Utilization of Assistive Technology for Effective School Library Service Delivery to Students With Disabilities in Nigeria

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Abstract: *Disability is a part of the human condition. Everyone might experience disability either permanently or temporarily at some point in their life. It was estimated that about 25 million people live with one form of disability or more. This study explored the utilization of assistive technology for effective school library service delivery to students with disabilities in Nigeria. The study adopted descriptive survey design and used online structured questionnaires to collect data from school librarians. A total of 240 school librarians responded to the online survey across the 36 states in Nigeria. Data collected through online questionnaires were analyzed using percentage, mean and standard deviation. The study revealed that, there is inadequate availability of assistive technologies for effective school library service delivery to students with disabilities in Nigeria. Also, the extent of utilization of assistive technologies for effective school library service delivery was very low except for braille technology and Hearing Aids. The major challenges associated with the utilization of assistive technology for effective school library service delivery to students with disabilities in Nigeria are lack of support from the government, inadequate assistive technology in the school libraries, ranked together with inadequate funding of the school libraries; and unstable electric power supply. The study recommended; Provision of adequate assistive technology in the school libraries by the government. Training of both students with disabilities and school librarians in the use of assistive technology. Developing adequate interest in inclusive school library service by the government. Adequate funding of the school libraries by the government. Adequate support from the government through provision of material and human resources. Provision of adequate support service on the use of assistive technology by the manufacturers or vendors. Provision of stable electric power supply through installing solar power systems or purchasing standby generators.*

Keywords: *Assistive Technology; school library; service delivery; students with disabilities; Nigeria.*

Introduction

Disability is a part of the human condition. Everyone might experience disability either permanently or temporarily at some point in their life. Disabilities can occur at birth, during childhood, adulthood or old age, whichever time it occurs, it reduces the independent functioning of an individual. In order to enhance the functioning of students with disabilities and make them more independent, assistive technologies should be utilized in school libraries to bridge the gap created by the disabilities in school children.

School libraries are libraries attached to nursery, primary or secondary school for the purpose of providing information resources and services for inculcating reading habits among school children. According to Shonhe (2019) a school library is an information and media resource centre located within a primary or secondary school where teachers and students have access to a variety of information resources. In a more comprehensive definition, Library Research Service (2014) defined a school library as "a dedicated structure situated in and managed by the school (primary or secondary) that offers at least the following: an organized, circulating collection of printed and/or audio-visual and/or computer-based resources, or a combination thereof; paid staff; an established schedule during which services of the staff are available to students and faculty; instruction on using library materials to support classroom standards and improve student research and literacy skills"

The role and contributions of school library services in the provision of education at all levels cannot be overemphasized especially when one considers the functions of a library within the school system. According to Dike (2000) school library is defined as the learning workroom for excellence where teachers find the world of knowledge interact directly with resources, acquire information, literacy and develop research skills for life-long learning. As a learning laboratory, students and teachers develop the skills required for lifelong learning. It is a workshop for carrying out projects and individual or small group assignments. It lends itself to active and participatory methods, enquiry, team work and problem solving. As a learning laboratory, the school library should be buzzing with activity, not silent as a tomb. The school library is also a place for sharing and creating a gallery for art work, an opportunity for relaxation, a comfortable pleasant environment with information, seating, quiet atmosphere for pleasurable reading but also with occasion for socialization and creative expression.

Some functions of school libraries are provision of reading resources for school children, provision of conducive reading environment for school children, inculcating of reading skills among school children through readership programmes among others. According to School Library Association (2016) school libraries promotes culture of reading among school children and also enhance their information literacy skills; school libraries provide a place for collaborative learning, creativity and for developing independent research; it supports all educational programs and the school curriculum; and also provide teachers with access to

teaching materials. School libraries are crucial in the teaching and learning process in every primary or secondary school. It is an integral part of the school community.

