AVAILIBILITY AND AWARENESS OF INFORMATION COMMUNICATION TECHNOLOGY RELATED RESOURCES BY STUDENTS WITH SPECIAL NEEDS FOR SUSTAINABLE DEVELOPMENT IN UNIVERSITIES, NORT-CENTRAL, NIGERIA

[1]Gabriel Iortyom AJAV, [2]Prof. Juliana Nkechi UDENSI, [3]Prof. Katamba Abubakar SAKA & [4]Dr. Jummai JERRY

[1, 2, 3]Department of Library and Information Science, Federal University of Technology (FUT) Minna, Nigeria
[4]Department of Special Education and Rehabilitation Sciences, Nasarawa State University, Keffi (NSUK) Nigeria.
[1]ajavgabriel@gmail.com [2]julieudensi@yahoo.com [3]**s.katamba@futmina.edu.ng**
[4]jerryjummait@nsuk.edu.ng

Abstract

This study assessed the availability and awareness of information and communication technology (ICT) related resources by students with special needs for sustainable development in universities in North-central, Nigeria. Survey research design was used. The population comprised 162 special needs students of 13 public universities located in North-central geopolitical zone, Nigeria. The total population was used as it was not too much to manage. Checklist of available ICT-related information resources and structured questionnaire were used as instrument for data collection. Data were analysed using descriptive statistics of frequencies, percentages and mean. The study revealed that the students with special needs' basic resources like wheelchairs, access ramps, braille and talking calculators were available whereas some essential resources like automatic-opening doors, lift with several disabled friendly features, teletouch and synthetic text-to-speech software were not available. The level of awareness on the available ICT resources was low with grand mean of 2.33. The study concluded that there was significant deficiencies in the provision of adequate ICT resources and the pervasive lack of awareness on available information resources in format that are accessible and useable for students with special needs thereby ultimately fostering a truly inclusive learning environment that ensures sustainable development in universities. The authors recommended that Universities should devise and execute action plan aimed at the provision of information resources and should design and implement inclusive awareness campaigns tailored to the diverse needs of students with special needs for sustainable development in universities.

Keywords: Availability and Awareness of ICT Related Resources, Students with Special Needs, Sustainable Development and Universities in North-central, Nigeria.

Introduction

Information resources are very crucial to academic libraries. An academic library is the library which is attached to academic institutions like schools, colleges, and universities (Ashikuzzaman, 2016). Those libraries attached to universities are referred to as university libraries. They are meant to support the academic activities of the university. University libraries play a critical role in creating an enabling environment for citizens to gain knowledge, information and education. The university system is one of the settings that play a vital role in the educational syndrome of an individual, society and mankind for sustainable development.

Sustainable development is a state of development that is continuous and steady towards promoting the quality of life of man on the planet earth. For any nation to achieve sustainable development, formal education is paramount among other parameters. Consequentially, education is a life wire of sustainable development whereas the library serves as the heartbeat of the education sector. Adebayo (2020) asserted that there can be no sustainable development without access to information and there can be no meaningful inclusive access to information without libraries.

Undoubtedly, the quest for sustainable development remains a farce without inclusivity which implies that people from all backgrounds including those with physical, psychological, physiological and mental deviations referred to as the people with special needs must function together to pursue developmental goals and standards to promote the quality of life of man on the planet. The trait of sustainable development could be traced through inclusive education. According to Kavishe and Isibika (2018), inclusive education focuses on access of persons with disabilities to the general education system and aims at eliminating disability-based barriers and discrimination in educational setting for free access to education.

Deducing from this, sustainable development for students with special needs in universities entails their equal access to learning facilities, infrastructure, freedom of speech and participation amongst the students; equal rights for social amenities and economic benefits. Provision of information resources is one of the fundamental functions of a university library. Access could not be guaranteed unless awareness is made of the existence of such information resources. Therefore, all the university students regardless of level, status and stature are expected to be aware, access and use the required information resources available in the university library for knowledge acquisition, self-actualization and sustainable development.

However, one of the most challenged sets of library users are the people with special needs. These are categories of people with defect or abnormality either structural or psychological to the extent that it is easily noticed and hinders the individual from carrying out daily activities without the assistance from others. These group of persons include the visually impaired, hearing impaired, speech impaired, physical and health impaired, intellectually impaired, learning disabled, emotional/behavioural disordered (Omiegbe and Ezehi, 2023).

