

**INFORMATION NEEDS AND SEEKING BEHAVIOUR AS CORRELATES OF UTILISATION
OF INFORMATION RESOURCES AMONG SECONDARY SCHOOL STUDENTS WITH
SPECIAL NEEDS IN IBADAN METROPOLIS, NIGERIA**

OLUJUMOKE OLUTOYOSI (CLN)
National Industrial Court Of Nigeria
Email: ayomiposiferanmi@gmail.com
+2348056002559

&

SUNDAY ABODUNRIN (Ph.D)
Department of Special Education
University of Ibadan, Ibadan.
Email: abosabim@yahoo.com
+2348033715881

ABSTRACT

Information needs and seeking behaviour play significant role in the utilisation of information resources by secondary school students with special needs in Ibadan metropolis, their information resources needs in nature differ from that of their counterparts without special needs due to their peculiar health challenges which are visual, speech, hearing, locomotive and intellectual impairments. Descriptive survey research design was adopted and purposive sampling technique was used to select 112 students with special information needs. Information Needs, Seeking Behaviour and Utilisation of Information Resources Questionnaire (INSBURQ) ($r=0.86$) was administered. Data were analysed using descriptive statistics. Respondents are both sexes in the age range of twelve and twenty two. There were significant differences between information needs and utilisation ($\beta = -0.244$; $t = -2.614$; $p = 0.010 < .05$); information seeking behaviour and utilisation ($\beta = 0.010$; $t = 0.106$; $p = 0.916 > 0.05$). Information needs propel utilisation of information resources more while information seeking behaviour was found to be less significant in the utilisation of information resources by secondary school students with special needs in Ibadan metropolis. The study therefore recommends that, efforts should therefore be made by all stake holders to provide adequate resources, assistive and adaptive materials that are relevant to information needs of students with special needs.

Key words: Special needs, Information needs, Seeking behaviour, Utilisation

INTRODUCTION

Utilisation of information resources is a way of integrating the information that an individual gathered from information resources to broaden existing knowledge, it is the optimum usage of information resources for the purpose of solving problems and providing solution to information needs. Secondary school students with special needs utilise information resources based on their information needs and searching for information resources that are relevant to their peculiar needs and task to be accomplished. They are able to utilise information resources based on their ability to search for information on the internet, help from teachers and classmates, ability to explore their environments and assistive technology on their phones, assistive and adaptive technology etcetera. Thus, John-Okeke (2011) opined that utilisation of information

resources by secondary school students with special needs is their ability to access and utilise information resources that are available to them such as print and non-print materials, adaptive materials and resources in assistive technology format that are adequate for their challenges and relevant to their information needs to proffer the desired solution. Utilisation of information resources by secondary school students with special needs makes them perform better academically and enables them to add values to themselves, have all round development and affect their society positively. Secondary school students with special needs in Ibadan metropolis utilise information resources within their reach to satisfy basically their academic needs and other needs that make them adapt easily in the society like their counterparts without peculiar needs. There will not be effective and efficient utilisation of information resources by secondary school students with special needs if they are not learned, literate and in a school system since the nature of their information resources are not customary hence the significance of secondary education.

Education is a process by which a society generates the knowledge necessary for its survival and sustenance also transmits knowledge from one generation to another. Education is also viewed by (Uhunmwangho, 2014) as the cultural process by which successive generations of men take their place in history. In another dimension, Agbomian (2016) believed that the proper meaning of education is training of the teacher, the learner and the global society that is an instrument of desirable change and service to mankind in all respect. Furthermore, Becker (2017) described education as a social process which deals with harmonious development of all the abilities and faculties of man irrespective of who they are or their circumstances. In order to achieve this, different countries have their educational systems in which secondary school is, in Nigeria 9-3-4 educational system which is divided into basic education, junior secondary education, senior secondary education and tertiary education. Secondary education is an important part of the educational system because it is the bridge between basic and higher education. According to UNESCO (2015) it is the cornerstone of educational system.

Information resources are print and non-print materials, adaptive and assistive equipment and facilities, software and data which are designed, built, operated and maintained to collect, record, process, store, retrieve, display and disseminate information. According to Omiunu (2014), library and information resources include materials such as books, periodicals, audio, visual and audio-visual materials that are provided for use of the library clientele. These materials are usually housed in a building and methodically arranged for easy retrieval while some are electronically stored, processed and retrieved. Thus, Nwosu (2010) argued that there is hardly any possible development of knowledge in the field of human endeavor without library and information resources. Secondary school students with special needs have information needs that call for unique information resources such as braille, talking books, large print books, audio and audio-visual resources, simulating toys, sub titled DVDs, human and electronic related resources, etcetera. In secondary schools, information garnered from information resources is needed to adequately equip students including those with special needs to make right choices and decisions in life. It plays a great role in their lives especially when it is accurate, timely, relevant, reliable and verifiable. Most students do not utilise information and information resources especially in secondary schools despite the importance of information to them. Therefore, Allen and Hughes-Hassell (2010), mentioned some factors that could be responsible for non-utilisation or under-utilisation of information resources among secondary school students which are availability of information and information resources, information needs and seeking behaviour of the students of secondary school in Ibadan.

Information needs is another factor that could affect the utilisation of information resources among secondary school students with special needs. Information need emanates from the yearning to clear ambiguity. Consequently, Haruna and Mabawonku (2001) affirmed that information need arises when the state of possessed knowledge is less than that needed to deal with some issues. Wilson (2009) opined that information need is an individual or group's desire to locate and obtain information to satisfy a conscious or unconscious need. Needs and interest lead to information search. Nicolaisen (2009) described four distinct types or levels of information needs and seeking behavior which are visceral, conscious, formalised and compromised information seeking behavior and needs. The visceral need is expressed as the actual information need before it has been expressed. The conscious need is the need once it has been recognised

by the seeker. The formalised need is the statement of the need and the compromised need is the query that is related to the information system.

Eventually, Khan and Shafique (2010) stated that the objectives of studying information needs include the examination of wants, the explanation of observed phenomena of information use or expressed needs, the prediction of instance of information use, the control and improvement of the utilisation of information for solving problems and making decisions. Whereas, Kamarudin (2010) opined that information need leads to information seeking which could be successful or unsuccessful. If successful, information located would be used for decision making and problem solving. Therefore, satisfaction occurs when the located information has been analysed and satisfies the original need.

Information seeking behaviour describes how people search for information in different contexts such as the workplace, school and everyday living. It is the totality of human behaviour in relation to sources and channels of information, including both active and passive information seeking and information use. Information seeking behaviour is the micro-level of behavior employed by the searcher in interacting with information systems of all kinds, be it between the seeker and the system, or the pure method of creating and following up on a search (Wilson, 2008). He also suggested that information seeking behaviour involves personal reasons for seeking information. The kinds of information which are being sought and the ways and sources with which needed information is being sought. Information seeking behavior deals with the approach followed by the user to get his needed information. The approach of user includes determining all possible sources to get the needed information and selecting the best among them. Information seeking behavior is driven by the information needs of a user.

