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Computer Self-Efficacy, Computer Anxiety and Information Retrieval Skills as Correlate of Electronic Library Use among LIS Undergraduates in Southern Nigeria Universities.

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Computer Self-Efficacy, Computer Anxiety and Information Retrieval Skills as Correlate of Electronic Library Use among LIS Undergraduates in Southern Nigeria Universities

BY

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Abstract

The study examined computer self-efficacy, computer anxiety and information retrieval skills as correlate of electronic library use among library and information science undergraduates in universities in Southern Nigeria. One research question guided the study while one hypothesis was tested at 0.05 level of significance. The correlational research design was adopted for the study. The population of the study was 10,345 library and information science (LIS) undergraduates from ten federal, seventeen state and eight private universities in Southern Nigeria. The study explores purposive and quota sampling technique to determine the sample size which arrived at 1, 006 used for the study. Four instruments: Undergraduates' Computer Self-Efficacy Questionnaire (UCSQ), Undergraduates' Computer Anxiety Questionnaire (UCAQ), Undergraduate Information Retrieval Skill Questionnaire (UIRSQ), and Undergraduates' Electronic Library Use Questionnaire (UELUQ) were used for data collection. In other to establish the reliability of the instruments, Cronbach alpha was used to analyze data collected from twenty (20) LIS undergraduate students in one federal university (Federal University of Technology, Mina) in North-central geopolitical zone of Nigeria. The alpha coefficients of UCSQ is .88, UCAQ .90, UIRSQ .94 and UELUQ .89 respectively. The Pearson's Product Moment Correlation Coefficient (PPMC) was deplored to answer the research question while multiple regression was used to test the hypothesis. Findings revealed that computer self-efficacy, computer anxiety and information retrieval skills jointly had a significant relationship with LIS undergraduates' electronic library use. The study recommends amongst others that all stakeholders in university education in Nigeria namely; Nigeria University Commission (NUC), Librarian Registration Council of Nigeria (LRCN) and Nigeria Library Association (NLA) should collaborate to redesign or tailor LIS curriculum to reflect information and communication technological courses with innovations prevalent in this 21st century like what is obtainable in developed world. Also, the new LIS curriculum advocated should ensure that the teaching of computer skills to LIS undergraduate in universities is promoted. This is to enable the moderate level of usage of electronic library information resources by LIS undergraduate changed to high and is sustained for adequate academic prowess.

Keywords: Computer Self-Efficacy, Computer Anxiety, Information Retrieval Skills, Electronic Library Use, Library and information Science (LIS) Undergraduates, and Southern Nigeria.

Introduction

The avalanche of information and communication technology (ICT) has not only affected the manner and way by which undergraduate learn, but has also changed the method used by university libraries as institutions of learning to promote the learning process of their parent institutions. Today, a modern library has to provide a package of many related services with the help of computer networking which enable the interlinking of libraries and information centers to pool resources irrespective of their physical location (Krubu and Osawaru, 2010; Ubogu, 2019). In the past, university library which is the knowledge hub of any higher institution of learning used to be limited to a particular geographical location, that is to say a four corner of a particular building within the parent institution where it is been established; thereby restricting easy access to its holdings and creating discomfort in the learning process, as well as limiting the efficiency of the library staff in the processing of information resources for quick access and easy retrieval since all the work are done manually (Onuoha and Obialor, 2015).

The introduction of Information and Communication Technology (ICT) has given rise to an electronic library which is not limited to either space or geographical location, and makes use of up-to-date technology in the processing of library holdings (OECD, 2016). It also provides undergraduate with the privileges of accessing academic library holdings in a more convenient manner without necessarily going to a particular location of a building since its holdings can be accessed with the use of computer at any time and in any location (Khan and Khan, 2022). Electronic library which is also known as the library without walls is an electronically inclined library which makes use of computer in accessing its digital holdings such as CD-ROM, webpages, multimedia collections (Akpojotor, 2016).

Electronic library resources are fast becoming very important these days as they are more up-to-date, and can be accessed anywhere, crossing all geographical boundaries (Akpojotor, 2023). In the same vein, teaching and learning process has been altered by the convergence of a variety of technological, instructional, and pedagogical developments in recent times as a result of influx of information technology and internet. Adequate knowledge in the use of computer and information retrieval is paramount if undergraduates are to use electronic library effectively and efficiently because the cognition, proficiency and capacity to use the computer without computer phobia is of great importance to harness electronic library resources in this 21st century (Radjagopal and Chinnasamy, 2012; Bringula, Sarmiento and Basa, 2017).

To this end, undergraduates' knowledge ability in the use of computer device is a vital key to effective use of electronic library resources. Obviously, impediment to the use of electronic library, particularly its electronic resources is the lack of computer competency which affects some undergraduate self-efficacy in searching the relevant resources to satisfy their information needs. The proficiency of undergraduate in the use of computer in accessing electronic library resources to a larger extent, depend on undergraduate level of computer self-efficacy which is the competency they need to effective utilization of library electronic resources.

Computer self-efficacy has to do with student's confidence in his or her capabilities to do particular learning tasks with the help of computers (Hauser, Paul and Bradley, 2012; Wolverton, Hollier and Lanier, 2020). Computer self-efficacy has been found to be positively related to attitude to computer use, performance and negatively related to computer anxiety (Nwosu, Achukwu, Akuezilo and Uzoekwe, 2015). This implies that an individual who has a high computer self-efficacy will be positively attuned to computer use and invariably expend more time in the use of computer and as well brace the use of electronic library. Although, there are still majority of them who lag behind in their confidence and/or desire to use computers and telecommunication gadget and in turn deficiency (Oladokun and Adeoye, 2022).

However, this occurrence may be as result of anxiety toward the use of computer. Anxiety generated in the use of computer also known as computer anxiety is context specific covering a wide variety of situation in which people established uneasiness, awkwardness and fret mindset to use the computer. This state of affairs is subjectively seen as menacing which is accompanied by muscular tension, restlessness, fatigue and problems in concentration. According to Akpojotor (2023), computer anxiety can be defined as an individual's inability to use the computer due to emotional response usually resulting from a fear of damaging the gadget. This anxiety of fear is characterized by potential negative outcomes such as damaging the equipment or looking foolish, bewilderment, panic and technophobia or computer phobia by undergraduates (Aziz and Hassan, 2012). Brosnan, Gallope, Iftikhar and Keogh (2011) justified that the presence of computer anxious undergraduates in the university can lead to academic performance glitches, decline in motivation, productivity, moral, and quality which can increase errors and absenteeism in the use of electronic library information resources.

Akpojotor (2023) opined that information resources in electronic representation require special skills that will help students navigate the maze of resources at their disposal via

telecommunications channels. Conversely, for an undergraduate to use electronic library there most have the technical known-how as it relate to retrieving information from an organized electronic library information database. Thus, the effective use of electronic library significantly reflects information retrieval prowess of undergraduates; hence information retrieval skills are indispensable tool for electronic library use (Kwaghga, Anthony and Helen, 2019). According to Adekannbi (2016), information retrieval skill is the ability to find information in such a way that non-relevant data (noise) are excluded while relevant information is found. It is the process of searching or selecting information from different storage devices for instance a database or the Internet. This process is dependent in physical mechanism of library collections and or computers/technologies information system designs (Afebende and Nna-Etuk, 2019). Apparently, the physical mechanism of electronic library information searching or selecting needed information has to do with adequate skill which is crucial for retrieving information in this era of technology driven because most of the information needed for research and assignment are retrieved from electronic library and the internet.