Disability is a health condition where an individual cannot do a particular normal activity due to physical, mental, or physiological reasons. According to Centers for Disease Control and Prevention (2021) disability is any condition of the body or mind (impairment) that makes it more difficult for the person to perform certain activities and actively interact with the world around them independently without the support of a technology or human. In a more elaborate and comprehensive definition, World Health Organisation (2001) stated that disability has three dimensions: first is impairment, which refer to a person's body structure or function, or mental functioning. Examples of impairment are loss of sight, hearing, limb, memory loss among others. Second dimension of disability according to WHO is activity limitation; which include difficulty in seeing, walking (mobility), hearing or problem solving. While the third dimension is participation restrictions; which include restriction in participating in normal daily task and activities such as participating in social events, utilizing health care services and other recreational activities such as partying, playing football among others. This study is limited to the first and second dimensions of disabilities according to WHO (2001). Due to disabilities, some students cannot enjoy these functions of the school libraries, hence, they need a technology that will bridge the gap created by the disability. The generic name for these types of technologies is assistive technology.

Assistive technology is any device or product that assist or support an individual with a kind of disability to function like others with little or no support from human being. According to Dominic, Joshua & Eyitayo (2020) assistive technology refers to devices or applications made precisely to aid the purpose or adapted and used to aid as technical assistance for students with disabilities and professionals. These technologies will help to bridge the gap created by the disability. It was estimated that more than one billion people need one or more assistive technologies to support them (WHO, 2018). It was also estimated that more than two billion people will need the support of one or more kind of assistive technology by 2030 (WHO, 2018). Despite this high need for assistive technology globally, WHO (2018) found out that only 1 in every 10 people that need assistive technology can have access to it due to many social, economic, political or cultural reasons. This implies that 10% of every one billion people have access to assistive technologies and utilize it.

As of 2020, people with one form of disability or more in Nigeria are estimated at 25 million (Uduu, 2020). This implies that about 1 in every 8 Nigerians live with at least one type of disability. This high number of people with disabilities also indicates a high number of Nigerians excluded due to one form of disability or more. In order to include the excluded and support school children with disabilities to fully develop their potentials and contribute to the socio-economic development of the society like any other Nigerian, it is imperative to make assistive technologies available, most especially in school libraries for students with

disabilities to utilize because at this level majority of them might drop out of school if they are not coping like other students. The implication of school students with disabilities not having access to assistive technologies as well as not utilizing them is that they will not cope with the utilization of school library resources and services to support their education. Since, much of the previous studies have directed much attention on the availability and utilization of assistive technologies for teaching and learning, with little attention on the extent of utilization of assistive technologies for effective school library service delivery to students with disabilities in Nigeria. This study seeks to fill the gap in literature by examining the extent of utilization of assistive technology for effective school library service delivery to students with disabilities in Nigeria.

Purpose of the study

The main purpose of the study is to examine the utilization of assistive technology for effective school library service delivery to students with disabilities in Nigeria. specifically, the study seeks to:

1. Identify the assistive technologies available for effective school library service delivery to students with disabilities in Nigeria.
2. Examine the extent of utilization of assistive technology for effective school library service delivery to students with disabilities in Nigeria.
3. Ascertain the extent to which the utilization of assistive technology contributes to effective school library service delivery to students with disabilities in Nigeria.
4. Identify the challenges associated with the utilization of assistive technology for effective school library service delivery to students with disabilities in Nigeria.
5. Proffer strategies to enhance the utilization of assistive technology for effective school library service delivery to students with disabilities in Nigeria.

Literature Review

Assistive technologies can be a device, a system, program or even a product. Whatever form it appears, it is the best innovation scientists have invented as it helps to fill the gap created by any form of disability in an individual. World Health Organisation (2018) defined assistive technology as a generic umbrella name encompassing systems and services related to the delivery of assistive products or services. WHO further stated that, these technologies support and enhance the independent functioning of an individual with disabilities which will lead to healthy wellbeing as well as their self-esteem. Some major examples of assistive technologies

are braille technology, Hearing Aids, Books on Tape/CD, Talking Dictionary, Magnifying glass, Speech Input/output, Signalling Device, Stylus, Video Magnifiers, Adjustable Table, Text-to-Speech techology, Writing Frame, Screen Reading Software; Wrist Rest, Electronic Organiser and Math simulation, and Math talk among others. According to Alnahdi (2014) utilization of assistive technology can aid students with disabilities to augment and increase their independence functioning in participation in classroom discussions, along with helping them to undertake some challenging academic responsibilities with little or no human assistance. This will increase their self-esteem among many other benefits.

