
E-resources usage among Polytechnic students in Southwest Nigeria: evidence from Federal Polytechnic, Ede and The Polytechnic, Ibadan Nigeria

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ABSTRACT

This study examined e-resources usage among polytechnic students in Southwest Nigeria. A descriptive research design was adopted for this study and the population consisted of polytechnic students from The Polytechnic, Ibadan and Federal Polytechnic, Ede. There were 9671 students from both polytechnics. A multi-stage sampling technique was employed with a sample fraction of 5% was drawn from the total number of students in each faculty amounting to 381. A structured questionnaire was the major instrument used for data collection and the questionnaire was pre-tested using Cronbach-alpha to determine the reliability co-efficient. Data obtained was analyzed using SPSS. The study found that the students from both polytechnics are aware of the e-resources and that the e-resources were mainly used for research, class assignment and to update knowledge. The problem such as epileptic power supply, poor internet connection and so on was identified. The study concluded that polytechnic students could benefit immensely from the enormous usage of e-resources particularly for teaching, learning and research. Based on the findings, recommendations were made.

1. Introduction

The digital era has brought about extraordinary developments in technology which in turn has altered the way many people access and use information. The emergence of electronic library resources as a medium of information storage and delivery has become an essential component in academic institutions as it plays a critical role in meeting academic needs of staff and students (Dangara, 2016).

Information and Communication Technology (ICT) has been facilitated by providing the Internet and e-resources to satisfy the daily academic and research need of students (Apuke & Iyendo, 2018). It must be noted that no academic library is regarded as modern library if not automated

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and lack provision of essential electronic resources like the internet, Online Public Access Catalogue (OPAC) and CD-ROM. It is vital for students to possess the requisite skills to use the e-resources effectively and efficiently at their disposal to support their teaching, learning and research.

Electronic resources can be regarded as the most recent development in ICT era and are amongst the powerful tools ever created in human history. E-resources are that information that needed computer access, either by a PC or other devices. Johnson et al. (2012) reiterated that e-resources can be accessed remotely through the internet or local network. Example of the resources are, e-books, e-journals, the Internet, Website, CD-ROM, e-dissertations, e-databases, e-magazines etcetera. Electronic resources are now becoming more popular and essential source of information frequently used among academic community. E-resources are now commonly used by students particularly to retrieve information. This can be attributed to convenience of remote access to full text document as well as saves time (Casselden & Pears, 2020). Academic libraries have been compelled to subscribe to relevant e-resources that will be useful and cater for teaching, learning and research of students and staff.

Majority of the academic libraries in Nigeria have widely embraced e-resources acquisition, owing to large numbers of publishers making the resources available electronically. The main benefit of e-resources is convenience (Enis, 2018) (been able to access it remotely) and accessibility. These may be referring to the reason why students, faculty members and researchers choose to use the e-resources for learning, teaching, research processes as well as to compliment class instructions. In other words, Casselden and Pears (2020) highlighted the disadvantages to the e-resources usage among students, these includes the following:

- Eyestrain and reading fatigue
- Being less tactile in nature, with fewer memory cues
- Poor linear reading approach that reduces comprehension
- Loss of context and wider author perspectives

Publishers' restrictions on institutional online access to high-demand information Casselden and Pears (2020). However, it was reported that during the COVID-19 pandemic, library services were poorly provided to undergraduates in North-central Nigeria, among the services provided were Ask librarian virtual reference services, electronic delivery, OPAC as a gateway to search and access library collection, provision of access to e-thesis/dissertations as well as the available electronic resources (e-books, e-journals and so on) (Oche, 2021).

Many studies (Dada & Eghworo 2020; Fyneman, Idiedo, & Ebhomeya 2014; Quadri, Adetimirin, & Idowu 2014; Ajayi, Shorunke, & Aboyade 2014; Adeniran 2013) on e-resource in Nigeria focused more on universities students (undergraduates and postgraduates) because e-resources are pivotal in improving students' teaching, learning and research activities as well as enhancing their academic performance. However, a paucity of research with regards to e-resources use particularly among polytechnics students were observed in Southwest Nigeria. It is essential to note that if academic libraries subscribe to adequate and relevant e-resources, it is expected to improve students' academic performance. It is on this note that the present study examined the e-resources usage among polytechnic students in Southwest, Nigeria.