It is anticipated that electronic library use by LIS undergraduate should be exceptional since there are supposed to be pace-setter to other undergraduates when it comes to electronic library information resources retrieval and use. But this is hindered which could be as a result of low computer self-efficacy, computer anxiety and information retrieval skill. Therefore, carrying out a study to determine computer self-efficacy, computer anxiety and information retrieval skills as correlate of electronic library use among library and information science (LIS) undergraduates in Southern Nigeria Universities is extremely imperative.

Statement of the Problem

Rapid technological advancement and information explosion of the 21st century has given rise to avalanche of information resources in both print and electronic media. Similarly, modern library services around the globe is information technology (IT) driven. Universities management and Federal Government agencies in Nigeria like TETFund have invested substantial amount of money for the provision of these electronic libraries information resources including various databases with internet connectivity in universities to make these resources available for use by undergraduates to improve their academic prowess. The rationale for the provision and adoption of electronic library in universities is solely to provide electronic and online resources like e-books,

e-journal, e-newspaper, e-magazine, indexing and abstracting databases, full text database, reference database, statistical database, image collection, multimedia products, e-thesis, e-clipping, e-patents, and e-standards for researchers, academics and undergraduates use and also to enhance educational development for effective teaching, learning and research activities.

Correspondingly, with the massive fund invest in the provision of electronic library including the gigantic and exceeding benefit of electronic library information resources compare to print resources, usage of electronic library information resources by undergraduates is appalling or fall short of expectations and grossly underutilized. Also, from the researcher personal observation as a staff working in the university library, undergraduates prefer to use the print version instead of the electronic version. Issues associated with this trend such as low computer self-efficacy, computer anxiety and information retrieval skill comes to bear. In addition, available literature seems not to have provided empirical evidence on low use of electronic library information resources by undergraduates particularly in Southern Nigeria. It is in the light of the above, this study was therefore carried out to investigate computer self-efficacy, computer anxiety and information retrieval skill as correlate of electronic library use among library and information science undergraduates in universities in Southern Nigeria.

Research questions

The following research question were formulated to guide the study:

- What is the relationship among computer self-efficacy, computer anxiety, information retrieval skills and electronic library use of LIS undergraduates in universities in Southern Nigeria?

Research Hypothesis

The following null hypothesis were formulated to guide the study

- There is no significant relationship among LIS undergraduate computer self-efficacy, computer anxiety, information retrieval skills and electronic library use in universities in Southern Nigeria.

Review of Related Literature

The review of related literature was organized under the following sub-headings: conceptual framework (computer self-efficacy, computer anxiety, information retrieval skill and electronic library use), theoretical framework (Self – efficacy theory and big six information skills

model), and review of related empirical studies (relationship among computer self-efficacy, computer anxiety and information retrieval skills and electronic library use of undergraduates).

Akpojotor schematic representation of the study concepts.

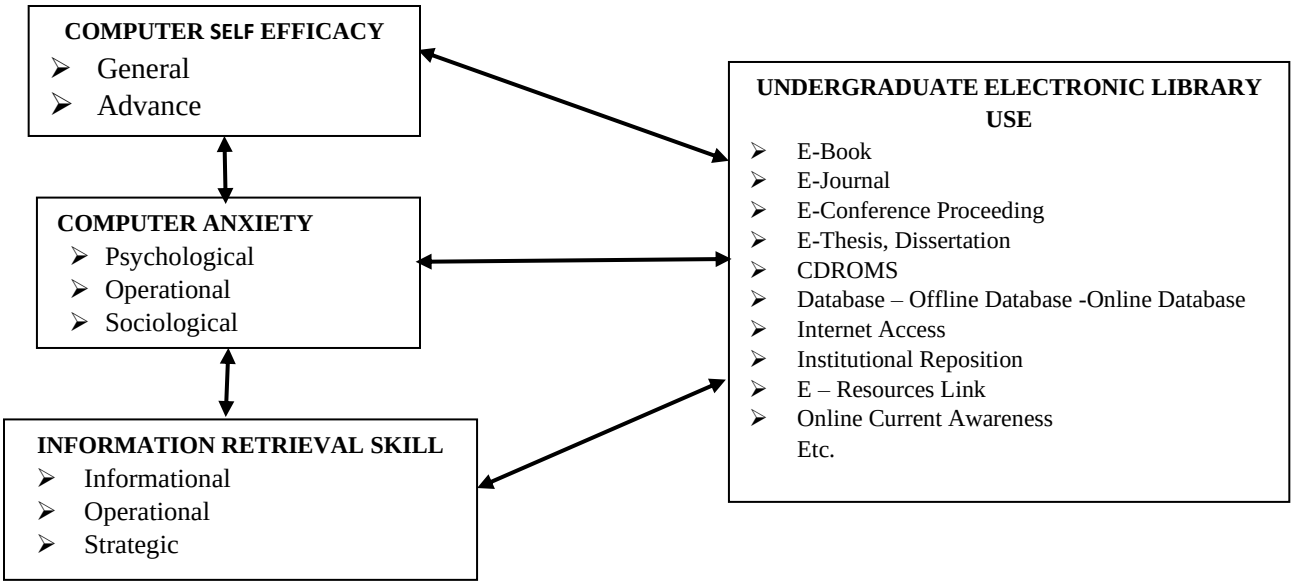

Figure 1.1 Conceptual model of different factors that correlate LIS undergraduates' electronic library use.

The conceptual model was designed by the researcher based on literature reviewed. The model describes the relationship between the variables; computer self-efficacy, computer anxiety, information retrieval skills and electronic library use. It is assumed in this study that undergraduates who have the ability to identify, locate, select, evaluate and apply information will use electronic library information resources provided by the university because of their level of usage (Antoine, 2011; Bandura, 2012; Dang, Zhang, Ravindran and Osmonbekov, 2016). The study also assumed that undergraduates who are confident in the use of computers and do not exhibit psychological, operational and sociological anxiety in the use of computer will retrieved the needed information from electronic library for efficient usage (Prasad, 2014; Gill, 2015). In addition, undergraduate adequate acquaintance with information retrieval skill will enhance use of electronic library because operational and strategic information retrieval skills including general and advance computer use are very crucial to use electronic library effectively for undergraduate academic prowess.

Computer self-efficacy

Self-efficacy is a personal judgment or a self-evaluation of a person's capabilities or competence to successfully organize and execute a course of action required to attain designated types of performances (Bandura, 1986, 1997). Self-efficacy consists of three dimensions of strength, magnitude and generalizability. Strength refers to the confidence possessed by an individual in his ability in various computing tasks; magnitude is an individual with high computer self-efficacy, while generalizability reflects the scale to which judgment is limited to a particular computing action (Bandura, 1997; 2006). According to Shu, Tu and Wang (2011), self-efficacy can be define as people's judgment of their capabilities to organize and execute courses of action required to attain designated types of performances, which is concerned not with the skills one has but with judgment of what one can do with whatever skills one possesses.