In an empirical study conducted by Dominic, Joshua & Eyitayo (2020) in north west, Nigeria, the findings revealed that, majority of the assistive technologies required to support students with disabilities are not available in most of the special education schools. This unavailability affected the extent of utilization of these technologies. The authors recommended adequate funding of special education schools to acquire adequate assistive technologies, integrating training on utilization of assistive technologies in school curriculum among others. In another empirical study, Rowlands (2015) found out that, there is inadequate availability of assistive technologies in the schools studied, which translated to low utilization due to factors such as inadequate funding, inadequate technical skills of utilizing assistive technologies, lack of support services among others. In order to enhance the utilization of assistive technologies the author recommended the need to acquire more assistive technologies, adequate funding of schools, training and retraining of students with disabilities as well as staff on effective utilization of assistive technologies etc.

In an empirical study, Shikden (2015) found out that assistive technologies were grossly inadequate to meet the needs of students with disabilities, though school teachers claimed to use assistive technology to a high extent, majority of them do not have adequate skills and competency of utilizing assistive technologies. The major challenges affecting the effective utilization of assistive technologies are inadequate availability of assistive technologies, inadequate skills and competency of using assistive technologies, technophobia among others. Shikden (2015) suggested the urgent need to create adequate awareness of the importance of assistive technologies in supporting students with disabilities, government should also formulate policy mandating every school to acquire and utilize assistive technologies to support students with disabilities, teacher's training institutes should include the use of assistive technologies in their curriculum among others. Utilization of assistive technologies enhances the educational performance of the students with disabilities and for many school children, assistive technologies are the sole means of independent living. However, certain barriers such as high cost, reluctance of users, lack of skills, low accessibility and other social or cultural challenges affects the utilization among students with disabilities (Bhatt & Kumari, 2015).

In another recent empirical study, Senjam, Foster, Bascaran, & Vashist (2019) found out that there is low utilization of assistive technologies due to unavailability of assistive technologies, Lack of awareness, lack of training, inadequate technical skills among others. Similarly, Isiaku, Abdullahi & Nweke (2021) found out that effective utilization of assistive technologies is constraint by many challenges, the major of which are inadequate availability of assistive technologies, inadequate trained instructors to teach students with disabilities how to utilize assistive technologies, lack of adequate planning and collaboration time for instructors, lack of technical assistance from the vendor or manufacturers, lack of cooperation between the school and the family of students with disabilities, lack of ICT specialist to teach students with learning disabilities, and limited flexibility in training options for students with disabilities. Isiaku, Abdullahi & Nweke (2021) then recommended that students with disabilities should be adequately trained in using the assistive technology properly so as to aid them improve academically. The school management or the government should opt for low cost assistive technology, alternative funding should also be sourced for acquiring assistive technologies.

Research Methods

The study adopted descriptive survey research. According to Nworgu (2015) descriptive survey research design seeks to collect data on a particular phenomenon and describing it in a systematic manner, facts or features about a given population. The descriptive survey was considered appropriate because this study seeks to collect, describe and summarize empirical data on the utilization of assistive technology for effective school library service delivery to students with disabilities in Nigeria. The population of the study is school librarians in Nigeria. A structured questionnaire titled: Utilization of Assistive Technology for Effective School Library Service Delivery to Students with Disabilities Questionnaire (UATESLSDSDQ) was used to collect data for the study. Considering COVID-19 in Nigeria the researcher decided to use online questionnaire thus, google form link was shared through the various social media forum of librarians in Nigeria. The data collected were checked for completeness and imported to SPSS version 23. Then, mean and standard deviation was used to analyze the data collected for the study.