The term students with special needs are students that have peculiar health challenges that make them learn differently from other students. They are referred to as students with disabilities, physically challenged etcetera. Students with special needs as opined by Oyewusi (2016) are students with health challenges such as mental retardation, hearing impairment, speech or language impairment, visual impairment (including blindness, autism, traumatic brain injury and other health impairments or specific learning) disabilities and who by reason thereof need special education and related services. Also, Gabalakrishnan (2013) described students with special needs as those restricted, hindered or prevented to have equal opportunities with their contemporaries due to physical deformity. They include the visually impaired, hearing impaired, mobility impaired, cognitive impaired, language and speech impaired. Within the context of libraries, students with special needs are those whose health problems interfere with learning to such an extent that special services, training equipment, materials or facilities are required. Individuals with Disabilities Education Improvement Act IDEIA (2015) identified students with special needs as students with attention deficit disorders, autism, hearing impairments, visual impairments, emotional disabilities, intellectual disabilities, multiple disabilities, specific learning disabilities, speech or language impairments, traumatic brain injuries, orthopedic impairments, medically fragile children and other health impairments. Momodu (2013) opined that people with special needs are individuals with various forms of disabilities like, blindness, deafness, loss or weakness of limbs, mental retardation etcetera. In the same vein Turner (2010) categorised students with special needs as students that have hearing impairments, autism, deaf-blindness, orthopedic impairment, emotional disorder, attention deficit disorder, intellectual disability, specific learning disability, multiple disabilities, speech or language impairment, traumatic brain injury and other health impairment.

Therefore, students either with special needs or without has different information seeking behaviour and needs such as educational information needs, recreational information needs, medical or health information needs, religious information needs, information needs on employment opportunities and civic information needs. Roy and Bandyopadhyay (2009) opined that people with special needs are the handicapped people who are in one form or the other incapacitated to make effective use of the library and information resources. Students with special needs are learners who are disabled physically, intellectually or have sensory impairment, medical conditions or mental illness, visual impairment, auditory impairment, communication disorder, learning deficiencies, traumatic brain injuries and the rests as visible among the four schools of research in this study.

To succeed in academics, students whether disabled or not disabled regardless of their levels (primary, secondary or tertiary) need information, this is the major ingredient in taking decisions and assists in reducing the degree of uncertainty. It is a valuable resource in the life of a student, it enables students to meet their learning and research needs, facilitates decision making, problem solving and reduction of uncertainty among students (Aina, 2007). The utilisation of information is therefore critical for overall performance of students. Students with special needs are not exempted from having information seeking behaviours and needs for different purposes as they also require information for educational development, social and personal development, recreational purposes, etcetera. However, these students with special needs are often marginalised in provision of information resources and services especially because of either a physical or learning disability. Regardless of their disabilities they have the same right to information and information resources as their counterparts who are not disabled.

It is often speculated that the amount of input into a thing could also determine the amount of output from that thing. In similar manner, individuals will not be able to utilise information resources if these resources are not available. One who has no need for information will neither seek for information nor utilise information resources. The extent to which a student utilises information would thus depend on his or her behaviour in going the extra mile to seek or search for information to boost his or her study and performance. This information seeking behaviour and needs tend to vary across students. Statistics released from Ministry of Education (2017) shows that only 10-15% of secondary students actively seek information, 40-50% only realize they have information needs but rarely seek for information while the remaining percentage of students neither realises the need for information nor seek for information actively. Again, data gathered by Post Primary Education Board (2018) reports that although some secondary school students realise the need for information and are willing to seek and utilise information, the resources and sources for information are either inadequate or not available. It is against this background therefore that the researcher investigates information needs and seeking behaviour as correlates of utilisation of information resources among secondary school students with special needs in Ibadan metropolis, Oyo State, Nigeria.

Objectives of the study

The main objective of this study is to investigate the information needs and seeking behaviour of secondary school students with special needs in Ibadan metropolis as correlates of their utilisation of information resources. Specific objectives are to:

- i. find out the information needs of secondary school students with special needs in Ibadan metropolis.
- ii. examine information seeking behaviour of secondary school students with special needs in Ibadan metropolis.
- iii. ascertain the utilisation of information resources by secondary school students with special needs in Ibadan metropolis
- iv. identify the frequency of usage of information resources among secondary school students with special needs in Ibadan metropolis.
- v. find out how information resources satisfies information needs of students with special needs in Ibadan metropolis
- vi. examine the challenges faced by secondary school students with special needs in Ibadan metropolis in utilising information resources.
- vii. examine the joint contribution of information needs and information seeking behaviour on utilisation of information resources by secondary school students with special needs in Ibadan metropolis.
- viii. find out the relative contribution of information needs and seeking behaviour to utilisation of information resources by secondary school students with special needs in Ibadan metropolis

Research questions

The following research questions were answered in this study:

1. What are the information needs of secondary school students with special needs in Ibadan metropolis?

2. What are the information seeking behaviour of secondary school students with special needs in Ibadan metropolis?
3. What types of information resources are utilised by secondary school students with special needs in Ibadan metropolis?
4. What is the frequency of utilising information resources in the library among secondary school students with special needs in Ibadan metropolis?
5. Are secondary school students with special needs in Ibadan metropolis satisfied with the use of information resources?
6. What are the challenges faced by secondary school students with special needs in Ibadan metropolis in using information resources?
7. What is the joint contribution of information needs and information seeking behaviour to utilisation of information resources by secondary school students with special needs in Ibadan metropolis?
8. What are the relative contributions of information needs and information seeking behaviour to utilisation of information resources by secondary school students with special needs in Ibadan metropolis?

METHODOLOGY

This study adopted a descriptive research. The population of this study consists of ALL visually impaired, the hearing impaired, the speech impaired and locomotive impaired secondary school students in JSS 1- SSS 3 IN Ibadan metropolis. The purposive sampling technique was adopted to select the four inclusive secondary schools for students with special needs within Ibadan metropolis.. One hundred and twelve (112) students in JSS 1- SSS 3. Twenty five (25) from Cheshire High School, Ijokodo; Thirty three (33) from Ijokodo High School (school for the deaf),Ijokodo; Twenty seven (27) from Aperin –oniyere Commercial Grammar School (school for the blind) Orita Aperin and Twenty seven (27)from Ibadan Municipal Grammar School (I.M.G) NTC Road, Ibadan were used for this study as indicated in Table 1.1

Table 1.1: Sample distribution of students with special need in secondary schools in Ibadan metropolis

S/N	NAME OF SCHOOL	NO OF RESPONDENTS
1.	Cheshire High School, Ijokodo	25
2.	Ijokodo High School, Ijokodo (school for the deaf)	33
3.	Aperin-Oniyere Commercial Grammar School (school for the blind) Orita Aperin	27
4.	Ibadan Municipal Grammar School N.T.C. Road	27
	Total	112

A self-constructed research designed questionnaire titled Students with Special Needs Questionnaire (INSBURQ) questionnaire was used for the collection of data in the study. The questionnaire is designed to identify the information needs of secondary school students with special needs, seeking behaviour of secondary school students with special needs and utilisation of information resources by secondary school students with special needs in Ibadan metropolis. The questionnaire is divided into *sections A, B, C, D, E, F, G, and H.*

The data gathered from the research were analysed using appropriate descriptive statistical instruments and tools such as frequency counts, charts, percentage table standard deviation and multiple regression. The background information and research question 1 to 6 were analysed through descriptive statistics (mean, standard deviation, frequency counts and percentages) while research questions 7 and 8 were analysed through multiple regression analysis.