Computer self-efficacy is an individual's belief regarding his/her ability to utilize computer gadget, and plays a positive, significant role in making decisions involving computer adoption and usage (Papastergiou, 2010). It is referred to as an individual's self-evaluation, self-confidence or personal assessment in one's ability to use a computer for a variety of tasks (Tsai, Chuang and Tsai, 2011; Hauser, Paul, Bradley and Jeffrey, 2012; Hsiao, Tu and Chung, 2012; Celik and Yesilyurt, 2013). Hsia, Chang and Tseng (2014) propounded that computer self-efficacy is perceived ease of use of computer to perform a task. These perceived ease of use of the computer is born out of the daily use of the gadget to perform specific task. However, individual's perception of computer self-efficacy in performing specific computer related task within the domain of general computing is associated with continuous training and intent to use computers (Chien, 2012; Karsten, Mitra and Schmidt, 2012).

Computer self-efficacy is a significant determinant of performance which operates partially, independent of the level of skills possessed. It also involves a generative capability in which an individual must organize cognitive, social and behavioral sub-skills into integrated courses of action. As such, an undergraduate student who possesses a high level of computer self-efficacy might use the computer more (Oyewole and Oladepo, 2017). Students' acquisition of a high level of technological skills and ability is considered a basic part of the 21st century curriculum, equivalent to importance of reading and writing (Giles and Kent, 2016). Consequently,

students acquire knowledge through the process of learning and research within the university environment.

According to He and Freeman (2010), computer self-efficacy is divided into two different levels which include; general and advanced. The general computer self-efficacy refers to an individual's judgment of his or her ability to perform across multiple computer application domains. According to Hauser, Paul, Bradley and Jeffrey (2012), general computer self-efficacy refers to the belief that a subject can perform well across a variety of computer tasks; specific computer self-efficacy refers to the belief that the subject can perform well using a particular technology such as programming, database development, etc. While, advanced computer self-efficacy refers to an individual's perception of efficacy in performing specific computer-related tasks within the domain of general computing. Similarly, Teo and Ling-Koh (2010) pointed that computer self-efficacy has three dimension which include basic computer skills, media-related skills, and web-based skills. These dimensions show the extent to which an individual can use a computer. Apart from the above, there are also four identified principal sources of computer self-efficacy according to Lunenburg (2011) citing Bandara (1997), Antoine (2011), which are mastery experience or past performance, vicarious experience, verbal persuasion, and physiological states or emotional cues.

Mastery experience or past performance, occur when people try to do something and are successful. According to Bandura (1994), mastering experience is the most effective way to boost self-efficacy since students are more likely to believe they can do something new if it is similar to something they have done. Vicarious experience means when one watches someone like himself successfully accomplish something, he would like to attempt similar tasks. Verbal persuasion, means when people are more likely to perform a task when they are persuaded verbally that they can achieve or master a task. Physiological states or emotional cues show whether one will be successful or fail in a task depends to a large extent on the physical and emotional state in which someone attempts to do something. These sources shape computer self-efficacy beliefs and influence the decision to use or not use computers and building on these four key factors related to self-efficacy, Bandura (1977) suggested that self-efficacy is not fixed and varies based on efficacy-altering experiences to use the computer by an individual. Computer self-efficacy is based

on an already formed sense of self-efficacy and represents the fundamental elements applied to the field of the use and mastery of computers (Paraskeva, Bouta and Papagianni, 2008).

In the context of this study, computer self-efficacy can be defined as an individual's decision toward his or her own capability, self-confident or evaluation on computer usage. Thus, this level of confident of an individual has an influence on choice of activities, degree of effort expended, and persistence effort to use the computer

Computer anxiety

Anxiety is a feeling of uneasiness and worry, usually generalized and unfocused as an over-reaction to a situation that is only subjectively seen as menacing. Anxiety refers to a complex combination of negative emotional responses that include worry, fear, apprehension and agitation (Saadé and Kira, 2009). Mathew (2012) defines anxiety as a natural and unavoidable reaction to a perception of danger or risk. American Psychiatric Association (2013) define anxiety as a normal human response, when excessive or persisting beyond developmentally appropriate periods it may be diagnosed as an anxiety disorder such as generalized anxiety disorder and obsessive-compulsive disorder.

Computer anxiety can be defined as the inclination of an individual to have a negative reaction while considering computer usage (Simsek, 2011). According to Kannan, Muthumanickam and Chandrasekaran (2016), computer anxiety is feeling when an individual is afraid, uneasy to use computer. According to Wan-Husin, Thinakaran and Wan-Husin (2018), computer anxiety can be define as an emotional response usually resulting from a fear of using the computer with negative experiences such as damaging the computer components or looking foolish. Computer anxiety is a substantial barrier influencing the use of computers ultimately influencing the academic activities of students (Oribhabor, 2020). Computer anxiety can be one of the major problems that affect the effective and efficient use of information resources by students in university electronic libraries.

Saadé and Kira (2009) established that there are three types of computer anxieties: trait, state, and concept-specific. Trait anxiety defined as a general pervasive anxiety that is experienced by a person over the entire range of life experience. A person in this kind of anxiety will feel chronically anxious and constantly under pressure regardless of their situation. State anxiety is

described as anxiety that fluctuates over time and or arises in a responsive situation where related to a person's learning background which a person may have experienced some anxiety in a situation and that anxiety is transferred to a similar situation when it occurred. While, concept-specific anxiety is referring to a transitory-neurotic type of anxiety that the range between the trait and state anxieties.

Simsek (2011) also pointed that there are three major dimensions of computer anxiety as psychological, operational, and sociological. To be more concrete, psychological dimension includes attitudes toward computers, self-efficacy, personality types, avoidance, and self-perceptions. Operational dimension usually results from computer courses, teachers, nature of computers, the extent of experiences with the computer, and owning a personal computer. Sociological dimension is related to factors of age, gender, nationality, socio-economic status, and the field of study. Student trepidation is as a result of anxiety which maybe an emotion characterized by an unpleasant state of inner turmoil, often accompanied by nervous behavior such as pace back and forth, somatic complaints, and rumination (Mathew, 2012).

However, with the increasing use of technology in everyday academic life of undergraduates, one would expect that the use of computers would be comfortable and straightforward for student. It will interest you to note, that some student still feels intimidated when using computers, while others experience multiple levels of anxiety and, for high levels of anxiety, manifest what is known as computer anxiety (Do-santo and De-Santana, 2018). An individual with computer anxiety may experience fear of the unknown, feeling of frustration, possible embarrassment, failure and disappointment which may result to avoidance towards computer usage and in turn avoidance of electronic library usage. The thought that students vary in their levels of computer anxiety experienced when using electronic libraries is no more an issue or a new phenomenon (Parayitam, Desai, Desai, and Eason, 2010; Shaha, Hassana and Embia, 2012)

Olatoye (2009; 2011) also advocated that computer anxiety has shown essentially that some students avoid computers because of their phobic condition that is repelled to change. Students with high computer anxiety are likely to remain in that state of high computer anxiety in the future, and experience greater anxiety with repeated exposure to computers. The higher the anxiety in operating computers, the higher is the tendency of committing academic procrastination

(Rahardjo, Juneman and Setiani, 2013). In today information age, students are experiencing growing demand of being computer literate; they need to be able to operate these machines to function in academic activities. They are pushed into the increasing interaction with computers, some respond with enthusiasm and a desire to become the master of the machine; while others, approach the situation with fear and apprehension or reluctant. Therefore, in the context of this study, computer anxiety can be defined as an individual's inability to use the computer due to emotional response usually resulting from feeling of frustration or fear of damaging the gadget.