The objectives of the study are to:

- Find out what purpose do the polytechnic students in Southwest Nigeria use the e-resources for
- Determine the frequency of usage of the e-resources among the polytechnic students in Southwest Nigeria
- Find out challenges encountered in the use of e-resources among the polytechnic students in Southwest Nigeria

2. Literature Review

The literature review in this section was done thematically using the research question themes. Various databases such as Jstor, HINARI, PROQUEST, Science direct, ERIC, Emerald Insight, Google Scholar etcetera were used to search for relevant information in reviewing past studies under investigation. The literature review focused on articles published from 2013 till date.

2.1 Purpose of use of the e-resources

There is no doubt that students ranging from universities, polytechnics, colleges of education, monotechnic to technical colleges use the e-resources for various purposes. Ajayi, Shorunke, and Aboyade (2014) examined the e-resources use influence on students' reading culture at Adeleke University in Osun State, Nigeria. The studies employed a survey research method with the target population of 705 undergraduates, a simple random sampling technique was adopted in the study with a questionnaire as the major instrument used for data collection while data collected were analyzed through frequency counts and percentages. The study found that the majority of the respondents 152(71.7%) acknowledged that they used the e-resources mostly for academic purposes. In line with the above statement, Adeniran (2013) investigated e-resources usage among Redeemer's University undergraduates in Nigeria and found that a large proportion of the respondents 250(21.8%) agreed that e-resources is mainly used for assignment purposes followed by information while fewer 135(11.8%) used the e-resources for electronic mail (E-mail).

Quadri, Adetimirin, and Idowu (2014) studied the availability and utilization of library e-resources among undergraduates in Private Universities in Nigeria and found that the majority (64%) of the respondents from Babcock and (89.1%) from Redeemer's universities use the e-resources for assignment and research/project purposes. Shehu and Idakwo (2017); Dada and Eghworo (2020) reported that electronic news, research and assignment were the main purposes the students use large e-resources for. Adeyoyin, Idowu, and Sowole (2016) found that students at the seminary schools in Nigeria use the e-resources for assignments, to broaden knowledge in the subject areas. Furthermore, Okunoye (2021) averred that a large proportion of students 80% use the e-resources for assignments and downloading educational materials purposes.

Tlakula and Fombad (2017) examined the use of e-resources among undergraduates at Venda

University in South Africa. The study adopted the snowball of non-probability sampling technique. The qualitative (interview) method was adopted as the method of data collection and the data collected were coded and transcribed. The study revealed that all the ten respondents interviewed used the e-resources for assignments and tests. Akuffo and Budu (2019) reported in their study on e-resources use among postgraduates in Ghanaian theological university and found that majority of the respondents 33(100%) agreed that they use the e-resources to review literature, followed by 29(87.9%) who indicated that e-resources is used to complete assignment while the least 10(30.3%) noted that they used them to supplement study notes. This implies that undergraduates are aware of the benefits of e-resources to their academic pursuit has it assist them in assignment completion, preparation for test and for research work.

2.2 Frequency of usage of the e-resources

Frequency has to do with how many times people use resources over a period. Tlakula and Fombad (2017) reported in their study that out of ten respondents interviewed on the frequency of use of e-resources, five agreed that they use them on regular basis, three acknowledged that the e-resources were used occasionally, one respondent noted that the e-resources are used twice a week, while only one does not use it at all due to lack of computer literacy. Similarly, Ajayi, Shorunke, and Aboyade (2014) also noted in their study that more than half 195(91.98%) of the respondents rarely utilize the e-resources and 188(88.68%) of them use the e-resources very often while only 12(5.66%) agreed they never use them at all. In the same vein, Adeniran (2013) reported that a large proportion 90(73.2%) of the respondents acknowledged that they use the internet on regular basis, 45(25.1%) of the respondents agreed that they use Online occasionally, while OPAC was rarely 165(30.1) used by them and 145(33.7%) never used the CD-ROM at all.

