has positively impacted my ability to attend classes and participate in academic activities.	1.66	.732	Positive
8	Orientation and Mobility support has helped me engage more in social events and activities on campus	1.76	.701	Positive
9	My peers and university staff are aware of and supportive of the needs of students with visual impairments	1.56	.712	Positive
10	The university actively seeks and responds to feedback from visually impaired students to improve Orientation and Mobility support	1.59	.700	Positive
	Weighted Mean	**1.63**		

Decision rule: 0.00—1.99 (Positive), 2.00-4.00 (Negative)

Table 2 data shows perceptions of students with visual impairment on the effectiveness of the Orientation and Mobility Support. The respondents were of the view that; the campus has adequate accessible routes, tactile pathways, and audible signals to aid navigation, the university actively seeks and responds to feedback from visually impaired students to improve Orientation and Mobility support e.t.c. The weighted mean is between 1.63 which is between 0.01 and 1.99 (Positive)and which is a numeric indicator that theperceptions of students with visual impairment on the effectiveness of the Orientation and Mobility Support is Positive.

Discussion of Findings

The study reveals that students with visual impairments at the University of Ilorin face several challenges in navigating the campus. The challenges include inadequate infrastructure, difficulties in accessing reading materials, limited availability of assistive technologies, and challenges in participating in laboratory work and assessments. This finding aligns with the study of Wandera, Grace & Anthony (2017) which revealed that visually impaired students are faced by a lot of challenges in achieving their academic goals. Similarly, it aligns with Bwire (2018) who stated that one of the most challenges facing visually impaired students in the educational environment mainly the science educational environment is the curriculum that is fully designed for fully sighted students and delivered through sight-related tasks.

The perceptions of students with visual impairments regarding the effectiveness of Orientation and Mobility (O&M) support are generally positive The respondents believe that the O&M training adequately prepares them to navigate the campus independently, and that instructors are knowledgeable and approachable. This finding is in line with studies by Malik et al. (2018) found that O&M training in a unique education curriculum improved the social adjustment of children who are blind.

Conclusion

In conclusion, this study revealed both the persistent challenges and the positive impacts of Orientation and Mobility support for visually impaired students at the University of Ilorin. While there are significant areas needing improvement, particularly in infrastructure and access to educational resources, the overall perception of O&M support is positive. Future initiatives should focus on enhancing accessibility, increasing the availability of assistive technologies, and ensuring that educational materials are available in accessible formats.

Recommendation

Based on the findings of this study, the following recommendations are made:

1. The university should provide tailored support services, such as orientation and mobility training, assistive technology, and academic support, to students with visual impairment.

2. The university should adapt its infrastructure, such as providing braille signage, audio signals, and accessible ramps, to meet the unique needs of students with visual impairment.

3. Faculty members and support staff should receive training and resources to effectively support students with visual impairment.

4. The university should establish a disability support office to coordinate support services and provide a centralized point of contact for students with visual impairment.

Limitation

This study had several limitations. Firstly, the study only focused on students with visual impairment and did not include students with other disabilities. Secondly, the study only collected data from students and did not include data from other stakeholders, such as parents and alumni. Finally, the study only collected data from one university and may not be generalizable to other universities.

Suggestion for further Studies

Future studies should consider including students with other disabilities and collecting data from a wider range of stakeholders. Additionally, future studies should consider collecting data from multiple universities to increase generalizability.

References

Bwire M. A. (2018). Challenges faced by students with visual impairment when learning physics in regular secondary schools. International journal of education, learning and development. Vol 6, No 9, pp. 38-50 https://www.researchgate.net/publication/375790358_The_Challenges_Experienced_by_Visually_Impaired_Students_in_Moroccan_Universities [accessed Jul 24 2024].

Chavda, S., Hodge, W., Si, F., &Diab, K. (2014). Low vision rehabilitation methods in children: A systematic review. Canadian Journal of Ophthalmology, 3(49), e71–e73. https://doi.org/10.1016/j.jcjo.2014.03.011

Connors, E., & Lee, H. (2020). Roles of vision rehabilitation therapists in the 21st century. Journal of Visual Impairment & Blindness, 114(3), 173–184. https://doi.org/10.1177/0145482x20924902

Dewald, H. B. P. (2019). Providing orientation and mobility support via in-person and teleintervention home visits for children with visual impairment in early intervention. Dissertations, 594. https://digscholarship.unco.edu/dissertations/594

Dijkhuizen, A. E. (2016). The impact of visual impairment on the ability to perform. Research in Developmental Disabilities, p. 35–42.

Gargiulo, R., (2012). Special education in contemporary society 4: An introduction to exceptionally. Canada: Sage Publications, Inc.

Hallahan, D. P., Kauffman, J. M., & Pullen, P. C. (2018). Exceptional learners: An introduction to special education (14th ed.). Pearson Education

Jacobson, W. H. (2013). The art and science of teaching orientation and mobility to persons with visual impairments (2nd ed.). New York, NY: AFB Press.