Results

A total of 240 school librarians responded to the online survey across the 6 geopolitical zones in Nigeria. The responses were presented according to the purpose of the study.

GENDER DISTRIBUTION OF RESPONDENTS
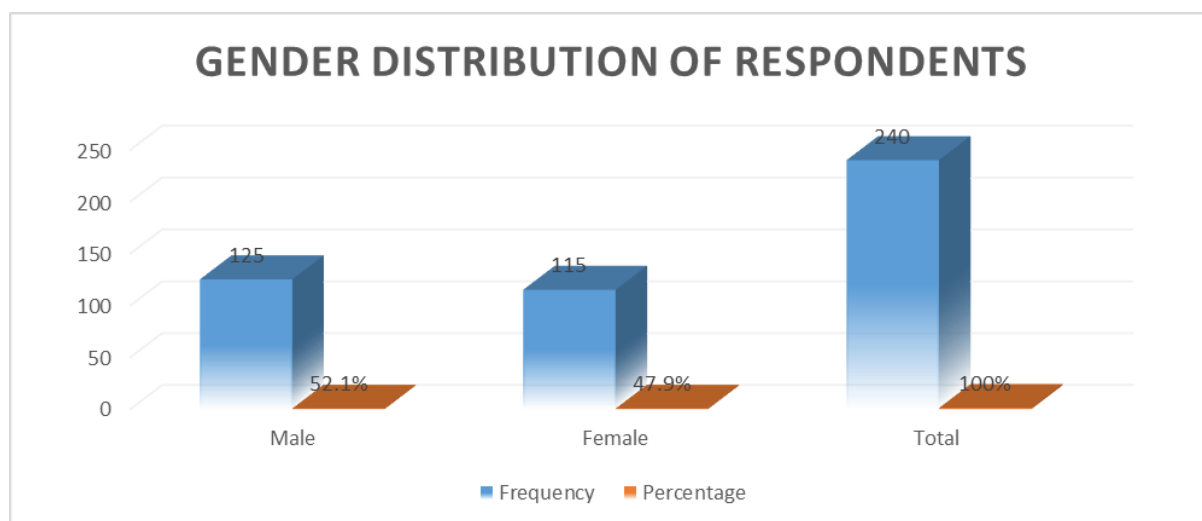
From the chart above, out of 240 school librarians that responded to the online survey; 125(52.1%) are male while 115(47.9%) were female.

Table 1: Mean Response on the assistive technologies available for effective school library service delivery to students with disabilities in Nigeria

S/N	Assistive Technologies	HA	MA	LA	NA	Mean	St.D	Remark
1	Braille Technology	98	73	37	32	2.99	1.05	1st
2	Books on Tape/CD	86	72	54	28	2.90	1.02	2nd
3	Hearing Aids	70	81	53	36	2.77	1.03	3rd
4	Talking Dictionary	54	92	42	52	2.62	1.06	4th
5	Speech Input/output	54	76	53	57	2.53	1.09	5th
6	Magnifying glass	44	79	76	41	2.53	0.98	5th

7	Screen Reading Software	36	82	66	56	2.41	1.01	7th
8	Stylus	34	85	65	56	2.40	1.00	8th
9	Video Magnifiers	42	80	45	73	2.38	1.09	9th
10	Text-to-Speech techology	24	94	61	61	2.34	0.97	10th
11	Adapted Chairs and Tables	28	91	53	68	2.33	1.01	11th
12	Signaling Device	32	64	88	56	2.30	0.97	12th
13	Models and Mock-ups	24	79	77	60	2.28	0.95	13th
14	Electronic Organizer	28	66	86	60	2.26	0.96	14th
15	Adjustable Table	30	64	82	64	2.25	0.99	15th
16	Writing Frame	28	74	66	72	2.24	1.01	16th
17	Wrist Rest	21	64	99	56	2.21	0.90	17th
18	Proofreading software	20	60	99	61	2.16	0.90	18th
19	Math simulation	16	73	82	69	2.15	0.91	19th
20	Draft Builder	12	66	85	77	2.05	0.89	20th