In corroborating the above findings, Quadri, Adetimirin, and Idowu (2014) discovered that majority 84(42%) of the respondents from Babcock University used the internet on daily basis, while only 15(7.5%) of them used the e-journals on daily basis and most of them 78(39.0%) never used the CD-ROM at all. Also, it was reported that less than half 22(40%) of them from Redeemer's University used the internet on daily basis, while most of them 42(76.4%) used the online databases occasionally and only 2(3.6%) of them used the OPAC once a week. In addition, Shehu and Idakwo (2017) found that half 50(50%) of the respondents used e-resources once a month. It could be deduced from the above that e-resources are moderately utilized frequently by students. This may be attributed to the fact that the students see the essential of e-resources in their academic endeavors.

2.3 Challenges encountered in e-resources usage

Students may be eager to use the available e-resources for their academic pursuits, but they encountered various hiccups when using as well as accessing e-resources. Dada and Eghworo (2020), Ajayi, Shorunke, and Aboyade (2014) and Adeniran (2013) found in their study that large proportion of the respondents 155(73.11%) agreed that poor internet facility was a major challenge to e-resources usage among the students while erratic power supply, lack of training of students on e-resources

usage, inadequate skill/ICT skills and lack of facilities to e-resources use were rated low. Furthermore, Okunoye (2021) found that about 50% of students indicated challenges to satisfactory usage of e-resources to include erratic electricity supply, lack of skill and time, lack of training, excess academic workload, inadequate knowledge of computer literacy as well as ineffective management and maintenance.

Shehu and Idakwo (2017), Quadri, Adetimirin, and Idowu (2014) acknowledged that poor internet connectivity, lack of relevant e-resources in various disciplines, lack of proper training, inadequate subscription to database, epileptic power supply as well as technical know-how were listed challenges to the use of e-resources among the students. Fyneman, Idiedo, and Ebhomeya (2014) also reported the slow internet connection, poor infrastructure, access restricted to some databases, insufficient access time, poor ICT skills and knowledge as well as high cost of printing were challenges faced among Niger Delta undergraduate students on the use of e-resources.

Furthermore, Ternenge and Kashimana (2019), Ugwu and Orsu (2017), Adeyoyin, Idowu, and Sowole (2016) and Akporhonor and Akpojotor (2016) acknowledged that challenges like lack of sufficient knowledge of electronic information resources (EIR), hardware operations, lack of browsing skills, financial problems to procure EIR gadgets, information overload, funding, erratic electricity supply, poor ICT infrastructure, safety of EIR tools as well as insufficient knowledge of software applications were faced by the students when using EIR. Manzo and Kannan (2021) reported problem such as technological change, lack of budgeting, licenses problem, lack of staff, inadequate ICT facilities, e-resources policy were identified hiccups facing e-resources usage among Nigerian students.

Madondo, Sithole, and Chisita (2017) reported in Zimbabwe that more than half of the respondents 70% were faced with slow/unreliable internet connection problems when using e-resources followed by the insufficient number of workstations in the library while only 4% agreed that irrelevant databases problem was faced. Gakibayo, Ikoja-Odongo, and Okello-Obura (2013) found among Ugandan students that lack of computer skills and information literacy skills, lack of enough computers in the library and slow internet bandwidth were the challenges encountered in the use of e-resources. In addition, Akuffo and Budu (2019) revealed in their study on e-resources utilization among Ghanaian postgraduate schools that accessibility problems, staff-related issues as well as information search and retrieval skills problems were faced when using e-resources.

2.4 Theoretical framework

This study is anchored by the Anomalous State of Knowledge Theory (ASK) propounded in 1980 by Belkin. The theory basically centers on information retrieval (IR) that is, focused on a system of communication. The theory stated that IR systems assist people through knowledge that is communicated in a human relationship. It is important to note that this IR theory/model is basically a model of document retrieval. The major challenges of the model are the traditional IR system construction, where the traditional IR system presumed that users always know the information they wanted on databases as such, they should be able to specify and obtain the result that matches their request from the system. Invariance, Belkin argued against this notion and stressed that the traditional way of searching information was not useful in assisting users to resolve their information

needs and undermined the system effectiveness.

