THE SPECIAL EDUCATOR
A Journal Publication of
The Nigeria Association of Special Education Teachers (NASET)
Print ISSN: 1597-1767 e-ISSN: 2971-5709
https://www.tspeducator.com
Volume 24; Issue 1; December 2024; Page No. 92-98.

Assessment of Stakeholders' Orientation and Mobility Skills for Inclusion of Persons with Vision Loss in Cross River State

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Abstract
Vision loss comes with numerous hindrances to mobility and navigation within and outside physical structures. These difficulties hinders the daily operation and activities of individuals living with the disability. Also, these difficulties can be eradicated with disability-friendly architectural designs, orientation and mobility training, and professional service delivery. The aforementioned necessitated the need to assessed stakeholders professional skills in orientation and mobility for the ease of navigating physical structures by persons with vision loss in Cross River State. To achieve this objective, the study adopted a descriptive survey research design with three research questions posted to guide the study. A Battery scale (questionnaire and observational scale) were used to gather data from public institutions/places such as; schools, banks, roads, churches/mosques, hospitals, courts and markets. The data collected were analyzed using simple percentage. The finding of the study revealed that; stakeholders outside schools and special needs education clusters has low level of awareness on orientation and mobility skills. Also, there is poor accessibility and independent movement of person with vision loss within and outside public institutions/places in Cross River State. The study concluded that the quest for inclusion of persons with vision loss is highly threaten. It was then recommended among others that; sensitization and awareness on orientation and mobility skills should be created for personnel of public institutions/places' service providers to ease service delivery for persons with vision loss.

Keywords: Physical Structures, Orientation, Mobility, Inclusion, Vision Loss.

Introduction

The most difficult situation that hinders education, social, economic, religious and political participation of persons with vision loss is the inaccessibility of physical structures, it is worthy of note that most of the public physical structures/environments are not disability-friendly, most of the buildings are constructed without ramps, bannisters, lift. More so, most pathways are occupied with broken slaps, open gutters and pot holes. It is based on these difficulties imposed on persons with vision loss that the Federal Republic of Nigeria passed into law "Discrimination Against Persons with Disabilities (Prohibition) Act" 2018, stating in its part II, that persons with disabilities including those with vision loss should have equal right to access the physical environment and buildings like every other persons and that public buildings should be constructed with necessary aids such as lifts, ramps and any facility that make them accessible to and usable by persons with disabilities (Federal Republic of Nigeria, 2018). Number of years are already counting but no sign has shown that the act is in the process of implementation to enhance access to physical structures with ease, for persons with vision loss.

Physical structures include; banks, churches/mosques, roads, bridges, government offices, hospitals, police stations, courtyards and among others. The ability to access these facilities increases the level of participation and inclusion into the society. Studies have emphasized the importance of accessibility of physical facilities. Similarly, Ajayi and Ayodele (2011), emphasized that the accessibility of these facilities is quite important to achieving effectiveness in orientation, mobility and rehabilitation of persons with vision loss. The authors further buttressed the fact that inaccessibility of basic facilities such as the one that provide social amenities, office accommodation,

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workshops, sporting facilities, banking halls, worship centers and among others affects inclusion of persons with vision loss into the society. Vision loss refers to a significant loss in visual apparatus, which affect the daily activities of the individual. According to Onwubolu (2017), vision loss refers to individual who have trouble seeing, even when wearing glasses or contact lenses, as well as to individuals who are blind or unable to see at all. By these definitions, it is believed that persons living with this condition, might find it difficult to freely exercise their freedom as it is expected by every citizen in the society. Unless, appropriate inclusive provisions in architectural designs and other services are put in place to enhance their inclusion into the society, they will remain in the dilemma of not seeing and as such, be excluded from the affairs of the society.