RESULTS AND DISCUSSION OF FINDINGS

Table 1.1: Demographic data of the respondents

S/N	Demographic Variable	Categories	Frequency	Percentage
a.	Gender	Male	62	55.4
		Female	50	44.6
		Total	112	100.0
b.	Age	11-13 years	2	1.8
		14- 16 years	35	31.2
		17-19 years	60	53.6
		20- 22 years	13	11.6
		Above 22 years	2	1.8
		Total	112	100.0
c.	Class	JS1	18	16.1
		JS2	26	23.2
		JS3	17	15.2
		SS1	18	16.1
		SS2	13	11.5
		SS3	20	17.9
		Total	112	100.0
d.	Types of disability	Visually Impaired	34	30.3
		Hearing & Speech impaired	62	55.4
		Locomotive	16	14.3
		Total	112	100.0

Table 1.1 shows demographic variables (gender, age, class and types of disability) of secondary school students with special needs in Ibadan metropolis. In addition, charts were also used to depict the respondents' age and class of secondary school students with special needs in Ibadan metropolis.

The gender of the respondents indicated that 62 (55.4%) and 50 (44.6%) were male and female respondents respectively. The types of disability of the respondents indicated that there are three (3) different groups namely; visually impaired, hearing and speech impaired and locomotive impaired. It was discovered that over half of the respondents that is; 60 (55.4%) were hearing and speech impaired students while 34 (30.3%) and 16 (14.3%) of the respondents were also visually and locomotive impaired students respectively.

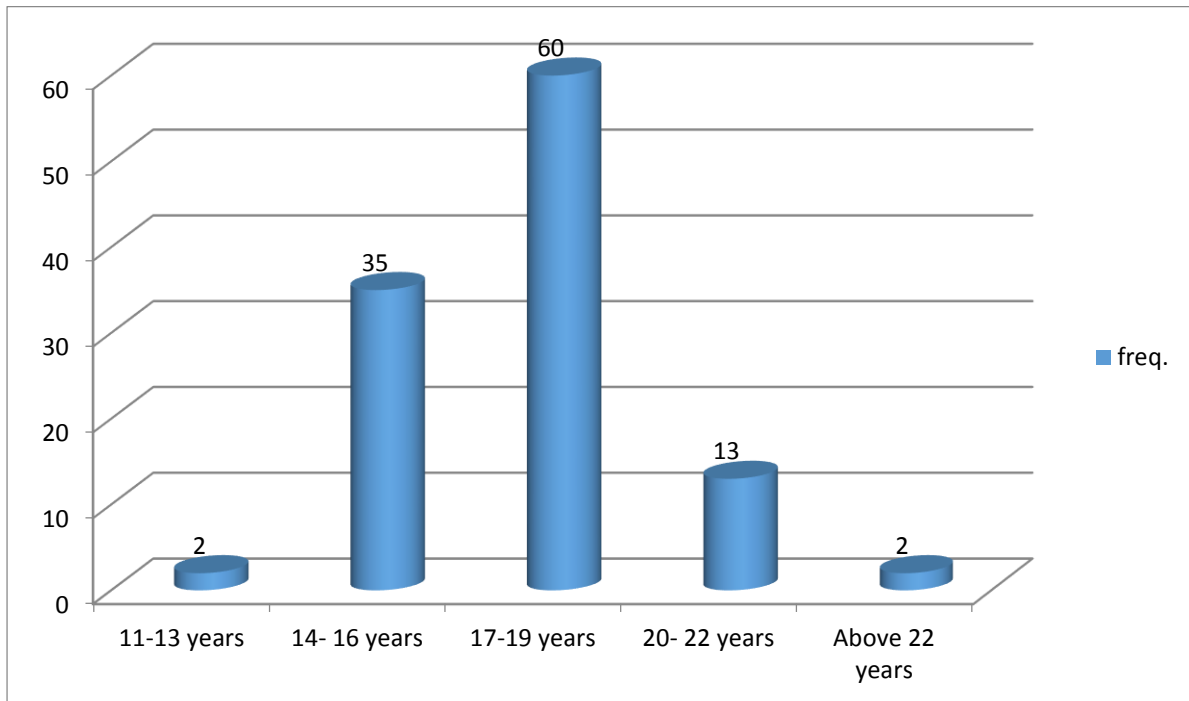


Figure 1.1: Bar chart of the age (in years) of respondents with special need

Fig. 1.1 reveals that about 85% (i.e. 95) of the respondents' age were between 14 and 19 years while 13 respondents indicated to be within age 20 and 22 years. It was clearly shown that sampled students with special needs in the age group of 17-19 years are the most populous in the schools as they represented about 54 percent followed by those in age group of 14-16 years with about 31 percent. However, the result further showed that sampled students with special needs in age groups of 11-13 years and above 22 years were only 4 (i.e. 2 each).

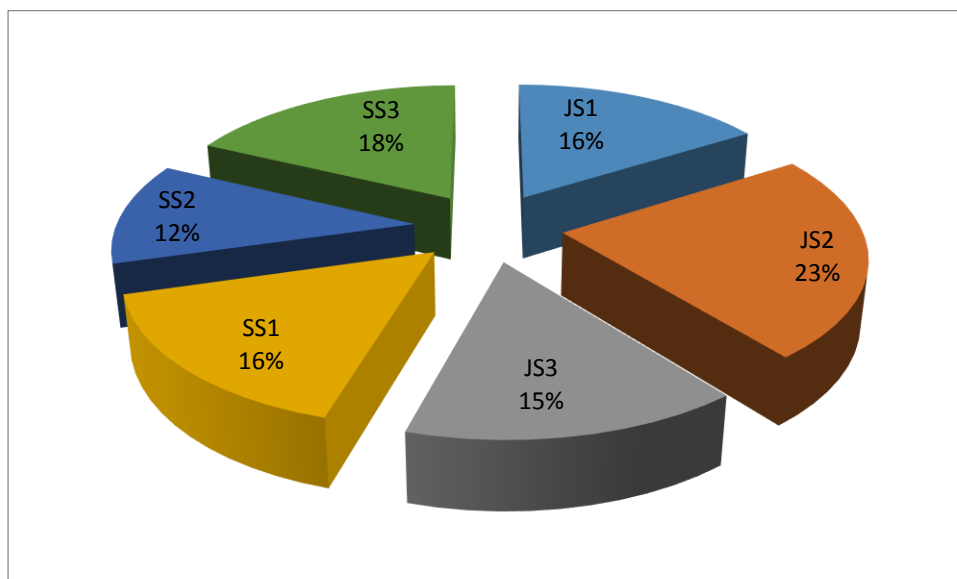


Figure 1.2: Pie chart of the respondents with special need by class

Fig. 4.2 depicts the pie chart of the secondary school students special need. It is shown that the respondents involved in this study were from Junior and Senior Secondary School classes (i.e. JS1-SS3). It was discovered that JS2 and SS3 had 26 (23%) and 20 (18%) respectively while other classes were represented with less than 20 students.