According to Belkin, the ASK theory summarized the following three key areas:

- The person recognizes a need for information
- The person presents a query (request) to an information retrieval system, which returns information in the form of text
- The person then evaluates the information obtained from the system and determines if the user need is totally satisfied, partly satisfied or not satisfied at all

Belkin (1980) stated further that problems arise whenever a person realizes that his or her state of knowledge is not sufficient in quantity and quality to make a decision or attain a certain goal. Belkin further observed that it is difficult for users to request assistance and suggests that users should be asked to describe what they know on a subject or topic to determine what is missing. This theory is relevant to the study because it addresses the problem related to IR with regard to e-resources use among students. It then implies that, if students are assisted in possessing requisite information literacy skills, they would use e-resources effectively for academic activities. Thereby it is chosen as a framework to explain the use of electronic information resources.

3. Methodology

3.1 *Research design*

The study was guided by three objectives formulated and descriptive survey research design was also adopted. The method relies heavily on quantitative method of data gathering (Quadri & Idowu, 2016), acknowledged that the survey method is popular and mostly utilize in the field of humanities as well as social sciences.

3.2 *Population*

The population of this study comprised the National Diploma (ND) and Higher National Diploma (HND) students in The Polytechnic, Ibadan and Federal Polytechnic Ede, Osun State. A preliminary survey through personal contact and a phone call from the two institutions revealed that there were 3984 students in Federal Polytechnic Ede and 5687 students in The Polytechnic, Ibadan. Therefore, the population of this study comprised 9671 students as depicted in **Table 1**.

Table 1. Population of the study

Institution	Faculty/School					Total
	Business studies	Engineering	Environment al studies	Science	Communicat ion studies	
Polytechnic Ede	1335	560	624	1465	-	3984
The polytechnic Ibadan	1241	583	612	1190	2061	5687
Total	2576	1143	1236	2655	2061	9671

3.3 Sampling technique and sample size

A multi-stage sampling technique was adopted for this study in order to have a good representation of the population. The purposive sampling method was adopted at the first stage where faculties that are common to both polytechnics were selected. The faculties selected are Business Studies, Engineering, Environmental Technology and Science. In the four selected faculties, the total number of students is seven thousand, six hundred and ten (7610). Owing to a large number of students in the selected faculties, the second stage of sampling was to select sample size. A sampling fraction of 5% was drawn from the total number of students in each of the selected faculties to ensure a representative sample, this now gave a sample size of three hundred and eighty-one (381) students as shown in Table 2. At the third stage, in order to ensure equitable distribution across the levels (ND1, NDII, HND1, HNDII), the sample size was divided by four (4) based on equal allocation method, hence, all the levels were fairly represented. The 5% sampling fraction is considered appropriate for the large population of the present study based on Nwanna (1981) who reported that when a total population runs to few hundreds, make use of 40%, use 20% when the population is in several hundreds, if the population is in few thousands use 10%, and when population runs to several thousands, sample 5%. That is, $5/100 \times 7610/1 = 380.5$; Approximately = 381.

Table 2. Sample size of the study

Institution	Faculty of Business Studies (5%)	Faculty of Engineering (5%)	Faculty of Environmental Studies (5%)	Faculty of Science (5%)
Federal Polytechnic Ede	67	28	31	73
The Polytechnic Ibadan	62	29	31	60
Total	129	57	62	133

3.4 Research instrument

The questionnaire was the main instrument used for data collection and was titled Electronic Resources Usage Questionnaire (ERUQ). The questionnaire was divided into four (4) sections with a focus on the variables of the study. The sections are: A, B, C and D.