Information Retrieval Skill

University library is an established and organized arm of a university with a clear mandate to provide relevant and up to date information resources that meet the information needs of its users (Omeluzor, Dolapo, Agbawe, Onasote and Abayomi, 2017). The main aim of university libraries is to acquire information resources in different formats, in various fields of human knowledge and to process, organize, disseminate and provide access to them. Library information resources include the print and electronic information resources that are acquired, processed, organized and disseminated to the entire users' community to support their academic activities.

Information retrieval skills are the ability and competences of using the various information retrieval tools (Library catalogue, Indexes, Abstract, Search engines, Bibliographies, Directories, Online Public Access Catalogue, Internet search engines etc.) to identify locate and retrieve information resources from a collection. These information retrieval tools can be defined as bibliographic control mechanisms aimed at facilitating access, location, retrieval and use of information (Ferdows, 2014).

Echem and Udo-Anyanwu (2018) also define information retrieval tools are those crucial for retrieving information for positive educational outcomes. However, for effective, accurate and timely information retrieval, certain skills are needed. These skills are referred to as information retrieval skills. According to Udofot and Nwachukwu (2019), information retrieval skills also referred to as literature search skills is the ability and competence of using the various information retrieval tools to identify, locate and retrieve information resources from a collection for instance unitary retrieval systems with one file and one retrieval mechanism like search by author, title or

subject. Atanda, Adeyemi and Sheriffdeen (2018) define information retrieval skill as the technical know-how to retrieve documents or information required by an individual.

According to Onah, Adayi, Okonkwo and Onyebuchi (2020), information retrieval skills are those technical skills and knowledge needed to explore and use information retrieval tools to identify available resources and distinguish them from other resources not needed. Information retrieval skill is the ability to find information in such a way that non-relevant data (noise) are excluded while relevant information is found (Adekannbi, 2016). Thus, the essence of acquiring information retrieval skills is to enhance in the identification and utilization of information resources in the library. Information retrieval skills are the skills to seek relevant information of the subject from different sources, for instance multi-stage retrieval from a single file like one-search feature of the DIALOG retrieval system (Aliyu, 2017).

There are varieties of information available on the web, not all of them are relevant, and therefore student should have knowledge about relevancy (Ferdows, 2014). Emphasizing the concept of information retrieval skills, Prasad (2014) see information retrieval skills as the stepping stones of all academic process. For better academic performance, it is very vital that all students most especially undergraduate acquire and possess high information retrieval skills for exploiting information retrieval tools. Thus, comprehensive, effective and up to date information retrieval skills will add to the overall quality of students' academic performance and output.

According to Ekenna and Iyabo (2013), information retrieval skills are in phases which are operational, strategic and technical retrieval skills. Operational skills include the ability to operate computers, Internet connection and their basic applications. It encompasses things students need to learn to operate the computer and understand how the information systems are organized by learning the basic skills such as use of keyboard, mouse, and disk management. Learning the standard software (word processing, databases and others) and network applications such as Internet, electronic mail and others are also required for retrieval of information. For strategic retrieval skills, students also need the ability to plan, create appropriate queries and search terms which would enable the students to retrieve information.

Undergraduates' ability to develop their strategic retrieval skills would aid in retrieving relevant information from electronic resources for academic purposes and self enhancement.

While, technical retrieval skill is the ability to exhibit some level of competence in the use of computers and the network connections is very crucial for information retrieval. Undergraduates' therefore need these skills for speedy retrieval of the exact information needed from electronic resources (Ekenna and Iyabo, 2013). In a nut shell, students are expected to have frequent interactions with the systems' hardware and software to enhance competences required for information retrieval (Saunders, 2008).

Therefore, information cannot be retrieved if students cannot operate the system. Inadequate operational skills pose challenges for students to retrieve information in order to accomplish their research and academic goals. To search the internet and use electronic library resources effectively student must possess skills and competence in the use of Boolean operators, strategic use of search engines; keywords search skills, advance search skills, truncation and basic filing system skills (Aliyu, 2017). Boolean operators or Boolean search is a query technique that utilizes Boolean logic to connect individual keywords or phrases within a single query (Hussain, 2015). For instance, the Boolean search "Cats AND Dogs" will retrieve all posts that contain both words. There are six kinds of Boolean operators which are; the, words, AND, OR, and NOT. When used in library databases (typed between your keywords) they can make each search more precise to save you time in the electronic library.

To this end, operational, technical and strategic including Boolean operators, strategic use of search engines; keywords search skills, advance search skills, truncation and basic filing system retrieval skills are vital information retrieval skill to use electronic library resources by undergraduates in universities. In the context of this study information retrieval skill is the application of individual technical proficiency, ability and competences through the use of various information retrieval tools and Boolean technique to retrieved needed information from the internet or electronic library.

Electronic library use

Electronic library has significantly transformed information handling and management in academic environments and in university libraries in particular (Akpojotor, 2016). Electronic library is a multi-disciplinary concept that shares various branches of computer science including data management, information retrieval, library science, document management, information

systems, the web, image processing, and artificial intelligence (Anyim, 2018). Multidisciplinary nature of electronic library engenders flexibility in the definitions which makes it difficult to have a singular definition of electronic library. Electronic library is the library where some or all of the holdings of the library are available in electronic format, and the services of the library are also made available electronically-frequently over the Internet so that users can access them remotely (Onwuchekwa and Jegede, 2011).

According to Kude (2013), electronic library also known as web-based libraries is a library consisting of electronic materials and services with walls as well as without walls, depends on the way the users access it. The foregoing means that e-library eliminates physical boundaries of data storage, access, retrieval and dissemination of information to users within and across the globe with the use of internet network. According to Owolabi**,** Idowu, Okocha and Ogundare (2016), electronic library is a set of documents available through electronic means by the use of digital technologies that allow for the retrieval, archiving, preservation, and dissemination of electronic documents. Electronic library refers to the process of translating a piece of information such as a book, sound recording, picture or video into bits (Umaru, Aghadiuno and Mamo, 2018). These bits are the fundamental units of information in a computer system. According to Fabunmi, Paris and Fabunmi (2016), electronic library use can be seen as the process of using electronic resources in the library via electronic medium.

Yudina (2018) define electronic libraries use as information systems that allow reliable storage and effective use of various collections of electronic documents (text, image, sound, video, etc.), localized in the system itself, as well as accessible to it through telecommunications networks. Borisova, Mikidenko and Storozheva (2020) define electronic library use as that process of staying off-library to access electronic resources from diverse ends via the use of fingertips, computer and telecommunication gadget. Thus, students' can access information around the globe, particularly through the internet for their scholarly work. Information can be access from different part of the globe without any geographical and time limitations. The electronic library information resources can be subscribed through consortia/ publisher, update, modification and alteration could easily be effected, and made available in various files and formats for use.

According to Tofi (2019), electronic library use has created opportunities for global access to information, enhanced the speed of service, increased the number of users served, increased the

quality of information provided, and offered new opportunities for undergraduate students to find relevant information. The use of electronic library enables undergraduates to access current international literature as soon as it is published on the Internet from different location. According to Ekhanuere, Olayinka, Taiwo, Alonge and Obono (2015), electronic library information resources consist of information provided in electronic formats such as CDROM, databases, flash drives, e-books e-journals, online database, Online Public Access Catalogues, institutional repository, e-prints, and other computer – based electronic networks.