Data Analysis based on research questions

Research Question 1: What are the information needs of secondary school students with special needs?

Table 1.2: Information needs of secondary school students with special needs

S/N	Information needs (items)	Agree	Disagree	Total (100)	Mean	Std Dev
		Freq. (%)	Freq. (%)			
1.	I need information on resources and services available in the library /information centre	45 (40.2)	67 (59.8)	112 (100)	1.5982	.4925
2.	I need educational materials	107 (95.5)	5 (4.5)	112 (100)	1.0446	.2074
3.	I need historical materials	81 (72.3)	31 (27.7)	112 (100)	1.2768	.4494
4.	I need information on current affairs	83 (74.9)	27 (24.1)	112 (100)	1.2589	.4400
5.	I need information on how to do my school assignments	85 (75.9)	27 (24.1)	112 (100)	1.2411	.4297
6.	I need information on entertainment	84 (75.0)	28 (25.0)	112 (100)	1.2500	.4350
7.	I need internet related information	84 (75.0)	28 (25.0)	112 (100)	1.2500	.4350
8.	I need socio-cultural information	70 (62.5)	42 (37.5)	112 (100)	1.3750	.4863
9.	I need information on sports	73 (65.2)	39 (34.8)	112 (100)	1.3482	.4785
10.	I need information on how to explore arts and crafts	62 (55.4)	50 (44.6)	112 (100)	1.4464	.4994
	Overall mean				13.0893	
	Weighted mean				1.3089	

Table 1.2 shows the information needs of secondary school students with special needs. . The mean of item of information need is compared and ranked with the weighted mean of 1.3089. It was clearly found that only four (4) out of ten (10) items of information need were found to be more significant as they are above weighted mean. Information on resources and services available in the library or information centre (item 1) was ranked first with mean (1.5982) above others. Information on how to explore arts and crafts (item 10) was ranked second with mean (1.4464) while socio-cultural information (item 8) was ranked next with mean (1.3750) and information on sports (1.3482) were ranked in that order respectively.

However, historical materials (1.2768), information on current affairs (1.2589), information on entertainment (1.2500), internet related information (1.2500), information on how to do my school assignments (1.2411) and educational materials (1.0446) of information need items were found below weighted mean..

Research Question 2: What are the information seeking behaviour of secondary school students with special needs in Ibadan metropolis?

Table 1.3: Information seeking behaviour of secondary school students with special needs in Ibadan metropolis

S/N	Information seeking behaviour (items)	YES	No	Total (%)	Mean	Std Dev
		Freq. (%)	Freq. (%)			
1.	I get information by using library or information centre	11 (9.8)	101 (90.2)	112 (100)	1.9018	.2989
2.	I ask my teachers	111 (99.1)	1 (0.9)	112 (100)	1.0089	.0945
3.	I ask my classmates and friends	102 (91.1)	10 (8.9)	112 (100)	1.0893	.2864
4.	I use the internet on my phone using voice over	4 (3.6)	108 (96.8)	112 (100)	1.9643	.1864
5.	I use the internet on my phone using human aid	17 (15.2)	95 (84.8)	112 (100)	1.8482	.3604
	Overall mean				7.8125	
	Weighted mean				1.5625	

Table 1.3 indicates the response of students with special needs in Ibadan metropolis on their information seeking behaviour. The table reveals that overall and weighted means were found to be 7.8125 and 1.5625 respectively. The weighted mean is used to compare the mean of each item of the information seeking behavior of secondary school students with special needs in Ibadan metropolis. Three (3) items of the information seeking behaviour were found to be more than weighted mean, i.e. use the internet on phone using voice over (1.9643), information by using library or information centre (1.9018) and use the internet on my phone using human aid (1.8482) respectively.

However, asking of classmates and friends (1.0893) and asking of teacher (1.0089) of the information seeking behavior of secondary school students with special needs in Ibadan metropolis were found to be less than weighted means. The two information seeking behaviour is predominant among secondary school students with special needs in Ibadan metropolis

Research Question 3: What are the information resources utilised by secondary school students with special needs in Ibadan metropolis?

Table 1.4: Information resources utilisation by secondary school students with special needs in Ibadan metropolis

S/N	Information Resources Utilisation	Utilised	Not Utilised	Total (%)	Mean	Std Dev
		Freq. (%)	Freq. (%)			
1.	Reference materials	27 (24.1)	85 (75.9)	112 (100)	1.7589	0.4297
2.	Subject books	36 (32.1)	76 (67.9)	112 (100)	1.6786	0.4691
3.	Recreational materials	35 (31.2)	77 (68.8)	112 (100)	1.6875	0.4656
4.	Arts and crafts materials	22 (19.6)	90 (80.4)	112 (100)	1.8036	0.3991
5.	Newspapers and magazines	13 (11.6)	99 (88.4)	112 (100)	1.8839	0.3218
6.	Subtitled / voice over DVDs and Videos (for hearing/ visually impaired)	17 (15.2)	95 (84.8)	112 (100)	1.8482	0.3604
7.	Talking books	11 (9.8)	101 (90.2)	112 (100)	1.9018	0.2989
8.	Large print books	11 (9.8)	101 (90.2)	112 (100)	1.9018	0.2989
9..	Computers / Laptops/ I-pads	21 (18.8)	91 (81.2)	112 (100)	1.8125	0.3921
10.	Scanners/ embosser with software	11 (9.8)	101 (90.2)	112 (100)	1.9018	0.2989
11.	Braille books	10 (8.9)	102 (91.1)	112 (100)	1.9107	0.2864
12.	Track ball/ pointing devices(instead of mouse)	19 (17.0)	93 (83.0)	112 (100)	1.8304	0.3770
13.	JAWS software/ Kuzweil reader/ Dictation software (Text-speech software)	10 (8.9)	102 (91.1)	112 (100)	1.9107	0.2864
14.	Interactive white board	8 (7.1)	104 (92.9)	112 (100)	1.9286	0.2587
15.	Large screen monitors	10 (8.9)	102 (91.1)	112 (100)	1.9107	0.2864
16.	Simulating pops(toys, stuffed animals, puzzles etc)	9 (8.0)	103 (92.0)	112 (100)	1.9196	0.2731
17.	Digital media/ Data bases/ E-books	23 (20.5)	89 (79.5)	112 (100)	1.7946	0.4058
18.	Adjustable furniture/ comfortable sitting arrangement	21 (18.8)	91 (81.2)	112 (100)	1.8125	0.3921
19.	Good shelve height	12 (10.7)	100 (89.3)	112 (100)	1.8929	0.3107
20.	Ramps and good turning space, wide doorways and rough surface floor (students on wheel chair/ students using crutches)	30 (26.8)	82 (73.2)	112 (100)	1.7679	0.4241
	Overall mean				36.8571	
	Weighted mean				1.8429	

Table 1.4 reveals the response on utilisation of information resources by secondary school students with special needs in Ibadan metropolis. The table reveals that overall and weighted means were found to be 36.8571 and 1.8429 respectively. The weighted mean is used to compare the mean of each item of the information resources utilization of secondary school students with special needs in Ibadan metropolis.