- Section A elicited information on background of the respondents. It consisted six (6) items such as name of the institution, gender, age, faculty, department, and level of the respondents. It contains open and close ended questions.
- Section B elicited information from polytechnic students on the purpose of use of the e-resources. It contained ten (10) self-report inventory items with four-point Likert scale with ranked options: Strongly Agree, Agree, Disagree and Strongly Disagree.
- Section C elicited information from polytechnic students on the frequency of use of the e-resources. It contained ten (10) self-developed items with five-point Likert scale with ranked options: Daily, Weekly, Monthly, Occasionally, and Never used.
- Section D elicited information from polytechnic students on the challenges faced by students on the use of e-resources. It contained eight (8) self-report inventory items with four-point Likert scale with ranked options: Strongly Agree, Agree, Disagree and Strongly Disagree.

3.5 Validity and reliability of instrument

To ensure the content validity of the instrument. A copy of the instrument was given to experts in the field of librarianship and Information Studies for their input before the final production of the instrument. Also, the reliability of the questionnaire was conducted through a pre-test. Thirty copies of the questionnaire were administered to students in Ibadan City Polytechnic, Ibadan, Oyo State which is not part of the actual study sample. The Cronbach-alpha method was used to determine the reliability coefficient of the instrument. The coefficient alpha of the scales for each of the section (B, C and D) on the questionnaire was measured. The details of the results obtained on the sections are as follows; ($\alpha=.830$) for the frequency of use of e-resources by the students, ($\alpha=.850$) for the purpose of use of e-resources by the students, and ($\alpha=.802$) for challenges to the use of e-resources.

3.6 Data collection procedure

The questionnaire was administered to the respondents by the researcher in each of the two polytechnics. The entire process of data collection lasted for a period of three months (March-May, 2021). This allowed for early responses, easy and immediate returns and an opportunity to clarify doubt if any. A total of three hundred and eighty-one (381) copies of the questionnaire were distributed among the students in the selected faculties of the selected polytechnics in South-West, Nigeria.

3.7 Ethical consideration

Permission was obtained from the heads of the departments of the selected polytechnics by the researcher before the distribution of questionnaire. A letter to the respondents, introducing the survey and the researcher, describing the reasons for the survey, and soliciting their help in promptly filling and returning the questionnaire, along with the promise of anonymity of the respondents and confidentiality of the results, was the content of questionnaire cover page.

3.8 Method of data analysis

Data were coded using the Statistical Package for the Social Sciences (SPSS) and was analyzed with the use of descriptive and inferential statistics. Research questions were analyzed using percentage counts and frequency tables.

4. Results

The results of this study are presented in the following sections using the research questions.

4.1 Response rate

A total of 381 copies of the questionnaire were administered to the students in both Polytechnics. However, 306 copies were returned and found useful for analysis giving a response rate of 80%. Bryman (2012) posited that in research, 60% response rate for a survey is considered suitable. Hence, the response rate attained for this study was acceptable.

4.2 Demographic characteristics of respondents

Table 3 presented results on the demographic profile of the respondents and findings showed that most of the students 78(54.9%) from Ede and 97(59.1%) from Ibadan were males, while (45.1%) from Ede and (40.9%) from Ibadan were female. Results also revealed that the majority of the respondents from both Polytechnics 57(40.1%) and 47(28.7%) were in HND II, while the least 4(2.8%) from Ede were in HNDI and 36 (22%) from Ibadan were in ND1. Results further showed that the majority of the students 65(45.8%) and 57(35.0%) from both Polytechnics were from faculty of Science, while the least of them 13(9.2%) and 24(14.6%) were from the faculty of Engineering.