21	Math Talk	8	64	99	69	2.05	0.83 21st
22	Sip-and-puff system	12	48	91	89	1.93	0.88 22nd
23	Ginger Ghotit	12	44	95	89	1.91	0.87 23rd

HA: Highly Available; **MA:** Moderately Available; **LA:** Less Available; **NA:** Not Available

From the result above, Braille Technology, with 2.99 mean score; Books on Tape/CD with 2.90 mean score; Hearing Aids, with 2.77 mean score; Talking Dictionary, with 2.62 mean score; Speech Input/output, with 2.53 mean score ranked together with Magnifying glass are moderately available for effective school library service delivery to students with disabilities in Nigeria. on the other hand, Screen Reading Software, with 2.41 mean score; Stylus, with 2.40 mean score; Video Magnifiers, with 2.38 mean score; Text-to-Speech techology, with 2.34 mean score; Adapted Chairs and Tables, with 2.33 mean score; Signalling Device, 2.30 mean score; Models and Mock-ups, with 2.28 mean score; Electronic Organiser, with 2.26 mean score; Adjustable Table, with 2.25 mean score; Writing Frame, with 2.24 mean score; Wrist Rest, with 2.21 mean score; proofreading software, with 2.16 mean score; Math simulation, with 2.15 mean score; and Draft Builder, with 2.20 mean score, ranked together with Math Talk are Less Available.

Table 2: Mean Response on the extent of utilization of assistive technology for effective school library service delivery to students with disabilities in Nigeria

S/N		VHE	HE	LE	VLE	Mean	St.D	Remark
1	Braille Technology	65	60	75	40	2.63	1.06	1st
2	Hearing Aids	57	68	67	48	2.56	1.06	2nd
3	Books on Tape/CD	44	81	59	56	2.47	1.04	3rd
4	Talking Dictionary	45	52	87	56	2.36	1.04	4th
5	Magnifying glass	120	100	12	8	2.32	1.06	5th

6	Speech Input/output	28	64	96	52	2.28	0.93	6th
7	Signaling Device	24	56	108	52	2.22	0.90	7th
8	Stylus	16	72	96	56	2.20	0.87	8th
9	Video Magnifiers	16	80	72	72	2.17	0.94	9th
10	Adjustable Table	20	46	126	48	2.16	0.84	10th
23	Text-to-Speech techology	4	40	96	100	2.15	0.97	11th
12	Adapted Chairs and Tables	24	60	84	72	2.15	0.97	11th
13	Writing Frame	20	40	128	52	2.12	0.84	13th
14	Screen Reading Software	28	52	80	80	2.12	1.00	13th
15	Wrist Rest	4	61	123	52	2.07	0.73	15th
16	Electronic Organizer	12	56	104	68	2.05	0.85	16th
17	Math simulation	40	65	67	68	2.05	0.85	16th
18	Math Talk	12	56	104	68	2.04	0.88	18th
19	Models and Mock-ups	4	53	115	68	1.97	0.76	19th

20	Proofreading software	0	44	95	101	1.95	0.89	20th
21	Draft Builder	0	44	96	100	1.78	0.78	21st
22	Sip-and-puff system	12	52	87	89	1.77	0.74	22nd
23	Ginger Ghotit	12	61	91	76	1.76	0.74	23rd

VHE: Very High Extent; **HE:** High Extent; **LE:** Low Extent; **VLE:** Very Low Extent

From the results above only braille technology, with 2.63 mean score; and Hearing Aids, with 2.56 mean score were utilized to a high extent. other assistive technologies such as Books on Tape/CD, with 2.47 mean score; Talking Dictionary, with 2.36 mean score; Magnifying glass, with 2.32 mean score; Speech Input/output, with 2.28 mean score; Signaling Device, with 2.22 mean score; Stylus, with 2.20 mean score; Video Magnifiers, with 2.17 mean score; Adjustable Table, with 2.16 mean score; Text-to-Speech techology, with 2.15 mean score; Writing Frame, with 2.12 mean score; ranked together Screen Reading Software; Wrist Rest, with 2.07 mean score; Electronic Organizer and Math simulation, with 2.05 mean score; and Math talk with 2.04 mean score were utilized to a low extent.