It was discovered that 11 of the 20 items measured in the scale were not fully utilised while 9 were under utilised. The range of weighted means that were under utilised are between 1.8482 and 1.9286. Item 14 and 16 i.e. interactive white board and Simulating pops (toys, stuffed animals, puzzles e.t.c.) were ranked first and second with their means (1.9286) and (1.9196) respectively. Braille books (1.9107), Text-speech software (1.9107), Large screen monitors (1.9107), talking book (1.9018), Large print books (1.9107), Scanners/ embosser with software (1.9107), Good shelve height (1.8929), Newspapers and magazines (1.8839) and lastly Subtitled/voice over DVDs and Videos -for hearing/visually impaired (1.8482) in that order.

However, Track ball/ pointing devices (1.8304), Computers/Laptops/ I-pads (1.8125), Adjustable furniture/ comfortable sitting arrangement (1.8125), Arts and crafts materials (1.8036), Digital media/ Data bases/ E-books (1.7946), Ramps and good turning space, wide doorways and rough surface floor for students on

wheel chair/using crutches (1.7679), Reference materials (1.7589), Recreational materials (1.6875) and Subject books (1.6786) were utilised by secondary school students with special needs in Ibadan metropolis.

Research Question 4: What is the frequency of utilising information resources in the library by secondary school students with special needs in Ibadan metropolis?

Table 1.5: Frequency of utilising information resources

S/N	Frequency of information resources	Frequently	Not frequently (%)	Mean	Std. Dev
		Frequency (%)	Frequency (%)		
1.	Reference materials	20 (17.9)	92 (82.1)	1.8214	0.3847
2.	Subject books	79 (70.5)	33 (29.5)	1.2946	0.4579
3.	Recreational materials	61 (54.5)	51 (45.5)	1.4554	0.5002
4.	Arts and crafts materials	82 (73.2)	30 (26.8)	1.2679	0.4448
5.	Newspapers and magazines	65(58.0)	47 (42.0)	1.4196	0.4957
6.	Subtitled / voice over DVDs and Videos (for hearing/visually impaired)	12 (10.7)	100 (89.3)	1.8929	0.3107
7.	Talking books	-	112 (100)	2.0000	0.0000
8.	Large print books	-	112 (100)	2.0000	0.0000
9..	Computers / Laptops/ I-pads	12 (10.7)	100 (89.3)	1.9107	0.2864
10.	Scanners/ embosser with software	-	112 (100)	2.0000	0.0000
11.	Braille books	5 (4.5)	107 (95.5)	1.9554	0.2074
12.	Track ball/ pointing devices(instead of mouse)	8 (7.1)	104 (92.9)	1.9286	0.2587
13.	JAWS software/ Kuzweil reader/ Dictation software (Text-speech software)	-	112 (100)	2.0000	0.0000
14.	Interactive white board	-	112 (100)	2.0000	0.0000
15.	Large screen monitors	12 (10.7)	100 (89.3)	1.8929	0.3107
16.	Simulating pops(toys, stuffed animals, puzzles etc)	-	112 (100)	2.0000	0.0000
17.	Digital media/ Data bases/ E-books	12 (10.7)	100 (89.3)	1.9107	0.2864
18.	Adjustable furniture/ comfortable sitting arrangement	12 (10.7)	100 (10.7)	1.9107	0.2864
19.	Good shelve height	-	112 (100)	2.0000	0.0000
20.	Ramps and good turning space, wide door ways and rough surface floor (students on wheel chair/ students using crutches)	25 (22.3)	87 (77.7)	1.7768	0.4183
	Overall mean			34.4375	
	Weighted mean			1.8219	

Table 1.5 reveals the response on frequency of utilising information resources by secondary school students with special needs in Ibadan metropolis. The table reveals that overall and weighted means were found to be 34.4375 and 1.8219 respectively. The weighted mean is used to compare the mean of each item of the frequency of utilising information resources by secondary school students with special needs in Ibadan metropolis. Any item below the weighted mean is frequently utilised while items above are not frequently utilised.

It was discovered that 14 of the 20 items measured in the scale were frequently utilised while only 6 were not frequently utilised by secondary school students with special needs in Ibadan metropolis. The range of weighted means that were not fully utilised is between 1.8929 and 2.0000. Talking books, Large print books, Scanners/ embosser with software, JAWS software/ Kuzweil reader/ Dictation software (Text-speech software), interactive white board, Simulating pops(toys, stuffed animals, puzzles e.t.c.) and Good shelf height had the same mean (2.0000) were ranked first while Braille books (1.9554) and track ball/ pointing devices- instead of mouse (1.9286). Computers / Laptops/ I-pads, Digital media/ Data bases/ E-books and Adjustable furniture/ comfortable sitting arrangement had same mean (i.e. 1.9107) while Subtitled / voice over DVDs and Videos (for hearing/ visually impaired) and large screen monitors also had same mean (i.e. 1.8929).

However, reference material (1.8214), Ramps and good turning space, wide doorways and rough surface floor -students on wheel chair/ students using crutches (1.7768), recreational materials (1.4554), Newspapers and magazines (1.4196), Subject books (1.2946), and Arts and crafts materials (1.2679) were frequently utilised by secondary school students with special needs in Ibadan metropolis.

Research question 5: Are secondary school students with special needs in Ibadan metropolis satisfied with the use of information resources?

Table 1.6: Satisfaction with the use of information resources

S/N	Information resources	SA	NS	Mean	Std. Dev
		Freq (%)	Freq (%)		
i	Available information resources satisfies my needs	27 (24.1)	85 (75.9)	1.7589	.42966
ii	The readers service is good for me	22 (19.6)	90 (80.4)	1.8036	.39908
iii	There is a good interpreter in my school	37 (33.0)	75 (67.0)	1.6696	.47246
iv	All my subject books are in adaptive format	44 (39.3)	68 (60.7)	1.6071	.49058
v	I enjoy personalised services (home delivery, assistance with assignments, helping with notes missed in class e.t.c.)	3 (2.7)	109 (97.3)	1.9732	.16218
vi	The computer services meets my needs	14 (12.5)	98 (87.5)	1.8750	.33221
vii	I can relate with the school media specialist easily	14 (12.5)	98 (87.5)	1.8750	.33221
viii	The signage are conspicuous and helps me to move around easily	16 (14.3)	96 (85.7)	1.8571	.35150
	Overall mean			14.4196	
	Weighted mean			1.8025	

Table 1.6 reveals the response on satisfaction with the use of information resources by secondary school students with special needs in Ibadan metropolis. The table reveals that overall and weighted means were found to be 14.4196 and 1.8025 respectively. The weighted mean is used to compare the mean of each

item on their satisfaction with the use of information resources by secondary school students with special needs in Ibadan metropolis.