Table 3. Demographic profile of the respondents

Demographic Characteristics	Federal Polytechnic Ede		The Polytechnic Ibadan	
	Freq	%	Freq	%
Gender				
Male	78	54.9	97	59.1
Female	64	45.1	67	40.9
Total	142	100.0	164	100.0
Level				
ND1	36	25.4	36	22.0
ND2	45	31.7	42	25.6
HND1	4	2.8	39	23.8
HND2	57	40.1	47	28.7
Total	142	100.0	164	100.0
Faculty				
Business studies	42	29.6	55	33.5
Engineering	13	9.2	24	14.6
Environmental studies	22	15.5	28	17.1
Science	65	45.8	57	35.0
Total	142	100.0	164	100.0

The first research question sought to examine the purpose of use of the e-resources by the students in both Polytechnics in South-West, Nigeria. The findings are presented in **Table 4**. **Table 4** showed that the prominent purposes as identified by the large proportion of the students from both polytechnics were research with a mean score of (mean=3.14) and (mean=3.31), knowledge update (mean=3.11) and (mean=3.14) and class assignments (mean=3.01) and (mean=3.18), while the least of the students acknowledged that they used the e-resources for searching for scholarship opportunities with mean score of (mean=2.43) and (mean=2.71) respectively. This implies that the majority of the students from the both polytechnics used the e-resources mainly for research activities, assignment completion as well as update their knowledge. It may also be that using the e-resources for aforementioned activities will lead to higher academic performance of the students.

Table 4. Purpose of use of the e-resources by both polytechnics students

Demographic Characteristics	Federal Polytechnic Ede								The Polytechnic Ibadan															
	SA		A		D		SD		Mean		SD		SA		A		D		SD		Mean		SD	
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
I follow blog	32	22.5	60	42.3	32	22.5	20	14.1	2.13	0.96	37	22.6	72	43.9	43	26.2	12	7.3	2.82	0.82				

discussions on subject area of interest via the library's internet access																				
I use the internet access in the library to chat with friends	18	12.7	40	28.2	43	30.3	41	28.9	2.25	1.01	49	29.9	49	29.9	34	20.7	32	19.5	2.70	1.10
I use electronic information resources (EIRs) to retrieve current literature for studies	34	23.9	72	50.7	24	16.9	12	8.5	2.90	0.86	35	21.3	95	57.9	25	15.2	9	5.5	2.95	0.77
I use EIRs to search for scholarship opportunities	20	14.1	47	33.1	49	34.5	26	18.3	2.43	0.95	37	22.6	62	37.8	45	27.4	20	12.2	2.71	0.95
I use EIRs to source materials for research/writing project	29	20.4	79	55.6	19	13.4	15	10.6	2.86	0.86	44	26.8	88	53.7	23	14.0	9	5.5	3.02	0.79
I use EIRs for current awareness	26	18.3	88	62.0	20	14.1	8	5.6	2.93	0.74	41	25.0	95	57.9	25	15.2	3	1.8	3.06	0.69
I use EIRs to update my knowledge in subject areas of interest	40	28.2	82	57.7	16	11.3	4	2.8	3.11	0.71	50	30.5	89	54.3	23	14.0	2	12	3.14	0.69
I use EIRs to do class assignments	44	31.0	66	46.5	22	15.5	10	7.0	3.01	0.87	64	39.0	72	43.9	22	13.4	6	3.7	3.18	0.80
I use EIRs in preparation for exams	38	26.8	70	49.3	21	14.8	13	9.2	2.94	0.89	49	29.9	86	52.4	25	15.2	4	2.4	3.10	0.74
I use EIRs in carrying out research	38	26.8	70	49.3	21	14.8	13	9.2	2.94	0.89	49	29.9	86	52.4	25	15.2	4	2.4	3.10	0.74

The second research question sought to investigate the frequency of use of the e-resources by the students in both Polytechnics in South-West, Nigeria. **Table 5** below depicted the results. **Table 5** revealed that the majority of the students 71(50.0%) and 85 (53.7%) from both polytechnics used online search engines as well as 61 (43.0%) and 79 (48.2%) used computers and internet facilities on daily basis. While the least 19(13.4%) and 22(13.4%) from both polytechnics noted that they never used online encyclopedia at all. In addition, most of the students from Ede reported that they used E-books 50(35%), E-journals 43(30.3%) and CD ROM databases 41(28.9%) occasionally, while students from Ibadan noted that 63(38.4%) and 56(34.1%) used CD ROM databases and E-databases occasionally. Thus, it could be deduced that the e-resources that were used daily by most of the respondents in both polytechnics were online the search engines and computers and internet facilities. Also, it could be inferred that students from both polytechnics use online search engine, computer and the internet to retrieve relevant information needed for their academic activities.