According to Ekere, Omekwu and Nwoha (2016), electronic library information resources include World Wide Web; WIFI; search engines; online indexes; video CDs VSAT based Internet connectivity; online Library catalogue; online databases; portals; E-journals and E-books. Furthermore, electronic library materials include all digital materials, as well as a variety of analog formats that require electricity, computer and Internet to use it (Kude, 2013). Electronic library information resources can be searched, browsed, accessed, copied, downloaded fast and customized, linking feature facilitates to link within the documents as well as outside of the documents (Owolabi**,** Idowu, Okocha and Ogundare, 2016). Also, many students can use electronic library resources simultaneously, and it is possible to monitor the usage of electronic information resources to some extent (Tlakula and Fombad, 2017).

According to Adeniran (2013), undergraduates in university libraries make use of electronic library information resources for many purposes mostly for academic purposes that is, retrieving current literature for studies and preparing for examinations, doing class assignments, carrying out research projects, and communicating and collaborating with peers and teachers via the internet on e-mail or by following blog discussions. Undergraduates use e-books and e-journal articles to acquire knowledge and carry out research work (Ajayi, Shorunke and Aboyade, 2014). Electronic library use help to develop access, increase usability and efficiency, and create new ways for students to use the available information in the university library (Umukoro and Tiamiyu, 2017). Electronic library uses gives users reliable and accurate information for the right user. In addition, the use of electronic library information resources helps students to be well-informed and up-to-date in their respective thematic areas, unlike print information resources that are not updated regularly (Fabunmi, Paris and Fabunmi, 2016).

In the context of this study, electronic library use can be seen as the consumption of information resources via electronic medium, computer and Internet connectivity. These information resources that are use electronically in the library include; e-book, e-journal, e-print, e-conference proceedings, e-thesis and dissertation, CD-ROMs, offline database, online data base, Internet access, institutional repository, Online Public Access Catalogues, e-mail reference services, ask-a-librarian, virtual reference desk, pathfinders online.org, frequently asked questions, question point reference services, user orientation and feed-back, online current awareness, electronic reference sources just to mention but a few. Electronic library use affords students the opportunity to have access to global information resources, beck and call most especially the Internet for their academic prowess.

Theoretical Framework

The study used one theory and one model such as self – efficacy theory propounded by Bandura (1977) and Eisenberg and Berkowitz (1990) big six information skills model. This theory and model have been found related and suitable for this study.

Bandura (1977) Self – Efficacy Theory

Self-efficacy theory was propounded by Bandura (1977). The concept of the theory is that people will succeed in the tasks they believe they have the ability to successfully accomplish. Self-efficacy theory says that people generally will only attempt things they believe they can accomplish and will not attempt the things they believe they will fail. People with a strong sense of efficacy believe they can accomplish even difficult tasks. They see difficult tasks as challenges to be mastered, rather than threats to be avoided (Bandura, 1994). Individuals are proactively engaged in and responsible for their own development toward goals, and their progress is related to their self-beliefs. The reciprocal causation-effect relations among personal factors, environment, and behavior form the foundation of self-efficacy theory (Puzziferro, 2008).

The author argued that the learner's belief about his or her ability to perform a given task is the personal aspect that accounts for why a person engages in the task. This Bandura theory shields both computer self-efficacy and computer anxiety variable in the study. According to Bandura (1997), self-efficacy theory centers on one's convictions about his or her ability to perform a specific task at a designated level. Students with strong self-efficacy approach difficult

or threatening situations with confidence that they have control over them. On the other hand, students who doubt their ability to accomplish difficult task see these tasks as threat. They avoid them based on their own personal weakness or on the obstacles preventing them from being successful. People with low self-efficacy beliefs give up quickly in the face of difficult or challenging tasks.

The theory introduces the idea that the perception of efficacy is influenced by four factors: mastery experience, vicarious experience, verbal persuasion and somatic and emotional state (Bandura, 1994, 1997; Pajares, 2002). Mastery Experience -This occur when people try to do something and are successful. A student who attempts to use electronic library which is a new technology and succeeds will tend to use it more. If the student did not succeed he or she may wisely withdraw from further using it. According to Bandura, (1994) mastering experience is the most effective way to boost self-efficacy since students are more likely to believe they can do something new if it is similar to something they have done. Vicarious Experience - Vicarious experience is another factor that influences self-efficacy.

The concept of vicarious experience is that when one watches someone like himself successfully accomplish something, he would like to attempt similar tasks. Whereas when one observes someone like himself fail, this threatens self-efficacy. The more one associates with the person being watched, the greater the influence on the belief that one's self can also accomplish the behavior being observed. Verbal Persuasion - The concept of verbal persuasion is that people are more likely to perform a task when they are persuaded verbally that they can achieve or master a task. Hence, a student who sees his mate use the electronic successfully or otherwise may be encouraged or motivated to use it. He or she may however withdraw if someone with low self-efficacy. Conversely, when people are told they do not have the skills or ability to do something, they tend to give up quickly (Bandura, 1994).

Somatic and Emotional State - Whether one will be successful or fail in a task depends to a large extent on the physical and emotional state in which someone attempts to do something. Fear and anxiety create emotional arousal, which in turn affects a person's perceived self-efficacy in coping with the situation (Bandura and Adams, 1977). Normally one approaches use of a new technology with caution. Computer is a new technology being applied in library operations or service and retrieving needed information from the technology depend on adequate information

retrieval skill to use the electronic library information resources. There is no doubt that computer self-efficacy has a great impact on undergraduate students' decision towards using the computer-based information resources.

Being an important variable that influences the use of electronic library information resources, in this study, the self-efficacy theory propounded by Bandura in 1977 is adopted as part of the foundation to anchor this research work. The effective management of self-efficacy of individuals based on Bandura presentation may lead to effective utilization of computer-based information resources by undergraduate students. The underlying assumption that led to the development of the self-efficacy theory was that personal efficacy influences the initiation, persistence as well as the effort applied for a specific behavioural change (Bandura, 1977). Computer self-efficacy major concepts have been developed and explained systematically to highlight the unique role that individuals play in changing their negative behaviours toward computer usage (Bandura, 2004, 2012).

The sources of self-efficacy as well as their unique degrees of influence have been well explained. Tools for measuring self-efficacy have also been developed with Bandura (1977) developing the first one. According to Bandura (1977), a person's efficacy expectations always influence them to put up behaviour that, in turn, yields an outcome of electronic library usage. The relevance of this theory to the present study cannot be overstated because self-efficacy theory determines relationship variables (computer self-efficacy, computer anxiety, information retrieval skills and extent of electronic library use).

Also, the relevance of this theory to the present study is because the theory establishes the relationship between computer self-efficacy, computer anxiety, information retrieval skills of undergraduate LIS students and extent of electronic library use. Furthermore, in applying self-efficacy theory to the present study hypothesized that computer self-efficacy, computer anxiety, information retrieval skills have relationship with electronic library use among LIS undergraduate in universities in Southern Nigeria. In other words, the study presumes that there exist some kind of relationship between computer self-efficacy, computer anxiety, information retrieval skill and electronic library use. This is so, because; individuals' use of a system depends to a large extent on their beliefs or confidence that they are able to accomplish the tasks using the system.

Additional, students may not be able to make maximum use of electronic library information resources which are computer-based if they do not see themselves as being able or having the capability to do so. While on the other hand students who are confident in their ability to use the computer-based resources will make maximum use of them. The level of usage of electronic library resources by undergraduate students depend on their level of computer self-efficacy. Thus, this theory address computer self-efficacy and computer anxiety variable in the study. See below the diagrammatical representation of the explanation.