Statement of the Problem

Sustainable development of any society is not feasible without an inclusive qualitative education system. The education system is not viable without the library which has a very special role as it provides, organises and disseminates relevant information to all categories of users including those with special needs. Naturally, the percentage of persons living with impairments is growing as world's population increases. Considering the statistics from the United Nations Economic Commission for Africa (2016), 'there are over 80 million people living with disabilities in Africa, the figures further indicated that about 1 in 10 Africans live with one form of challenge or another. Taking into account the geometrically increase in number of persons living with challenges in our society, it is crucial that practical measures are taken by academic institutions like universities to cater for their needs by making provisions for them. To achieve this aim, the university library must provide relevant information resources to all sheds of learners including those with special needs. However, it is not clear on the percentage of resources that are available in formats that are accessible and useable by student-users with special needs. It is against this backdrop, the researchers deem it fit to assess the availability and awareness of ICT related information resources by students with special needs for sustainable development in universities, North-central Nigeria.

Objectives

The main objective of the study was to determine the availability and awareness of information and communication technology related resources by students with special needs for sustainable development in universities in North-central, Nigeria. The specific objectives of the study were to:

1. identify the types of information resources available in formats that are accessible and useable by students with special needs for sustainable development in universities in North-central Nigeria.
2. determine the level of awareness of the information resources in formats that are accessible and useable by students with special needs for sustainable development in universities in North-central Nigeria.

Literature Review

Sustainable development: Conceptually, development connotes well-being, which can be for an individual and/or his society. A nation's development is intricately linked to the development of its citizenry. The development of the individual is therefore, equally as important as the development of the nation or society he/she belongs to (Ekoja, 2020). Sustainable development is a state of development that is lasting and stable. In the view of the world commission on environment and development, otherwise known as the Bruntland Commission Report as cited in Afegbua (2020), defined sustainable development as a "development that meets the needs of the present without compromising the ability of the future generations to meet their own needs." Nkata (2020) asserts that sustainable development is the capacity to improve the quality of

human life while living within carrying capacity of supporting the ecosystem with the aim of development is to improve the quality of human life and enable people to realize their potentials, and live lives of dignity and fulfillment. Thus, sustainable development in universities therefore is the improvement in equal access to learning facilities, research activities and social interaction and contribution to knowledge for well-being of the occupants of the university community.

Information and communication technology related resources: The Information and Communication Technology (ICT) is a technology that has been adopted by libraries to modernise their services. It is the innovation that combines the practice of science and technology for transmitting information. According to UNESCO (2017), ICT is a scientific, technological and engineering discipline and management technique used in handling information, its application and association with social, economic and cultural matters. It is the communication of information in which information is transmitted through electronic or gadgets. Therefore, ICT refers to electrical, digital and internet-based technologies or assistive devices used to influence communication flow among students with special needs for sustainable development.

Commonly used technological devices according to Okonoko and Ufuoma (2023) include braille books, talking books, playback machines, audiotapes and screen readers. Information and communication technologies (ICT) have been introduced into library services in order to improve accessibility and usability.

The concept of people with special needs: The term special needs is used to describe a person with disability (Ramadass *et al.,* 2018). The concept of special needs could mean disability, it does not have a single universally accepted definition. Idris and Adaka (2023) confirmed that defining disability is complicated as it is complex, dynamic, multidimensional and contested. Different terms have been used for disability in different times and places. Each of the definitions of disability over the years is a reflection of the different models of disability that exist (Idris and Adaka, 2023). The term special needs is relative, emphasizing abnormality which could also be refers to the term "disable", meaning, not able to function normally. As such, the term special needs could be used synonymously with disabilities, handicapped, physically challenged, differently abled and the disadvantaged. Students that have challenges in one way or the other in accessing and utilizing library resources and services are said to be students with special needs.

There are different categories of students with special needs. Some of which include the mobility and the visual Impaired. The mobility or orthopedic impaired is a type of disability that could be looked upon as injuries or disorders and abnormalities that affect the skeletal system and the affiliated muscles, joints and the ligaments. It limits the person from locomotive ability. While the visual impairment is a condition with significant limitation of visual capability which reduces a person's ability to acquire information through sense of sight. According to Vallikkat (2017), it is impairment in vision that even with correction, adversely effects a child's

educational performance. The term includes both partial sight and blindness.