Inclusion is an organized societal arrangement that deemphasizes exclusion and emphasizes the restructuring of institutions, its facilities, policies, principles and approaches aimed at addressing and meeting the needs of the societal members. In addressing the inclusive needs of persons with vision loss, with the background knowledge of impede vision that hampered mobility and accidental learning. The society must take into cognizance inclusive architectural designs for all, with the responsibility that every citizen has equal right and access to public places. It is obvious that the locations of most social, economic, religious, legal and health institutions in Nigeria are not freely accessible to persons with vision loss, with hindrances varying from complex story-buildings with coiled stair cases, uncovered gullies, bad lavatory and rough environment which prevent free movement of persons with vision loss within the society. In line with this, Milaham (2013) says persons with vision loss encounter numerous barriers and hazards ranging from psycho-social, emotional to physical environment which hinder their successful movement. The author further stated that; basic designs are not being considered to assist persons with vision loss in their daily activities. Therefore, including persons with vision loss into the society is loaded with many problems. If these problems are not given proper attention by stakeholders, they may not be able to acquire qualitative participation in the society, for their benefit and that of the entire society. It is apparent that many buildings in some institutions are not accessible to persons with vision loss because of the presence of high stair-case, curved stair-cases, and narrow walkways. Based on the aforementioned, there is need for proper orientation and mobility needs skills by stakeholders in public institutions to aid the ease of usage by persons with vision loss.

Orientation and mobility are required skills that create awareness on ones position in an open space and ease of movement within such environment without discomfort. As such, managers of public places and institutions need these awareness to ease the usage of these places by persons with vision loss. According to Nbanjwan and Igba (2019), orientation and mobility is a training involving an understanding of one's location in a given environment coupled with the ability to physically move through that environment safely and independently. The authors emphasized that orientation and mobility instruction is provided to teach persons with vision loss the ability to use sensory information to establish and maintain their position in the environment and move safely, efficiently and gracefully. Orientation and Mobility according to Blake (2018) is a uniquely crafted pedagogical practice blending specific micro-teaching skills to enable persons with vision loss to achieve functional interpretation of extra-personal, inter-personal and peri-personal space, linked to the persons' wellbeing, social participation, employment and self-determination. Orientation and Mobility is a cornerstone of equity and access for persons with vision loss (Fawzia, 2018). To achieve this equity and justice for persons with vision loss, all hands must be on desk including persons with vision loss, parents, teachers, researchers, market managers, bank managers, pastors/church leaders/emirs, managers of road safety corps, hospital managers, legal practitioners and panel of Orientation and Mobility specialists who are by this context, considered as stakeholders. These stakeholders has different roles in facilities and services provision and delivery, as such, the need to assessment their skills for orientation and mobility for the comfort of persons with vision loss in public places and institutions.

Statement of the problem

The worries of this study is the continuing dependent of person with vision loss on sighted guides for mobility and navigation at public institutions/places in this 21st century. Noting that various technologies and devices, architectural designs and instructional programmes has been developed and designed to assist this category of persons function independently in the society. It is unfortunate that this special population still do not access banking halls, markets, court rooms, classrooms, hospitals, churches/mosques, roads and among others independently. Hence, the need for this study which was design to assess stakeholders' orientation and mobility skills for inclusion of person with vision loss in Cross River State, Nigeria.

Purpose of the study

The purpose of this study was to assess the stakeholders' orientation and mobility skills for inclusion of person with vision loss in Cross River State, Nigeria. Specifically, the study sought to assess the level of:

1. Stakeholders' awareness on orientation and mobility skills in public institutions/places in Cross River State.
2. Vision loss-friendly designs in public institutions/places in Cross River State.

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3. Accessibility to public institutions/places by persons with vision loss in Cross River State.

Research questions

These research questions were posted to guide the study.

1. What is the stakeholders' level of awareness on orientation and mobility skills in Cross River State?
2. To what level are public institutions/places designs vision loss-friendly in Cross River State?
3. What is the level of accessibility of public institutions/places to persons with vision loss in Cross River State?

Methodology

This study is a single variable study aimed at describing data collected and provide answered to research questions only without recourse to inferential statistics. The study therefore, adopted a descriptive survey research design as is the most suitable for the aim of this study. A battery scale system involving questionnaire and observational scale was used as instrument for data collection. The study was conducted across the three Senatorial Districts of Cross River State in major towns with public institutions/places under study. Data were collected from 58 managers of public institutions/places, as well as 16 persons with vision loss across the three Senatorial Districts of Cross River State. The instrument was face validated by two research experts in Special Needs Education and one expert in Test, Measurement and Evaluation. The instrument was pilot tested for reliability using Test, Re-test method with reliability coefficient of .76. The sample selection was done through the process of multi-stage approach using stratified random sampling, purposive sampling and accidental sampling techniques. From the sample selected, questionnaire was used to gather data from managers of public institutions/places and persons with vision loss, and observational scale was used to gather data from physical structures in public institutions/places. The data collection process was done by the researchers and three trained research assistants, with a 100% return of the filled instruments distributed. The data collected were analyzed using simple percentage and data described based on the research questions.