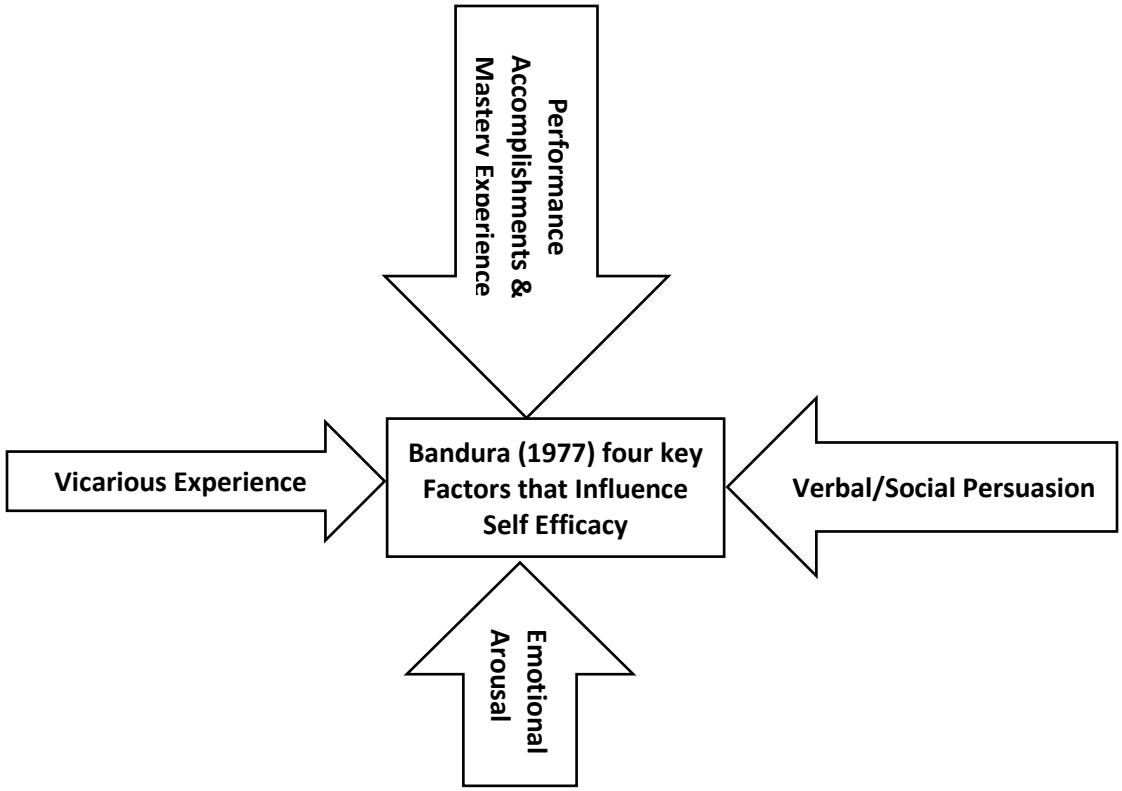

Figure 2. 1. Bandura (1977) key self-efficacy factors

Eisenberg and Berkowitz (1990) Big Six Information Skills Model

The Big six information skills model developed by Eisenberg and Berkowitz (1990) is a six (6) stage model to help student solve problems or make decisions using available information. Each of the six steps has two sub-skills. Task definition requires students to identify the exact information problem presented to them. They must also identify the types of information needed in order to solve the problem. They must have a clear hypothesis, a specific question, and a clear understanding of what is needed in order to answer that question due to their information retrieval

skill and ability of computer usage. The information seeking strategies stage requires students first to identify all the possible sources of information, and then to evaluate each source to determine which are best for them to use the library electronic collections.

The next two steps, location and access and use of information, are comprised of traditional bibliographic skills. Students must not only find individual resources such as books, magazines, reference materials, and Web sites, but also find the information within each source through the use of tables of contents, indexes, and other resource-specific tools like information retrieval tool as a result of adequate computer use. Next, they must engage each source (read, view or listen) and extract specific information from it through the application of note-taking, highlighting, and summarizing. Synthesis requires students to make a decision, create a product, or formulate an answer. Synthesis is linked to task definition and students are expected to answer the specific question they created when initially engaging in the problem-solving process. Finally, evaluation requires students to evaluate not only their final product but also to evaluate how well they perform the information solving tasks (Eisenberg and Berkowitz, 1990).

A chronological look at various models of information retrieval skill proves that information retrieval skill is crucial when it comes to usage of electronic library resources (Yahaya, 2019). Therefore, as an important independent variable in electronic library resources utilization, the Big 6 Information Skills Model propounded by Eisenberg and Berkowitz in 1990 will serve as the pillars information retrieval skill variable in this research work will be anchored on. The relationship of this model to the present study is that the Big6 skills comprise a unified set of information and technology skills taken together, these skills form a process. These fundamental skills provide students with a comprehensive set of powerful skills to conquer the information retrieval age or era. The process encompasses six stages from Task Definition to Evaluation.

Task definition - students use various electronic library information sources like e-mail, listservs, newsgroups, chat, videoconferencing, and other online communication methods to clarify assignments and brainstorm use software to generate timelines, organizational charts, etc. to plan and organize complex problems. Information seeking strategies - students identify and assess computerized resources as they develop information seeking strategies toward their problem. Location and access - students use online catalogs, searchable periodical indexes, electronic encyclopedias, Web search engines, and other online searching tools to locate useful

information. Use information - students connect to and access online or locally stored electronic information sources, view, download, and decompress files, and use copy-and-paste features to extract relevant information.

Synthesis - students organize and communicate their results using word processing, database management, spreadsheet and graphics software, and distribute their projects via e-mail, Web publishing, or other media. Evaluation - students evaluate the impact of the technology they used, including its effectiveness and efficiency. During Task Definition/Defining Big6 stage one, students often use e-book and e-journal, e-mail, listservs and newsgroups to clarify assignments, projects and to brainstorm problems with system librarian, fellow students, and others in their university or in the global online community in electronic library. Video-conferencing, instant messaging, net telephone, and text or graphic chats are online communication methods that also facilitate Task Definition/Defining. During stages two and three of the Big6 (Information Seeking Strategies and Location and Access) students identify and assess computerized electronic resources as they develop strategies to seek and retrieved useful information for their problem. Students may rely on online catalogs, searchable indexes of periodicals, electronic encyclopedias, and other full-text sources. Students also search the World Wide Web using Internet search tools such as Yahoo, Google, or Alta Vista just to mention but a few.

Furthermore, having identified potential sources, students then engage and extract the relevant information (Big6 stage four: Use of Information) by connecting to and accessing online or locally stored electronic information sources; viewing, downloading, and decompressing files as needed; using copy-and-paste features and word processing software to take notes and record citations; and, filtering out non-relevant information. To synthesize (Big6 stage five), students must organize and present the results. Much of the computer software used in university electronic library are designed to assist with synthesis—for instance, word processing, database management, spreadsheet, graphics software, multi-media and presentation. Students can also present their projects via e-mail, web publishing (creating their own pages), and other electronic media. Finally, students evaluate/assess the process they used and the product they create; including the impact of the technology they used (Big6 stage six). And, they can share their evaluations with system librarian, lecturers and others using the same technologies noted in Big6 stage one, Task

Definition. As you can see, at each stage, technology can boost the information problem-solving process and made easy for use.