Several factors are responsible for developing impairments that defines one to be a person with special needs. This implies that the students with special needs, in the course of pursuing their education which is supposed to be their birth right, land into abject discrimination and deprivation of various forms such as Technological challenges and Attitudinal challenges:

Technological challenges: In most cases, getting appropriate equipment needed for persons with special needs are challenging. Ackah-Jnr and Danso (2019) argues that technological challenges include when software, electronic, or physical technologies are not adaptable for use by people with disabilities.

Attitudinal challenges: Attitude is a learned assertiveness to evaluate things in a certain way with such evaluations being positive or negative or indifference (Ekom-Idorenyin, 2023). Attitudinal barriers are the ways people think and feel about people with special needs that result in limiting their potentials to maximize their fulfillment in living. These attitudinal barriers arise from perceptions, assumptions and misconceptions about disabilities and those living with disabilities. The various forms of attitudinal barriers negate the rights and wellbeing of people with disabilities and affect the moral compass of society. Sutton (2020) asserted that the biggest challenge to people with disabilities, 'is not their disabilities, but rather the attitudinal barriers imposed by others in their social environment.

Methodology

The researcher adopted survey research design. The population of the study comprised 162 students with special needs from 13 public universities in North-central Nigeria. The total population was used because the size is manageable. Instrument for data collection were checklist and questionnaire. Data was analysed using descriptive statistics of frequencies, percentages and mean.

Results and Discussion of the Findings

Table 1: Analysis of information resources available in formats that are accessible and useable by special need students for sustainable development in universities

KEY: AV = Available NAV = Not Available

S/N	Information Resources	Availability		Decision
		AV	NAV	
A	*For Students with Mobility Impairment*			
1	Table and keyboard tray that is adjustable	√	-	Available
2	Special fitted lift to move the person inside	√	-	Available
3	Automatic-opening external doors and	-	√	Not Available

#		Available	Not Available	Status
	internal doors between the foyer and access gates			
4	Lift with several disabled friendly features such as additional buttons positioned for someone in a wheelchair	-	√	Not Available
5	Functional elevator catalogues cabinets	-	√	Not Available
6	Adjustable shelves	-	√	Not Available
7	Wheelchairs	√	-	Available
8	Access Ramps	√	-	Available
	For Students with Visual Impairment			
9	Braille books	√	-	Available
10	Taped books	-	√	Not Available
11	Screen reader	-	√	Not Available
12	Text enhancement software	-	√	Not Available
13	The teletouch	-	√	Not Available
14	Digicassete	-	√	Not Available
15	Talking calculator	√	-	Available
16	Talking books	√	-	Available
17	synthetic text-to-speech software		√	Not Available
18	Video or DVD books	√	-	Available
19	Digital Audio Information System (DAISY)	√	-	Available

Table 1 Revealed that the students with mobility impairments' basic resources such as keyboard tray that are adjustable, wheelchairs, access ramps were available, but some essential resources like lifts with disabled-friendly features, automatic doors, elevator catalogues cabinets, and adjustable shelves were not available in the studied universities. The visually impaired students' information resources available were braille books, talking books, talking calculators, DVD books and digital audio information systems (DAISY), whereas advanced resources like teletouch, digicassetes, screen readers, text enhancement software, and synthetic text-to-speech software were not available. This indicates significant gaps in support for both groups of students with special needs.

Discussion of the Findings of objective one

The findings of objective one revealed that universities in North-central Nigeria provides information resources in formats that are accessible and useable for students with special needs. However, more advanced resources are largely unavailable for students with special needs. The finding agreed with that of Rukhsana *et al.* (2017) who studied library resources for persons with

special needs and found that ramps and elevators were available, but directional signs in large print, book call numbers converted into Braille for blind students and telecommunication devices had not been provided to the deaf and visual impaired persons in the libraries. The finding also agreed with that of Onoyeyan (2019) who revealed that library materials are usually not available in quantities desirable for the visually impaired and there is an acute shortage of reading materials in alternative formats in Nigerian schools.

The findings underscored the systemic challenges faced by special needs students within universities. Despite efforts to promote inclusivity, the study reveals pervasive inadequate essential resources in formats that are accessible and useable for students with special needs, echoing similar deficiencies documented in prior research. This neglect not only hinders their academic success but also perpetuates societal barriers to their full participation, consequentially retarding their sustainable development.