Results

The results of this study was presented with the description of the demographic variables and the research questions as shown in table 1 - 4. The result of the demographic variables shows that 44(59.5%) of male responded to the instrument and 30(40.5%) of female also responded to the instrument. For public institutions/places, 12(21%) of bank personnel responded to the instrument, 8(14%) of court personnel responded, 10(17.2%) of church leaders responded, 6(10.3%) of shop keepers responded, 2(3.2%) of Islamic leaders in the mosques responded, 6(10.3%) of hospitals/health centres responded, 14(24.1%) of school heads all responded to the instrument. And 16(100%) of persons with vision loss responded to the research instrument. See table 1

Table 1: Demographic information of the respondents

Variables	Categories	Freq.	%
Gender	Male	44	59.5
	Female	30	40.5
	Total	74	100
Institutions/places	Banks	12	21
	Courts	8	14
	Churches	10	17.2
	Shopping centres	6	10.3
	Mosques	2	3.2
	Hospitals	6	10.3
	Schools	14	24.1
	Total	58	100
Persons vision conditions	Vision loss	16	100
	Total	16	100

Research question one: What is the stakeholders' level of awareness on orientation and mobility skills in Cross River State?

The result of this research question is shown in Table 2: Item 1 indicated that 41(70.6%) of the respondents show low level of awareness on mobility needs of persons with vision loss, 15(26%) of the respondents shows moderate level of awareness and 2(3.4%) of the respondents show high level of awareness on mobility needs of persons with vision loss. In item 2, 43(74%) of the respondents indicated low level of awareness on white cane techniques, 9(16%) and 6(10%) indicated moderate and high level of awareness on white cane techniques respectively. Item

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3, shown that 48(82%) of the respondents has low awareness on way-finding strategies, 9(16%) of the respondents indicated moderate and 1(2%) indicated high. Item 4, 33(57%) of the respondents shown low level of awareness on sighted guide services, 15(26%) of the respondents shown moderate level and 10(17%) of the respondents shown high level of awareness. In item 5, 50(86%) of the respondents revealed low level of awareness on GPS navigation Apps., 5(9%) and 3(5%) of the respondents revealed moderate and high level of awareness respectively. In item 6, 10(17%) respondents, 20(34%) respondents and 28(48%) respondents shown low, moderate and high level of awareness on utilization of public institutions/places respectively. In item 7, 42(72%) of the respondents indicated low awareness on elevator navigation skills, 8(14%) and 8(14%) respondents indicated moderate and high level of awareness on elevator navigation skills respectively. Item 8, 53(91.4%) respondents shown low level of street crossing skills, 2(3.4%) and 3(5.2%) respondents shown moderate and high level of awareness on street crossing skills respectively. In item 9, 10(17%) of respondents shown low level of awareness on staircase navigation skills, 12(21%) respondents shown moderate awareness and 36(62%) of the respondents shown high level of awareness on staircase navigation skills; and in item 10, 43(74%) of the respondents shown low level of awareness on indoor and landmark recognitions, 10(17%) of the respondents shown moderate awareness and 5(9%) of the respondents shown high level of awareness on indoor and landmark recognitions. The result of this research question, revealed that, there is low level of stakeholders' awareness on orientation and mobility skills in Cross River State with exception of staircase navigation skills which the result revealed high level of awareness.

Table 2: Simple percentage of stakeholders' level of awareness on orientation and mobility skills for persons with vision loss.

S/N	Items	Low		Moderate		High		Decision (average percent of 50% and above)
		Freq.	%	Freq.	%	Freq.	%	
1	Knowledge of mobility needs of persons with vision loss	41	70.6	15	26	2	3.4	Low
2	Awareness on white cane techniques	43	74	9	16	6	10	Low
3	Awareness on way-finding strategies	48	82	9	16	1	2	Low
4	Awareness on Sighted guide services for persons with vision loss	33	57	15	26	10	17	Low
5	Awareness on GPS navigation Apps. for persons with vision loss	50	86	5	9	3	5	Low
6	Awareness on utilization of public institutions/places by persons with vision loss.	10	17	20	34	28	48	No decision
7	Awareness on elevator navigation skills.	42	72	8	14	8	14	Low
8	Awareness on street crossing skills.	53	91.4	2	3.4	3	5.2	Low
9	Awareness on staircase navigation skills.	10	17	12	21	36	62	High
10	Awareness on indoor and landmark recognitions	43	74	10	17	5	9	Low

Research question two: To what extent are public institutions/places designs, vision loss-friendly in Cross River State?