However, the rationale for the adoption of this model to address information retrieval skill variable in the present study is that Big 6 information skills model is more encompassing in terms of information access, evaluation, retrieval and utilization compare to Bandura self-efficacy theory of self-perceptions regarding particular behaviors which is considered to be situation specific or domain sensitive. That is, an individual may exhibit high levels of self-efficacy within one domain while exhibiting low levels within another one (Cassidy and Eachus, 1998). The model is relevant to this research work because it is concerned with the use of information. Also, the flexibility of the Big6 makes it highly adaptable to a range of educational systems and approaches. The model connects information search and use skills with technology tools in a systematic manner to find, use, apply, and evaluate information for specific needs and tasks. See below the diagrammatical representation of the explanation.

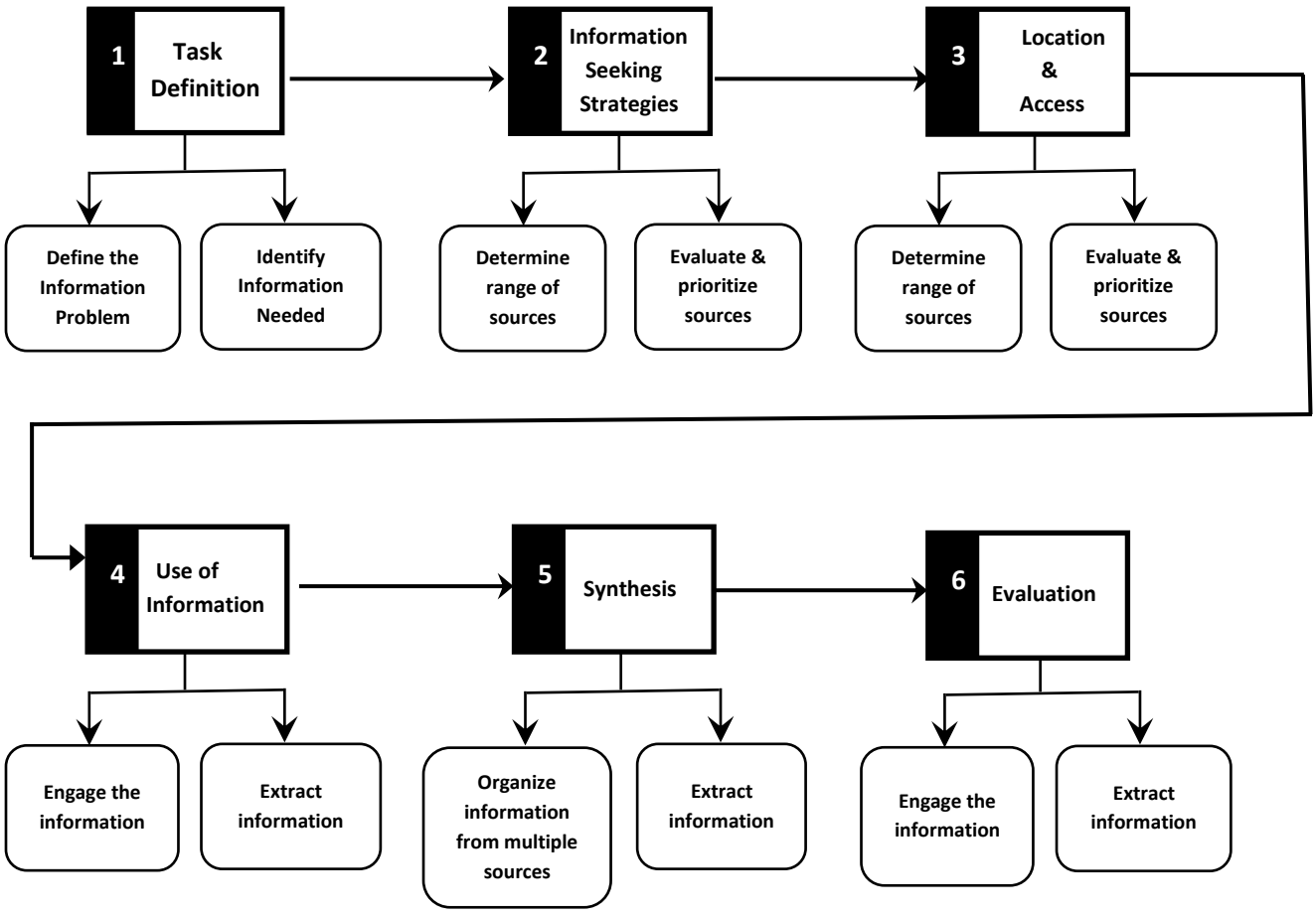

Figure. 3:1. The Big Six Information Skills Model (Eisenberg and Berkowitz, 1990).

Relationship among computer self-efficacy, computer anxiety, information retrieval skills and electronic library use of undergraduates'

Electronic library brought about transformation in information accessibility and utilization of library resources by student since it saves time in accessing publications at one's convenience (Daramola, 2016). Electronic library information resources are information documents that can only be accessed in the library electronically, using information communication technologies (ICT) facilities (Obuh, 2011). Electronic library collections include but are not limited to e-books, e-journals, CD-ROM, digitized resources such as theses/dissertations; newspapers and databases. The use of electronic library resources is largely dependent on the information retrieval skills and computer self-efficacy of students because the quality and volume of academic work of students is largely influenced by the knowledge and skills possessed in the use of electronic library.

Electronic library usage depends on technology, and that there is need for computer self-efficacy, low computer anxiety and information retrieval skills for effective use of electronic information resources (Sahabi, Alegbeleye and Madukoma, 2019). These variables are key factor to consider when using computer-assisted information resources. The perceived self-efficacy of the computer is likely to increase computer use and reduce the person's anxiety about the computer. Studies have shown that computers aid learning and are common tools in the academic environment; therefore, it is crucial for all students to become familiar and comfortable with their use (Ghavifekr and Rosdy, 2015; Akpan, 2011; 2018). The first important variable that appears to greatly influence electronic library use of undergraduate is computer self-efficacy which is a person's ability to study computers.

Self-efficacy refers to the self-confidence of students that they are able to use computers easily so that the learning atmosphere tends not to be boring which has an impact on the quality of learning and satisfaction on student achievement. Computer self-efficacy refers to an individual's perception of efficacy in performing specific computer-related tasks within the domain of general computing (He and Freeman, 2010). The ability to use computer varies depending on how strong each individual's confidence is in the use of computer. Therefore, for effective use of electronic library information one need to hold positive self-competence or confidence about his/her self on

the use of a computer, that is to say, the degree of computer self-efficacy appears to influence the use of the electronic library resources in the library.

The second variable that appears to exceedingly influence use of electronic library by undergraduate is computer anxiety. According to Akpan (2011) computer anxiety means the fear of intending interaction with a computer that is disproportionate to the actual threats presented by the computer. Computer anxiety is often associated with a positive response or an individual's negative response to the attitude of using a computer. Positive response is individuals who like computer technology if they feel that the presence of such technology will provide convenience in use and does not require heavy effort. Negative responses, namely individuals who do not like the presence of computer technology will feel anxious or excessive fear and allow them to feel intimidated in using it. This positive response and negative response can affect the individual's ability to use the computer.