Jones, N., & Bartlett, H. E. (2018). An analysis of the impact of visual impairment on activities of daily living and vision-related quality of life in a visually impaired adult population. British Journal of Visual Impairment, 36, 1–14. https://doi.org/10.1177/0264619618814071

Kapur, R. (2017). Challenges experienced by visually impaired students in Education. International Journal of Professional Studies (IJPS) 2017, Vol. No. 4, Jul-Dec

Kartikasari, H., &Lestiono, R. (2017). Strategies in Teachimg English to Visually-Impaired Students. Erudio Journal of Education Innovation, 4, 17–25.

Koeswiryono, D. P., Asori, M., &Setyaningsih, E. (2012). The Teaching and Learning Process of Reading Comprehension to Students with Visual Impairment. 347–355.

Kuyk, T., Liu, L., Elliott, J. L., Grubbs, H. E., Owsley, C., McGwin, G., . . . Fuhr, P. S. (2008). Healthrelated quality of life following blind rehabilitation. Quality of Life Research, 17(4), 497–507. https:// doi.org/10.1007/s11136-008-9336-3

Leonand, M. (2010). Making the visually impaired independent. London Royal Society for the Blind

Liyanage, C. (2022). Inclusivity of children with disabilities and downsides of welfare-oriented service delivery system in Sri Lanka with special reference to rural areas in Galle district. University of Colombo Review, 3(1).

Malik, S., &AbdManaf, U. K. (2018). The effect of orientation and mobility curriculum on the academic achievement of visually impaired children among public and private institutions of Lahore. Multilingual Academic Journal of Education and Social Sciences, 6(1), 66–75. http://dx.doi.org/10.6007/MAJESS/ v6-i1/4501

Malik, S., AbdManaf, U. K., Ahmad, N. A., & Ismail, M. (2018). Orientation and mobility training in special education curriculum for social adjustment problems of visually impaired children in Pakistan. International Journal of Instruction, 11(2), 185–202. https://doi.org/10.12973/iji.2018.11213a

Martinez, C. (2011). Orientation and mobility: the way to go. TSBVI Texas deaf blind outreach. Retrieved from http//www.tsbvi.edu/waytogohtlm

Papadopoulos, K., Charitakis, K., Koustriava, E., Kouroupetroglou, G., Stiefelhagen, R., Stylianidis, E., &Gumus, S. S. (2020). Environmental information required by individuals with visual impairments who use orientation and mobility aids to navigate campuses. Journal of Visual Impairment & Blindness, 114(4), 263–276. https://doi.org/10.1177/0145482X20941312

Perla, F., &Maffit, J. (2019). A case for student-created portfolios in O&M. Journal of Visual Impairment & Blindness, 113(3), 311–319. https://doi.org/10.1177/0145482x19859983

Rainey, L., Elsman, E. B. M., van Nispen, R. M. A., van Leeuwen, L. M., & van Rens, G. H. M. B. (2016). Comprehending the impact of low vision on the lives of children and adolescents: A qualitative approach. Quality of Life Research, 25(10), 2633–2643. https://doi.org/10.1007/s11136-016-1292-8

Raymond, J. (2022). HOW DOES LEARNING ANTI-RACIST EDUCATION THROUGH CRITICAL PROFESSIONAL DEVELOPMENT AND ARTS-BASED INQUIRY CONTRIBUTE TO TEACHERS'UNDERSTANDINGS OF THEIR CLASSROOM PRACTICE? (Doctoral dissertation, University of Saskatchewan).

Stone, B. W., Kay, D., & Reynolds, A. (2019). Teaching visually impaired college students in introductory statistics. Journal of Statistics Education, 27(3), 225-237

Tellefson, M. J., Koehler, W. S., Botsford, K. D., & Cook, L. (2019). Orientation and mobility career, college, and community readiness standards: A Delphi study. Journal of Visual Impairment & Blindness, 113(3), 220–234. https://doi.org/10.1177/0145482X19851296

Vicki, M. S. (2017). Orientation and Mobility Guidelines and Procedures. New York: Villa CA Press. Welsh, R. L. &Blasch, B. B. (2010). Foundation of orientation and mobility. New York. N.Y.: American Foundation of the Blind Inc.

Wandera R. O., Grace M. K. & Anthony M. M. (2017). Challenges Faced by Visually Impaired Students at Makerere and Kyambogo Universities.

Yakubu, A. F., Bodang, J. R. &Amwe, R. A. (2017). Orientation and Mobility Programmes for Students With Visual Impairmement: Implication For Inclusive Education. International Journal of Academic Research and Review. Vol. 5 (3) pp. 95–1000

Zegeye, T. G. (2019). An investigation on the status of resilience among blind adolescent students. Journal of Pedagogical Research, 3(1), 50–59. https://doi.org/10.33902/JPR.2019.4