Table 3: Mean Response on the extent to which the utilization of assistive technology contributes to for effective school library service delivery to students with disabilities in Nigeria

S/N	Items	SA	A	D	SD	Mean	St.D	Remark
1	Utilization of assistive technology helps to bridge the gap created by the disability	120	96	16	8	3.37	0.75	1st
2	Utilization of assistive technology offers the support that helps to improve the	124	92	12	12	3.37	0.80	1st

		SA	A	D	SD			
	capabilities of a student with a disability.							
3	Assistive technology helps students with disabilities to bypass an area of difficulty	124	87	17	12	3.35	0.82	3rd
4	Assistive technology helps students' with disabilities to utilize library resources independently	117	95	16	12	3.32	0.81	4th
5	Assistive technology reduce human support services which most time discourages students with disabilities from using the school library resources	92	104	32	12	3.15	0.83	5th
6	Utilization of assistive technology helps to stimulate students' with disabilities interest in learning generally	92	104	32	12	3.15	0.83	5th
7	Assistive technology motivate students with disabilities to use the school library resources	92	87	49	12	3.08	0.89	7th

SA: Strongly Agree; **A:** Agree; **D:** Disagree; **SD:** Strongly Disagree

From the results above, majority of the respondents strongly agreed that, utilization of assistive technology helps to bridge the gap created by the disability and offers the support that helps to improve the capabilities of a student with a disability; assistive technology helps students with disabilities to bypass an area of difficulty, with 3.35 mean score. Also, majority just agreed that, assistive technology helps students' with disabilities to utilize library resources independently, with 3.32 mean score; assistive technology reduce human support services which most time discourages students with disabilities from using the school library resources, with 3.15 mean score; ranked together with Utilization of assistive technology helps to stimulate students' with disabilities interest in learning generally. The least contribution of the utilization of assistive technologies is that, Assistive technology motivates students with disabilities to use the school library resources, with 3.08 mean score.

Table 4: Mean Response on the challenges associated with the utilization of assistive technology for effective school library service delivery to students with disabilities in Nigeria

S/N	Challenges	SA	A	D	SD	Mean	St.D	Remark
1	Lack of support from the government	157	67	4	12	3.54	0.76	1st
2	Inadequate assistive technology in the school libraries	148	80	4	8	3.53	0.70	2nd
3	Inadequate funding of the school libraries	156	68	4	12	3.53	0.76	3rd
4	Unstable electric power supply	149	75	4	12	3.50	0.77	4th
5	Lack of skills in the use of assistive technology	136	84	8	12	3.43	0.78	5th
6	Poor maintenance culture	145	67	12	16	3.42	0.86	6th

| 7 | Inadequate support service on the use of assistive technology | 129 | 87 | 12 | 12 | 3.39 | 0.80 | 7th |
| 8 | Lack of interest in inclusive school library service | 132 | 76 | 20 | 12 | 3.37 | 0.84 | 8th |

SA: Strongly Agree; **A:** Agree; **D:** Disagree; **SD:** Strongly Disagree

From the results above, majority of the school librarians strongly agreed that, lack of support from the government, with 3.54 mean score; Inadequate assistive technology in the school libraries, with 3.53 mean score; ranked together with inadequate funding of the school libraries; and Unstable electric power supply, with 3.50 mean score are the major challenges associated with the utilization of assistive technology for effective school library service delivery to students with disabilities in Nigeria. Other challenges are Lack of skills in the use of assistive technology, with 3.43 mean score; poor maintenance culture, with 3.42 with mean score; Inadequate support service on the use of assistive technology, with 3.39 mean score; and Lack of interest in inclusive school library service, with 3.37 mean score.