It was discovered that secondary school students with special needs in Ibadan metropolis are not satisfied with 5 of the 8 items measured in the scale while only 3 were satisfying. The range of weighted means that were not fully utilised is between 1.6071 and 1.9732. I enjoy personalised services (home delivery, assistance with assignments, helping with notes missed in class etcetera). (1.9732), computer services does not meet the needs of the students (1.875) and relating with the school media specialist easily (1.875) were ranked first and second respectively. Then, the signage are not conspicuous and are not available in some cases (1.8571) and not satisfied with the readers’ service (1.8036).

However, information resources satisfies my needs(1.7589), There is a good interpreter in my school(1.6696) and all my subject books are in adaptive format (1.6071) satisfies information needs of secondary school students with special needs in Ibadan metropolis as their respective mean is less than the weighted mean (1.8025).

Research Question 6: What are the challenges faced by secondary school students with special needs in Ibadan metropolis in utilising information resources?

Table 1.7: Challenges faced by secondary school students with special needs in Ibadan metropolis in using information resources

S/N	Challenges faced by the students with special need	Yes	No	Mean	Std. Dev
		Freq (%)	Freq (%)		
1.	My school does not have an information centre	90 (80.4)	22 (19.6)	1.1964	0.3991
2.	My school information centre is not well equipped with information resources that I need	106 (94.6)	6 (5.4)	1.0536	0.2262
3.	I do not have a phone with assistive technology	95 (84.8)	17 (15.2)	1.1518	0.3604
4.	I do not have information resources in adaptive format	98 (87.5)	14 (12.5)	1.1250	0.3322
5.	I do not have a phone/ lap top/ computer	98 (87.5)	14 (12.5)	1.1250	0.3322
6.	My teachers does not respond to my information needs	12 (10.7)	100 (89.3)	1.8929	0.3107
7.	My classmates/friends do not assist me	12 (10.7)	100 (89.3)	1.8929	0.3107
	Overall mean			9.4375	
	Weighted mean			1.3482	

Table 1.7 reveals the response on the challenges faced by secondary school students with special needs in Ibadan metropolis in utilising information resources. The table reveals that overall and weighted means were found to be 9.4375 and 1.3482 respectively. The weighted mean is used to compare the mean of each item on the challenges faced by secondary school students with special needs in Ibadan metropolis.

It was discovered that secondary school students with special needs in Ibadan metropolis are not facing challenges with 2 of the 7 items measured in the scale. The range of weighted mean shows that they are not facing challenges is between 1.0536 and 1.8929. The teachers responds to the information need (1.8929) and the classmates/friends do assists (1.8929) secondary school students with special needs in Ibadan metropolis in utilising information resources.

However, the school does not have an information centre (1.1964), no phone with assistive technology (1.1518), have information resources in adaptive format (1.1250), not have a phone/ lap top/ computer (1.1250) and the school information centre is not well equipped with information resources needed (1.0536) were major challenges faced by secondary school students with special needs in Ibadan metropolis in utilising information resources as their respective mean is less than the weighted mean.

Research question 7: What is the joint contribution of information needs and information seeking behaviours to utilisation of information resources by students with special needs in Ibadan metropolis?

Table 1.8: Analysis of variance of regression of independents and dependent variables

Sources of variation	Sum of Squares	df	Mean Square	F	Sig.
Regression	14.073	2	7.036	3.436	.036 ^b
Residual	223.204	109	2.048		
Total	237.277	111			

a. Dependent Variable: Utilisation of information resources

b. Predictors: (Constant), Information need and information seeking behaviours

Table 1.9: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.244 ^a	.059	.042	1.43099

a. Predictors: (Constant), Information need and information seeking behaviours

Table 1.7 shows that the joint contribution of information need and information seeking behaviours to utilisation of information resources was significant ($F_{(2,109)}=3.436$; $p= .036 < 0.05$). In Table 1.8, the coefficient of the determination (R^2) is 0.059 shows that the 5.9% variance of utilisation of information resources is accounted for by information need and information seeking behaviours while 94.1% can be attributed to other factors that were not captured by this study. Based on the findings from this study, it can be submitted that utilisation of information resources is jointly determined and significantly influenced by information need and information seeking behaviours

In the same Table 1.8, multiple R (0.244) implies that the relationship between the predictor variables and the criterion variable is low but positive. The standard error of 1.43099 indicates that on the average the utilisation of information resources will deviate from true value by 1.43099 limits of that measure.

Research question 8: What are the relative contribution of information needs and information seeking behaviour to utilisation of information resources by students with special needs in Ibadan metropolis?

Table 1.10: Relative contributions of independent variables (information needs and information seeking behaviour) toutilisation of information resources

	Unstandardised Coefficients		Standardised Coefficients		Sig.	Remark
	B	Standard error	Beta	T		
(Constant)	15.540	2.719		5.716	.000	
Information need	-.108	.041	-.244	-2.614	.010	S*
Information Seeking Behaviours	.037	.349	.010	.106	.916	NS

a. Dependent Variable: Utilisation of Information Resources

S*- Significant

NS- Not Significant

Table 1.8 shows that only information need has significant effect on utilisation of information resources. However, this implied that information seeking behaviours of students with special needs in Ibadan metropolis do not have significant effect on utilisation of information resources, the Table further shows that information need has the highest contribution ($\beta = -0.244$; $t = -2.614$; $p = 0.010 < .05$) and information seeking behaviours ($\beta = 0.010$; $t = 0.106$; $p = 0.916 > 0.05$). The result indicated that out of the two predictors (information needs) was more potent and contributed most to the utilisation of information resources for students with special needs in Ibadan metropolis.

Discussion of the findings

The purpose of this study is to investigate the information needs and seeking behaviour of secondary school students as correlates of utilisation of information resources by secondary school students with special needs in Ibadan metropolis. Students with special needs that are used in this research are drawn from Cheshire High School; Ijokodo High School; Aperin-Oniyere Commercial Grammar School and I.M.G School all in Ibadan metropolis in Oyo State. The respondents are one hundred and twelve (112) visually impaired, locomotive impaired, hearing and speech impaired students. The intellectually impaired are left out because their mode of learning is directional and instructional, they can receive information and not be able to synthesise and internalise it, an intellectually impaired will be scored for being able to open a window properly. The respondents are eleven (11) to twenty seven (27) years of age, they are males and females from inclusive schools ranging from Junior Secondary School to Senior Secondary School.