The result of research question two, is presented in table 3; item 1 in table 3, shown that 20(34%) of public institutions/places has the designs of ramps with bannisters and 38(66%) of the public institutions/places (PI/Ps) has no ramps with bannisters in their designs. Item 2, 41(71%) of the PI/Ps has the present of staircase with rails and 17(29%) of the PI/Ps has no present of staircase with rails. In item 3 and 4, the result shown 58(100%) of the PI/Ps not having the presents of elevator with audio aids and GPS navigation Apps respectively. In item 5 and 6, 2(3.4%) of the PI/Ps shown the present braille labels and tactile floors/walls while 56(96.6%) of the PI/Ps has no present of braille labels and tactile floors/walls respectively. In item 7 to 10, the result shown 58(100%) of the

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PI/Ps has no present of bus stop with tactile signs, pedestrian tracks with rails/guide, pathways with side guides and traffic signs with audio output respectively. The result of this research question revealed that, vision loss-friendly designs are not present in most of the physical structures in public institutions/places in Cross River State.

Table 3

Simple percentage of the present of vision loss-friendly designs in physical structures of public institutions/places.

S/N	Items	Present		Not present		Decision (average percent of 50% and above)
		Freq.	%	Freq.	%	
1	Ramps with bannisters	20	34	38	66	Not present
2	Staircase with rails	41	71	17	29	Present
3	Elevators with audio aid	-	-	58	100	Not present
4	GPS navigation Apps.	-	-	58	100	Not present
5	Items with braille labels	2	3.4	56	96.6	Not present
6	Tactile floors and walls	2	3.4	56	96.6	Not present
7	Bus stops with tactile signs	-	-	58	100	Not present
8	Pedestrian tracks with rails/guide	-	-	58	100	Not present
9	Pathways with side guides within shopping centres	-	-	58	100	Not present
10	Traffic signs with audio output.	-	-	58	100	Not present

Research question three: How accessible are public institutions/places to persons with vision loss in Cross River State?

The result of this research question is presented in table 4. In item1, 9(56.3%) of the respondents revealed that banking halls are accessible to persons with vision loss while 7(43.7%) of the respondents rejected that banking halls are accessible to persons with vision loss. Item 2, indicated 6(37.5%) of the respondents are of the opinion that classrooms are accessible and 10(62.5%) of the respondents rejected the opinion. In item 3, 9(56.3%) of the respondents accepted that school libraries are accessible while 7(43.7%) of the respondents rejected that school libraries are accessible. In item 4, 5(31.3%) of the respondents accepted that shopping centres are accessible while 11(68.7%) of the respondents rejected that shopping centres are accessible. In item 5, 6(37.3%) of the respondents accepted that court rooms are accessible while 10(62.7%) of the respondents rejected that court rooms are accessible. In item 6, 5(31.3%) of the respondents accepted that hospital/health centres are accessible while 11(68.7%) of the respondents rejected that hospital/health centres are accessible. In item 7, 7(43.7%) of the respondents accepted that churches are accessible while 9(56.3%) of the respondents rejected that churches are accessible. In item 8, 4(25%) of the respondents accepted that mosques are accessible while 12(75%) of the respondents rejected that mosques are accessible. In items 9 to 10, 16(100%) of the respondents respectively revealed that public transport and pedestrian tracks are not accessible to persons with vision loss. The result of this research question shows that a significant percentage of public physical structures are not accessible to persons with vision loss.

Table 4:Simple percentage of accessibility to public institutions/places by person with vision loss.

S/N	Items	Accessible		Not accessible		Decision (average percent of 50% and above)
		Freq.	%	Freq.	%	
1	Banking halls	9	56.3	7	43.7	Accessible
2	Classrooms	6	37.5	10	62.5	Not accessible
3	School libraries	9	56.3	7	43.7	Accessible
4	Shopping centres	5	31.3	11	68.7	Not accessible
5	Court rooms	6	37.5	10	62.5	Not accessible
6	Hospital/Health centres	5	31.3	11	68.7	Not accessible
7	Churches	7	43.7	9	56.3	Not accessible
8	Mosques	4	25	12	75	Not accessible
9	Public transport.	-	-	16	100	Not accessible
10	Pedestrian tracks.	-	-	16	100	Not accessible