Table 2: Level of awareness of the information resources in formats that is accessible and useable by special needs students for sustainable development in universities

S/No	Item Statement	VH (4) Fq %		H (3) Fq	%	L (2) Fq	%	VL (1) Fq	%	N	FX	Mean	Remark
1	Table and keyboard tray that is adjustable	4	2.5	6	3.7	61	37.7	91	56.2	162	247	1.52	Low
2	Special fitted lift to move the person inside	40	24.7	31	19.1	70	43.2	21	13.0	162	414.00	2.56	High
3	Automatic-opening external doors and internal doors between the foyer and access gates	3	1.9	9	5.6	87	53.7	63	38.9	162	276.00	1.70	Low
4	Lift with several disabled friendly features such as additional buttons positioned for someone in a wheelchair	7	4.3	7	4.3	94	5.8	54	33.3	162	291.00	1.80	Low
5	Functional elevator catalogues cabinets	6	3.7	4	2.5	101	62.3	51	31.5	162	289.00	1.78	Low
6	Adjustable shelves	4	2.5	7	4.3	112	69.1	39	24.1	162	300.00	1.85	Low
7	Wheelchairs	61	37.7	55	34.0	26	16.0	20	12.3	162	481.00	2.97	High
8	Access Ramps	43	26.5	50	30.9	49	30.2	20	12.3	162	440.00	2.72	High
9	Braille books	63	38.9	48	29.6	30	18.5	21	13.0	162	477.00	2.94	High
10	Taped books	43	26.5	48	29.6	40	24.7	31	19.1	162	427.00	2.64	High
11	Screen reader	9	5.6	7	4.3	62	38.3	84	51.9	162	265.00	1.64	Low
12	Text enhancement software	7	4.3	10	6.2	57	35.2	88	54.3	162	260.00	1.60	Low
13	The teletouch	8	4.9	7	4.3	60	37.0	87	53.7	162	260.00	1.60	Low

No	Item									N		Mean	Decision
14	Digicassete	7	4.3	8	4.9	55	34.0	92	56.8	162	254.00	1.57	Low
15	Talking calculator	40	24.7	75	46.3	24	14.8	23	14.2	162	456.00	2.81	High
16	Talking books	38	23.5	77	47.5	27	16.7	20	12.3	162	457.00	2.82	High
17	Synthetic text-to-speech software	6	3.7	7	4.3	100	61.7	49	30.2	162	294.00	1.81	Low
18	DVD books	95	58.6	39	24.1	22	13.6	6	3.7	162	547.00	3.38	High
19	Digital Audio Information System (DAISY)	86	53.1	48	29.6	18	11.1	10	6.2	162	534.00	3.30	High

Average weighted mean   2.28

Table 2 indicated varying levels of awareness among respondents. Some respondents indicated high awareness on resources. However, majority of the respondents indicated low awareness on the resources with mean value lower than the average weighted mean, 2.28. The data indicates a generally low level of awareness on information resources in formats that are accessible and useable by students with special needs for sustainable development in universities in North-central, Nigeria.

Discussion of the Findings of objective 2

The findings generally indicated low level of awareness of information resources for students with special needs in universities in North-central Nigeria for sustainable development. The findings agree with that of Bhardwaj (2018) whose study on information access mechanism for visually impaired students in higher educational institutions found that there is lack of awareness among visually impaired students about library resources. The finding also agreed with that of Ijadunola *et al.* (2018) who revealed that almost all respondents were unaware of facilities that aid learning and facilities for library use.

The alignment of this finding with prior research underscored the persistence of these challenges across different contexts and populations. The implication is that efforts to enhance accessibility must not only focus on resource provision but also prioritize proactive measures to raise awareness and promote utilization among special needs students, thus ensuring that they can fully benefit from the available su   ic and personal development as parameters of sustainable development.

Conclusion

Sustainable development is consistent improvement of life of man on this planet. Characterized by equal consideration of student irrespective of their status. Based the findings of the study, it can be concluded that there are significant deficiencies in the provision of adequate information resources for students with special needs thereby fostering sustainable development within universities in North-central Nigeria and the study underscores the pervasive lack of awareness

on available ICT-information resources for special needs students, thereby ultimately fostering a truly inclusive learning environment that ensures equitable opportunities for all students, irrespective of their abilities.

Recommendations

Based on the findings of the study, the researchers recommended the following:

1. Universities should devise and execute a comprehensive action plan aimed at rectifying identified deficiencies, specifically targeting the provision of ICT -Information resources tailored to meet the diverse needs of students with special needs.

2. Universities should design and implement inclusive awareness campaigns. These programs should aim to raise awareness about available information resources in formats that are accessible and useable to support special needs students, and foster a culture of inclusivity and acceptance within the university community for sustainable development.

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