Information needs of secondary school students with special needs in Ibadan metropolis Students with special needs have different information needs for academic purpose (research work, doing assignments, crafts), entertainment, sports etcetera. In as much as they need these information most of their needs are not met at information centres in their schools while some schools do not have libraries or information centres. This corroborates the position of Haruna and Mabawonku (2011) that needs arise when the state of possessed knowledge is less than that needed to deal with some issues, and that information needs are diverse, consistently changing and not amenable to generalisation and that information needs vary among individuals, groups and society. This was also buttressed by Wilson (2009) that information need is an individual or group desire to locate and obtain information to satisfy a conscious or unconscious need. It further affirms the position of Momodu (2012) and Otoide (2015) in a study carried out respectively to determine the information needs of secondary school students with special needs and came up with the conclusion that secondary school students with special needs need information resources on academics, health, politics, how to access scholarships and financial aids, entertainment, friendship, religion, family care, societal values, future career choice and recreation, information needs and interest leads to information search. Aramide, Lawal and Odunlade (2018) in a study on information needs and library services delivery for students with visual impairment in Oyo state affirms that the information needs of students with visual impairment include, information on how to pass examinations, information on educational opportunities, information on coping with visual impairment, information on completion of assignments and health information. Other information needs prominent among majority of the visually-impaired students are information on library use, and information on current ICT trends

This is an indication that secondary school students with special needs have information needs no matter the disability.

Information seeking behaviour

Due to the crave of secondary school students with special needs for information some of the respondents in Cheshire High School that has an information centre in their school uses the available online resources installed to their computers. Others depend on their teachers, class mates, friends, internet on their phones using voice over and human aid and reading personal books. The outcome of this research agrees with the position of Wilson (2000) that information seeking behaviour is carried out for personal reasons and the kinds of information which are being sought and the ways and sources with which needed information is being sought. He further said that information seeking behaviour is expressed in various forms by reading printed materials and actively seeking current information from the various media available in libraries, e.g. encyclopedia, journals and more currently, electronic media. This corroborates the findings of John-Okeke (2011) and Uchendu (2015) in a study that focused on ascertaining the availability and utilisation of information resources and services in the special education centre libraries in South-East, Nigeria. The study concluded that the provision of information resources and services for the physically challenged groups is less than expected.

Utilisation of information resources

Students with Special Needs in Cheshire High School, Aperin-Oniyere, Ijokodo High School and Ibadan Municipal Grammar School do not utilise all the information resources that are listed in their questionnaire because they do not have them neither are they available in their schools for their usage, they basically use their subject books and resources that are related to their school work. Those that are privileged to have phones with software that are relevant to their needs makes use of them while most of them utilise information resources that are provided by their human aids. Most of them do not frequently utilise information resources neither are they satisfied with the information resources that they utilise. A few of them have their subjects textbooks in adaptive format which makes reaching easy for them but not all of them have their school books in adaptive format, This is an indication that the utilisation of information resources by secondary school students in Ibadan metropolis is inadequate because majorly they do not have information resources that are relevant to their needs. This corroborates the view of Okpe and Unegbu (2012) who jointly observed that a large number of users with special needs do not utilise information resources and Iroeze, et al. (2018) who revealed that information resources for users with special needs in South-East Nigeria are inadequate and under utilised. If secondary school students with special needs are satisfied with the content of information resources, their utilising them is inevitable.

Challenges

Secondary School Students with Special Needs in Cheshire High School, Ibadan Municipal Grammar School, Ijokodo High School and Aperin -Oniyere Commercial Grammar School have different challenges of their schools not having information centre, the schools that have information centre or library do not have relevant and adequate resources that meet their information needs. A lot of them do not have phones or laptops, not all those that has phones are able to install relevant software on them due to their financial inability. This affirms the view of Uchendu (2015) who carried out a study that focused on ascertaining the availability and utilisation of information resources and services in the special education centre libraries in South-East, Nigeria, his findings revealed that information resources for hearing and visually impaired that is available is not enough and the available ones are not fully utilised because they are not adequate for their information needs. Sambo, et al. 2018 gathered from the study conducted that problems confronting wheelchair users in satisfying their information needs include, inadequate entrance, lack of good architectural design, inadequate orientation/lack of chairs with sturdy armrests, ability to retrieve books/social discrimination, poor concentration/inadequate facilities, staff attitude is discouraging, inadequate and irrelevant materials and so on.

Information needs and seeking behaviour of Secondary School Students with Special Needs in Ibadan metropolis are interwoven and should be looked into relatively and jointly. Need engenders their drive for information seeking and that determines utilisation of information resources. From the findings of this study, information needs and information seeking behaviour of students with special needs determine the extent of utilisation of information resources especially when relevant, timely and accurate resources are provided for them either by the state government, non-governmental organizations or philanthropists that cares for the needy.

Summary of the findings

This study examines information needs and seeking behaviour as correlates of utilisation of information resources among secondary school students with special needs in Ibadan Metropolis, Oyo State, Nigeria. Students with special needs who are the visually, locomotive, speech and hearing impaired were used for the study because they have peculiar information needs based on their challenges for them to be able to cope among their peers that are without special needs because they all need information for the same purposes which are academics, recreation, sports, arts and crafts, etcetera. Four inclusive secondary schools that cater for students with special needs were used, they were Cheshire High School, Ijokodo; Ijokodo High School (school for the deaf), Ijokodo; Aperin- Oniyere Commercial Grammar School (school for the blind) Orita Aperin and Ibadan Municipal Grammar School (I.M.G), NTC Road in Ibadan metropolis were used in

the study. A questionnaire consisting of seventy eight(78) items which required the respondents to answer their demographic variables and other structured questions or statements was constructed to collect data for the study which was filled by one hundred and twelve (112) secondary school students with special needs. The data collected were coded and entered into the SPSS software and the data was analysed using multiple regression analysis.

Findings of the study showed that the dependent variable (utilisation of information resources) correlates with the independent variables (information needs and information seeking behaviour). The information needs of secondary school students with special needs which are information on academics, how to do assignments and research, information about socio-cultural activities, sports and recreation, arts and crafts etcetera determines how they seek for information by depending on human aids (classmates, friends and teachers), internet and information resources within their reach. They utilise different types of information resources, for different purposes, at different times, they encounter some difficulties in the process of utilising the information resources and some are satisfied with the information resources and information that they get while few of them are not, because most information resources around them are obsolete and irrelevant. Some of them have access to internet resources but a lot of them do not have the privilege. Schools with visually impaired students do not have Braille resources for the students except bibles in Braille format that were donated by non- governmental organisations, the students use Mac Book note book because they do not have Braille machine but few type writers which cannot go round the students.