Table 5: Mean Response on the strategies to enhance the utilization of assistive technology for effective school library service delivery to students with disabilities in Nigeria

S/N	Strategies	VA	A	FA	NA	Mean	St.D	Remark
1	Provision of adequate assistive technology in the school libraries	190	41	9	0	3.75	0.51	1st
4	Training of both students with disabilities and school librarians in the use of assistive technology	178	49	13	0	3.69	0.57	2nd
3	Developing adequate interest in inclusive school library service	175	52	13	0	3.68	0.57	3rd

2	Adequate funding of the school libraries by the government	174	49	17	0	3.65	0.61	4th
5	Adequate support from the government through provision of material and human resources	170	57	13	0	3.65	0.58	5th
6	Provision of adequate support service on the use of assistive technology by the manufacturers or vendor	166	61	13	0	3.64	0.58	6th
7	Provision of stable electric power supply through installing solar power system or purchasing standby generator	170	33	17	0	3.64	0.61	6th
8	Cultivating positive and proper maintenance culture	175	48	17	0	3.66	0.61	8th

VA: Very Appropriate; **A:** Appropriate; **FA:** Fairly Appropriate**; NA:** Not Appropriate
From the results above, majority of the respondents strongly agreed that, provision of adequate assistive technology in the school libraries, with 3.75 mean score; Training of both students with disabilities and school librarians in the use of assistive technology, with 3.69 mean score; Developing adequate interest in inclusive school library service, with 3.68 mean score; Adequate funding of the school libraries by the government, with 3.65 mean score; ranked together with Adequate support from the government through provision of material and human resources; Provision of adequate support service on the use of assistive technology by the manufacturers or vendor, with 3.64 mean score; also ranked together with Provision of stable electric power supply through installing solar power system or purchasing standby generator; and Cultivating positive and proper maintenance culture, with 3.66 mean

score are very appropriate for enhancing the utilization of assistive technology for effective school library service delivery to students with disabilities in Nigeria.

Discussion of the Findings

The findings of the study revealed that, only braille technology, books on Tape/CD, hearing aids, talking dictionary, speech input/output, magnifying glass were moderately available for effective school library service delivery to students with disabilities in Nigeria. While, majority of the assistive technologies such as screen reading software, stylus, video magnifiers, text-to-speech techology, adapted chairs and tables, signaling device, models and mock-ups, electronic organizer, adjustable table, writing frame, wrist rest, proofreading software, math simulation, and draft builder, math talk are less available. this implies that, there is inadequate availability of assistive technologies for effective school library service delivery to students with disabilities in Nigeria. This finding is in accordance with that of Dominic, Joshua & Eyitayo (2020) who found out that, majority of the assistive technologies required to support students with disabilities are not available in most of the special education schools studied in Nigeria. Also, with that of Shikden (2015) who found out that assistive technologies were grossly inadequate to meet the needs of students with disabilities.

The findings of the study also revealed that, only assistive technologies such as braille technology and Hearing Aids were utilized to a high extent. while many others such as Books on Tape/CD, talking dictionary, magnifying glass, speech input/output, signaling device, stylus, video magnifiers, adjustable table, text-to-speech techology, writing frame, screen reading software; wrist rest, electronic organizer and math simulation, and math talk were utilized to a low extent. This implies that there is low utilization of assistive technologies for effective school library service delivery to students with disabilities in Nigeria. This might be due to inadequate availability of these assistive technologies in the school libraries. The finding supports the earlier result of Rowlands (2015) who found out that, there is inadequate availability of assistive technologies in the schools studied, which translated to low utilization.

The findings revealed that, utilization of assistive technologies contributes significantly to for effective school library service delivery to students with disabilities in Nigeria as majority of the respondents strongly agreed that, utilization of assistive technology helps to bridge the gap created by the disability, offers the support that helps to improve the capabilities of a student with a disability; assistive technology helps students with disabilities to bypass an area of difficulty, helps students' with disabilities to utilize library resources independently, reduces human support services which most time discourages students with disabilities from using the school library resources, helps to stimulate students' with disabilities interest in learning generally, and also motivate students with disabilities to use the school library

resources. This finding further supports that of Alnahdi (2014) who asserted that, utilization of assistive technology can aid students with disabilities to augment and increase their independence functioning in participation in classroom discussions, along with helping them to undertake some challenging academic responsibilities with little or no human assistance. This will increase their self-esteem among many other benefits.