Table 5. Frequency of use of e-resources by both polytechnics’ students

Items	Federal Polytechnic Ede										The Polytechnic Ibadan													
	D		W		M		O		N		Mean		D		W		M		O		N		Mean	
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
E-Journals	21	14.8	20	14.1	25	17.6	43	30.3	33	23.2	2.67	1.37	53	32.3	17	10.4	28	17.1	47	28.7	19	11.6	3.23	1.45
E-Books	21	14.8	31	21.8	10	7.0	50	35.2	30	21.1	2.74	1.40	52	31.7	33	20.1	14	8.5	47	28.7	18	11.0	3.33	1.45
OPAC (Online Public Access Catalogue)	26	18.3	22	15.5	8	5.6	24	16.9	62	43.7	2.48	1.60	43	26.2	42	25.6	10	6.1	28	17.1	41	25.0	3.11	1.57
CD-ROM database	18	12.7	27	19.0	17	12.0	41	28.9	39	27.5	2.61	1.39	20	12.2	24	14.6	22	13.4	63	38.4	35	21.3	2.58	1.31
Electronic database	29	20.4	20	14.1	10	7.0	5.7	40.1	26	18.3	2.78	1.44	41	25.0	21	12.8	30	18.3	56	34.1	16	9.8	3.09	1.37
Online search en- gines	71	50.0	22	15.5	-	-	38	26.8	11	7.7	3.73	1.49	85	53.7	28	17.1	16	9.8	26	15.9	6	3.7	4.01	1.27
Computer and internet facilities	61	43.0	35	24.6	4	2.8	35	24.6	7	4.9	3.76	1.36	79	48.2	33	20.1	12	12.8	20	12.2	11	6.7	3.91	1.31
Electronic index and abstracts	32	22.5	29	20.4	17	12.0	30	21.1	34	23.9	2.96	1.51	37	22.6	29	17.7	24	14.6	29	17.7	37	22.6	3.10	1.54
Online newspaper and mag- azine	38	26.8	37	26.1	16	11.3	28	19.7	23	16.2	3.27	1.45	43	26.2	51	31.1	14	8.5	25	15.2	31	18.9	3.30	1.48
Online Encyclopaedia (Brittanica.c om, Encarta etc)	21	14.8	39	27.5	23	16.2	40	28.2	19	13.4	3.02	1.30	22	13.4	37	22.6	45	27.4	38	23.2	22	13.4	2.99	1.24

Research question three sought to examine the challenges encountered in the use of e-resources by students in both Polytechnics in South-West, Nigeria. **Table 6** below captured the findings. **Table 6** shows that both polytechnics students were faced with similar challenges to the use of e-resources as more than half of them (mean=3.18) and (mean=3.27) from both polytechnics reported that epileptic power supply were the major hiccups faced in the use of e-resources. Other noted challenges from both polytechnics were poor internet connections, lack of relevant and updated information as well as lack of personal computer, while students from both institutions disagreed with challenges such as lack of IT skills 81(57%) and information gathered are too advanced 53(32.3%). Thus, the prominent challenges that were noticed among the students from both polytechnics were epileptic power supply, poor internet connectivity and lack of personal computers. This may lead

to non-use of the resources and may affect their academic performance.

Table 6. Challenges to the use of e-resources among the students in both polytechnics