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Discussion

In view of the findings of this study, orientation and mobility appeared like a new concept for stakeholders in other sectors outside special education related sectors. This also affected the provision of mobility aids for persons with vision loss across these physical structures, as such, impede easy navigation and accessibility to such public institutions/places (PI/Ps). However, the result in research question one, revealed that, stakeholders has low level of awareness on orientation and mobility skills in Cross River State with exception of staircase navigation skills which the result revealed high level of awareness. No doubt even in educational sector, some personnel are questioning the need for education of persons with vision loss as well as the need for accessing services in other sectors. This mentality might be related to the reason why there is negligence, decay and refusal in provision of facilities and services for this category of persons in the society. It is in line with this findings, that Milaham (2013) revealed that persons with vision loss encounter numerous barriers and hazards ranging from psycho-social, emotional to physical environment which hinder their successful movement. The author further stated that; basic designs are not being considered to assist persons with vision loss in their daily activities. Therefore, including persons with vision loss into the society is loaded with many problems. If these problems are not given proper attention by stakeholders, they may not be able to acquire qualitative participation in the society, for their benefit and that of the entire society. It necessary that various management personnel of different sectors of the economic, social services, legal and health services, religion and transportation should be sensitize with the basic orientation and mobility skills for ease of movement, operation and participation of persons with vision loss in the society.

The result in research question two revealed that, vision loss-friendly designs are not present in most of the physical structures in public institutions/places in Cross River State. The need for vision loss-friendly designs is to ensure independent movement in the society. It is the right of these persons to also move freely as their normal counterparts. Hence, if architectural design of any building or physical facility lack these features (such as; ramps, rails, guided pathways, guided pedestrian tracks, tactile floors, braille labels, tactile zebra crossing, audio traffic signs etc.) then the mobility of persons with vision loss is challenged. In line with the finding of this research question, Bumma et al. (2020) agreed that after Nigeria civil war, about 95% of public buildings designed and constructed by architects, civil engineers and other environmental experts in Nigeria has failed continuously in considering the necessary facilities that enhanced persons with disabilities accessibility to public building (Wolfe, Ajuwom & Kelly, 2016). That is why they don't involve or participate in public gathering, decision making and governance. The Nigeria disability act of 2018 has emphasized equal right to access physical environment and buildings like every other persons and that public buildings should be reconstructed and constructed with necessary aids such as lifts, ramps and any facility that make them accessible to and usable by persons with disabilities (Rivano, 2014). But, it is unfortunate that in the current 21st century, physical structures are still constructed without mobility aids for persons with vision loss. It is now the onus of the federal disability commission, to ensure that the disability act 2018 is fully implemented to eliminate challenges encountered by persons with disabilities and those with vision loss in particular.

The result in research question three shows that a significant percentage of public physical structures are not accessible to persons with vision loss. In line with the finding of this research question, Cosmos et al. (2017) recorded that all the accessible public buildings erected in Kumasi city do not consider persons with vision loss. Accessibility has long been a serious challenge for persons with vision loss and up till now nothing reasonable has been done. It is advisable that government at all levels should ensure that public service providers designs their physical structures with features that ease mobility and enhance inclusiveness of persons with vision loss.

Conclusion

From the findings of this study, it is viewed that stakeholders has low level of awareness on orientation and mobility skills for inclusion of persons with vision loss in the society. And as a result of this low level of awareness, the vision loss-friendly architectural designs of physical structures and service delivery has been affected in significant number of institutions/places providing services for persons with vision loss. To this end, there is need for sensitization of the public through; radio, television, handbills, animations, seminars, workshops, conferences, social media among others on orientation and mobility skills required by persons with vision loss and those by service providers in public institutions/places. Also, universal designs for persons with vision loss should be enforced in all public institutions/places to ease accessibility of persons with vision loss when seeking for services in public institutions/places. The federal disability commission need to create state or zonal offices to evaluate government commitment to implementation of disability related policies and programmes. The study concluded that the quest for inclusion of persons with vision loss is highly threaten.

Recommendations

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Based on the findings of this study, it is therefore, recommended that;

- Sensitization and awareness on orientation and mobility skills should be created for personnel of public institutions/places' service providers to ease service delivery for persons with vision loss.
- All physical structures providing public services without vision loss-friendly architectural features should be given timelines for reconstruction or stop from providing services to the public.
- Government should enforce Discrimination against Persons with Disabilities (Prohibition) Act 2018 provisions for creation of accessible and navigable physical structures for persons with vision loss.

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