The findings also revealed that the major challenges associated with the utilization of assistive technology for effective school library service delivery to students with disabilities in Nigeria are lack of support from the government, Inadequate assistive technology in the school libraries, ranked together with inadequate funding of the school libraries; and Unstable electric power supply. Other challenges are lack of skills in the use of assistive technology, poor maintenance culture, inadequate support service on the use of assistive technology and lack of interest in inclusive school library service. This is in total agreement with that of Rowlands (2015) who found out that, there is inadequate availability of assistive technologies in the schools studied, which translated to low utilization due to factors such as inadequate funding, inadequate technical skills of utilizing assistive technologies, lack of support services among others. Also, with that of Bhatt & Kumari, (2015) who found out that certain barriers such as high cost, reluctance of users, lack of skills, low accessibility and other social or cultural challenges affects the utilization among students with disabilities.

Finally, the study revealed that, the most appropriate strategies for enhancing the utilization of assistive technology for effective school library service delivery to students with disabilities in Nigeria are provision of adequate assistive technology in the school libraries, training of both students with disabilities and school librarians in the use of assistive technology, developing adequate interest in inclusive school library service, adequate funding of the school libraries by the government, adequate support from the government through provision of material and human resources; provision of adequate support service on the use of assistive technology by the manufacturers or vendor, provision of stable electric power supply through installing solar power system or purchasing standby generator; and cultivating positive and proper maintenance culture. This is in accordance with that of Shikden (2015) who suggested the urgent need to create adequate awareness of the importance of assistive technologies in supporting students with disabilities, government should also formulate policy mandating every school to acquire and utilize assistive technologies to support students with disabilities, teacher's training institutes should include the use of assistive technologies in their curriculum among others.

Conclusion

The study explored the utilization of assistive technology for effective school library service delivery to students with disabilities in Nigeria. Based on the findings, the study concluded

that, there is inadequate availability of assistive technologies for effective school library service delivery to students with disabilities in Nigeria which led to low utilization of assistive technologies for effective school library service delivery to students with disabilities in Nigeria. The two major assistive technologies mostly available and highly utilized are braille technology and hearing aids. The study also concluded that, the utilization of assistive technologies contributes significantly to for effective school library service delivery to students with disabilities in Nigeria as majority of the respondents strongly agreed that, utilization of assistive technology helps to bridge the gap created by the disability, offers the support that helps to improve the capabilities of a student with a disability; assistive technology helps students with disabilities to bypass an area of difficulty, helps students' with disabilities to utilize library resources independently among others. The major challenges associated with the utilization of assistive technology for effective school library service delivery to students with disabilities in Nigeria are lack of support from the government, Inadequate assistive technology in the school libraries, ranked together with inadequate funding of the school libraries; and Unstable electric power supply. Finally, the study concluded that, the most appropriate strategies for enhancing the utilization of assistive technology for effective school library service delivery to students with disabilities in Nigeria are provision of adequate assistive technology in the school libraries, training of both students with disabilities and school librarians in the use of assistive technology, developing adequate interest in inclusive school library service, adequate funding of the school libraries by the government, adequate support from the government through provision of material and human resources etc.

Recommendations

The following recommendations were suggested:

1. Provision of adequate assistive technology in the school libraries by the government.

2. Training of both students with disabilities and school librarians in the use of assistive technology.

3. Developing adequate interest in inclusive school library service by the government.

4. Adequate funding of the school libraries by the government,

5. Adequate support from the government through provision of material and human resources;

6. Provision of adequate support service on the use of assistive technology by the manufacturers or vendor,

7. Provision of stable electric power supply through installing solar power system or purchasing standby generators.

8. Cultivating positive and proper maintenance culture by the school librarians and students with disabilities.

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