Most of the schools used in this research do not have libraries or information centre and the ones that have needs to be upgraded and equipped with modern and relevant information resources for the students. If the students do not have the wherewithal to acquire information resources personally but have access to it in the schools they will be able to utilise them effectively. Establishing and equipping libraries in schools that they do not have is also of a great essence, the secondary school students with special needs that were used in this study crave for information centre or libraries that are designed for easy navigation, accessibility and usage with good toilets, shelves and shelve heights, lightning etcetera and well equipped, with well trained, accommodating and patient personnel and school library media specialists that will motivate the secondary school students with special needs to maximize the opportunity of the available resources.

Conclusion

It can be concluded that information needs and seeking behaviour has significant relationship with utilisation of information resources by secondary school students with special needs in Ibadan metropolis. Attention should therefore be given to adequate provision of information resources and facilities that are relevant to information needs of students with special needs in Ibadan metropolis, Oyo state at large and Nigeria as a country to have a formidable set of students with special needs that will contribute immensely to the development of the country in the process of time.

Recommendations

The study therefore recommends that:

1. It is important that secondary school students with special needs are provided with information resources that are relevant to their peculiar information needs.
2. Libraries and information centre that students with special needs can easily have their information needs met should be established in secondary schools.
3. Information resources in adaptive formats and assistive technology should be made available in all secondary schools with students with special needs.
4. The school curriculum should be restructured in a way that it will enable special needs students utilise information resources during school hours.
5. Teachers and school library media specialists should have good relationship with secondary school students with special needs for them to be encouraged to continue to seek for information to satisfy their needs through them.

6. Government should provide information resources in adaptive and assistive format to secondary school students with special needs at a subsidised rate for them to be able to utilise them easily in their schools.

REFERENCES

- Agbomian, D.O. 2016. Science for all Implication for Teachers and National Development. Inaugural Lecture Series 14. Ekpoma: Ambrose Ali University.
- Aina, L. O. 2004. Library and information science text for Africa. Ibadan: Third World Information Services.
- Aina, L.O. 2007. Research in information science: An African perspective. Ibadan: Sterling-Horden.
- Allen, K. & Hughes-Hassell. S. 2010. Meeting the Needs of Students with Disabilities. *School Library Monthly* 27 (1): 52–54. Antonio, Texas White Buffalo Press.
- Andersen, N.J. 2000. Information and information retrieval: Pt. 1 Background theory. *Journal of Documentation* 38(2), 61-71.
- Becker, H. S. 2017. Notes on the concept of quality enhancements. *American Journal of Sociology*, 66, 32-42.
- Gabalakrishnan, C. 2013. Problems faced by physically challenged persons and their awareness towards welfare measures. *International Journal of Innovative Research & Development*. 2(4), 487-493.
- Girija, K. 2010. Defining the concept of information needs, New Delhi: Vikas Publishing House, p. 267.
- Haruna, I. & Mabawonku, I. 2011. Information needs and seeking behaviour of Legalpractitioners and the challenges to law libraries in Lagos, Nigeria. *International Information and Library Review*, 33, 69-87.
- Hornby, A.S. 2010. Oxford advanced learner’s dictionary. United Kingdom (UK): Oxford university press.
- Ibegwam, A. 2013. Provision of Information to Health Professionals: Resources Sources and Services. In Provision of Library and Information Services to Users in the Era of Globalisation: unpublished
- Igwe, K.N. 2012. Introduction to information science. Offa: Department of library and information science, Federal Polytechnic, Offa
- Individuals with Disabilities Education Act Amendments of 2015, PL.91-230
- Individuals with Disabilities Education Improvement Act IDEIA 2015 Special children with special needs. New York press, p245.
- Kamarudin, W. 2010. Analysing faculty and staff's information needs and use of electronic technologies: A liberal arts college's experience. *Journal of Education Media and Library Sciences*, 35(3): 218-241.
- Khan, A.A & Shafique, S. 2010. Information need and behaviour of students of the University of Botswana. *African Journal of Archive and Information studies* 11 (2), 97- 107.
- Nakamura, K. and Ogata, T. 2016. Locomotive syndrome: Definition and Management *Clinic Rev Bone Miner Metab* <https://www.springer>
- Nwosu, M. 2010. Information resources and services in Nigeria libraries: The myths and the realities. *Journal of library and information science*, 12(1). .
- Odunlade R.O 2012. Availability and utilisation of Information and Communication (ICT) facilities by students in Federal Polytechnic Library, and also challenges the academic library faces in the area of adoption and utilization of ICT in their service delivery. *Journal of science education*, vol 5(2), 45-51.
- Oyewusi, F. O. 2016. Understanding school library media concept Ibadan: Sterling-Horden publishers
- Ramara, V. P. 2004. Information technology applications in libraries. New Delhi: *Ess Publication*. 7-8.
- Renzulli, J 2009. Information resource. Retrieved from <http://www.indiana.edu.org>.
- Rotinwi, J.H. 2002. The concept of information resources. New York: John Willey & Sons, p.164.
- Roy C.P and Bandyopadhyay 2009. Designing Barrier Free Services for Visually Challenged persons in the Academic Libraries in India. http://crl.du.ac.in/ical09/papers/index_files/ical105_241_602_1_RV.pdf20address7.doc

- Solarin, E.O.L. 2012. A survey of library and information services to physically challenged students in academic libraries in Ogun State, Nigeria. *Library Philosophy and Practice*. <http://www.webpages.uidaho.edu/~mbolin/lawal-solarin.pdf>
- Taylor, R. 2008. Question-negotiation and information-seeking in libraries. *College and Research Libraries* 29, 178-194.
- Terzi, L. 2010. Justice and Equality in Education. A Capability Perspective on Disability and Special Educational Needs. London: Continuum.
- Togia, A. & Tsigilis, N. 2011. Awareness and use of electronic information resource by education graduate students; preliminary results from the Aristotle University of Thessaloniki. Qualitative and Quantitative methods in Libraries Theory and Application (Pp. 464-472) <http://eproceedings.worldscinet.com/9789814299701/9789814299701-0058.html>.
- Turner, R. 2010. Transporting Medically Fragile or Technology-Assisted Students: San
- Uchendu, U.O. 2015. The availability and utilisation of information resources and services in the special education centre libraries in South-East, Nigeria *Journal of African Studies in Educational Management and Leadership*, 2(2), 7-15.
- Udofia, U. I. 2012. Information needs of rural secondary school adolescents in Nigeria. *International Journal of Academic Research in Business and Social Sciences*, 2(10), 296-304.
- Uhegbu, A.N. 2007. Information user: Issues and theme (2nd ed.) Okigwe: Whytem Publishers.
- Uhunmwangho, S.O. 2014. Problems of financing higher education in Nigeria. *Nigerian Academic Forum*, 9 (4): 54-63.
- Wilson, T.D. 2008. Human Information Behavior, Special Issue on *Information Science Research*, 3(2), <http://inform.nu/Articles/Vol3/v3n2p49-56.pdf>.
- Wilson, T.D. 2000. Recent trends in user studies: Action research and qualitative methods. *Information Research* 5(3). Available at <http://information.net/ir/5-3/paper76html>