demographic character-istics	Federal Polytechnic Ede										Polytechnic Ibadan									
	SA		A		D		SD		Mean		SA		A		D		SD		Mean	
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
Poor awareness of electronic information resources	34	23.9	65	45.8	39	27.5	4	2.8	2.91	0.79	63	38.4	67	40.9	30	18.3	4	2.4	3.15	0.80
Epileptic and erratic power supply	56	39.4	60	42.3	15	10.6	11	7.7	3.18	0.80	77	47.0	60	36.6	22	13.4	5	3.0	3.27	0.81
Poor internet connectivity	42	29	53	37.3	35	24.6	12	8.5	2.88	0.93	56	34.2	65	39.6	30	18.3	13	7.9	3.21	0.78
Sometimes, information gathered is either too advanced	33	23.2	72	50.7	30	21.1	7	4.9	2.92	0.81	56	34.1	55	33.5	45	27.4	8	4.9	2.97	0.90
Lack of relevant and up-to-date information	33	23.2	36	25.4	35	24.6	38	26.8	2.45	1.12	62	37.8	72	43.9	21	12.8	9	5.5	3.14	0.84
Most available information are not relevant to my course of study	14	9.9	36	25.4	47	33.1	45	31.7	2.13	0.98	51	31.1	65	39.6	40	24.4	8	4.9	2.97	0.87
Lack of IT skills	48	33.8	13	9.2	37	26.0	44	31.0	2.30	0.98	49	29.9	70	42.7	29	17.7	16	9.8	2.93	0.93
Lack of Personal Computer	34	23.9	34	23.9	43	30.3	31	21.8	2.50	1.08	89	54.3	37	22.6	20	12.2	18	11.0	3.20	1.03

5. Discussion of findings

The first research question revealed that students from both polytechnics use the e-resources for research, knowledge update and class assignment purposes. These findings were consistent with that by Adeniran (2013); Quadri, Adetimirin, and Idowu (2014); Adeyoyin, Idowu, and Sowole (2016); Shehu and Idakwo (2017); Tlakula and Fombad (2017); Akuffo and Budu (2019) and Okunoye

(2021) who noted that e-resources are used for the purpose of research/project and assignment.

The second research question discovered that majority of the students from both polytechnics used online search engines, computer and internet facilities on daily basis and CD ROM databases occasionally, while the least students from both polytechnics never used online encyclopedia at all. This finding is in agreement with that by Adeniran (2013); Ajayi, Shorunke, and Aboyade (2014); Quadri, Adetimirin, and Idowu (2014); Tlakula and Fombad (2017).

The third research question identified some challenges militating to the use of e-resources among polytechnics students in Southwest Nigeria. The major problem noted by the students from both polytechnics was the epileptic power supply. Poor internet, low awareness of e-resources, lack of personal computer, as well as lack of relevant and updated information, were also reported as a problem faced. This finding corroborated that by Adeniran (2013); Akporhonor and Akpojotor (2016); Shehu and Idakwo (2017); Ternenge and Kashimana (2019); Akuffo and Budu (2019); Okunoye (2021) and Manzo and Kannan (2021) who noted that accessibility issue, inadequate ICT facilities, erratic electricity supply were challenges faced by students when using the e-resources.

6. Conclusion

Polytechnic students can benefit immensely from the enormous usage of e-resources particularly for teaching, learning and research. It must be noted that students who maximally utilize the available e-resources will no doubt excel academically. Although, it was discovered from the findings that polytechnic students are aware of the e-resources and used them for various purposes ranging from assignment completion, research work, project work as well as to update knowledge. Also, the e-resources were used on daily basis as an online search engine, computer and internet facilities emerged the daily used e-resources while e-book, e-journal and CD ROM databases were used occasionally. However, some of them noticed challenges among the students from both polytechnics were erratic power supply, poor internet connectivity, lack of personal computer and so on.

7. Recommendations

Based on the findings, the following recommendations were made:

- (a) In order to address the electricity issue, the management of the polytechnics should provide alternative power supply through generating sets as well as battery and solar inverters. This will enhance the academic activities of the students and staff.
 - (b) Polytechnics management should think about developing a functional policy to enhance efficient use of e-resources among the students. Also, it is recommended that the policy should focus on individual intellectual property as well as technological infrastructure.
 - (c) Polytechnic students should also engage in periodical training particularly on emerging technology that will assist them from using the available e-resources.
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- (d) The National Board for Technical Education (NBTE) as a polytechnics regulatory body in Nigeria should make fund available to the polytechnics so as to subscribe to current and relevant e-resources that will foster students' academic performance.

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