The third important variable that appears to influence the use of electronic library is information retrieval skills. Information retrieval skill is the ability to search, locate, assess and critically evaluate information found on the web (Eshet-Alkalai, 2012). Information retrieval skills are relevant skill that enable one to easily navigate the vast electronic information available as a result of information explosion presently being experienced (Wesleyan University, 2016). However, the review of literature has shown that not much has been done by researchers to test the joint influence computer self-efficacy, computer anxiety, information retrieval skills have on electronic library use by undergraduates. Although, few studies have examined the influence that exists between aspects of computer self-efficacy, computer anxiety, information retrieval skills and use of electronic library by undergraduates. These studies will be reviewed in order to ascertain the pattern of joint correlation that exists between computer self-efficacy, computer anxiety, and information retrieval skills has on use of electronic library either in the library or outside the four walls of the university library.

Ismaila (2019) examined the influence of computer self-efficacy and information literacy skills on the use of electronic information resources among the undergraduate students in University of Ilorin and Kwara State University. The adopted descriptive survey design and used stratified sampling technique with a sample of 376 undergraduate students. The data for the study was collected using a questionnaire and were analyzed using frequency count and percentage while

the two hypotheses were tested using Pearson Product Moment Correlation (PPMC). Ismaila finding revealed that majority of the undergraduate students had a high level of computer self-efficacy which influences their use of electronic library information resources. The study further established that majority of the undergraduate student's information literacy skills influence their use of electronic library information resources. The study conclude that joint combination of computer self-efficacy and information literacy skills influence the use of electronic library information resources by undergraduate students.

The reviewed study is relevant to the present study because both studies investigated similar variables and respondents such as: computer self-efficacy, information literacy (retrieval) skill, use of electronic resources (use of electronic library resources) and undergraduates. Also, it is related to the present study as both studies used questionnaire as instrument for data collection. However, the cited study differed from the present study on sampling technique used, the cited study used stratified sampling technique while, the present study used purposive and quota sampling technique. Also, in the perspectives of statistical analysis used in the study, the cited study differed from the present study because frequency count, percentage and Pearson Product Moment Correlation (PPMC) were used to analyze data. While, the present study used inferential statistics, Pearson Product Moment Correlation Coefficient, simple linear and multiple regression analysis.

The study conducted by Akpan (2018) to determine the influence of computer anxiety and computer self-efficacy on the attitude of students to internet in Akwa lbom State, Nigeria. Three hypotheses were stated to guide the study. An expost facto design was used and the population of the study consisted of one thousand eight hundred and two senior secondary school students in Akwa Ibom State, Nigeria. The sample consisted of six hundred students drawn using the stratified random sampling technique. Students' computer anxiety, computer self-efficacy and attitude to internet questionnaire (SCASEAIQ) was the instrument used for data collection in the study. The questionnaire was divided into three sections. Each of the sections consisted of twenty items. Data analysis was done using Pearson Product Moment Correlation and independent t-test. All the hypotheses were tested at .05 level of significance. Akpan finding revealed that computer anxiety and computer self-efficacy significantly influence students' attitude towards Internet.

The reviewed study is applicable to the present study because both studies investigated similar variables such as: computer self-efficacy, computer anxiety, use of electronic resources (use of electronic library resources). Also, it is related to the present study as both studies used questionnaire as instrument for data collection. However, the cited study differed from the present study on sampling technique used, the cited study used stratified random sampling technique. While, the present study used purposive and quota sampling technique. The cited study differed from the present study on research design method, while the cited study used expost facto design, the present study used correlational research design method. Also, in the perspectives of statistical analysis used in the study, the cited study differed from the present study because data analysis was done using Pearson Product Moment Correlation and independent t-test. While, the present study used inferential statistics, Pearson Product Moment Correlation Coefficient, simple linear and multiple regression analysis. Finally, differences also observed was respondents, the present study deal on LIS undergraduates while the cited study is on secondary school students.

The investigation by Popoola and Adedokun (2021) on influence of computer self-efficacy, computer anxiety, and cognitive skills on the use of electronic library resources by social science undergraduates in a tertiary institution in Nigeria. The survey research design was adopted and stratified random sampling technique was used to select 869 sample size from a population of 1452 social science undergraduates across five departments. A total of 793 questionnaires was properly filled and collated which equals a response rate of 91.3% from the population sample. Findings from the study revealed that there were significant relationships among computer self-efficacy, computer anxiety, cognitive skills, and use of electronic library resources by the respondents. Computer self-efficacy, computer anxiety, and cognitive skills individually and jointly had a significant influence on the use of electronic library resources of the respondents. Therefore, library management in the tertiary institution should give due consideration to computer self-efficacy, computer anxiety, and cognitive skills of the respondents when planning to enhance their use of electronic library resources among others.

The reviewed study is significant to the present study because both studies examined similar variables and respondents such as: computer self-efficacy, computer anxiety use of electronic resources (use of electronic library resources) and undergraduates. Also, it is related to the present study as both studies used questionnaire as instrument for data collection. However,

the cited study differed from the present study on research, the cited study used survey research design while, the present study used correlational research design. Also, the cited study differed from the present study on sampling technique used, the cited study used stratified random sampling technique while, the present study used purposive and quota sampling technique.

The assessment on computer anxiety, computer self-efficacy and attitude towards the internet among first year students at a South African University of Technology by Schlebusch (2018) employed a survey research design to investigate undergraduates' computer anxiety levels, CSE levels and attitudes towards the Internet among first year students. The 2015 first year cohort of students (at a university of technology in South Africa) were measured on all the relevant variables (computer anxiety, CSE and attitude towards the internet) at a specific time (within the first three weeks of the first semester) as advised by Maree and Pietersen (2014). The questionnaire was distributed to students during class time. Two hundred and fifty-one (251) first year students in the Faculties of Humanities and Management Sciences participated in the study. First year students were selected as many of them were not exposed to regular computer usage at secondary school level. A questionnaire consisting of five sections was used to obtain the relevant data from the students. The data was analyzed using the Statistical Package for Social Sciences (SPSS) version 22 for Windows. In order to analyze the data in line with the research questions, both descriptive and inferential statistical techniques were used in the study. The findings revealed that students suffer from moderate computer anxiety; they have a moderate compute self-efficacy; and their attitude towards the internet is positive.

The reviewed study is relevant to the present study because both studies investigated similar variables and respondents such as: computer anxiety, computer self-efficacy, attitude towards the internet (use of electronic library resources) and undergraduates. Also, it is related to the present study as both studies used questionnaire as instrument for data collection**.** However, the cited study differed from the present study on research design used, the cited study used survey research design. While, the present study used correlational research design. Also, in the perspectives of statistical analysis used in the study, the cited study differed from the present study because both descriptive and inferential statistical techniques were used in the study including Statistical Package for Social Sciences (SPSS) version 22. While, the present study used inferential statistics, Pearson Product Moment Correlation Coefficient, simple linear and multiple regression

analysis. Finally, the cited study differed from the present study on scope, the cited study was on first year student in South Africa University of Technology. While, the present study is from first to final year undergraduates in Southern Nigeria universities offering LIS.

Omidian, Kamarzarrin, khaledian and Pourmaveddat (2013) study on predicting university students' attitude towards e-learning based on computer self-efficacy and computer anxiety. The population of the study consisted of all postgraduate students who were studying in Panjab University, Chandigarh as well as University of Tehran in India and Iran respectively. The total population is 800 postgraduate students of different faculties and departments of Panjab University (PU) and University of Tehran (UT) were the sample of the study. The randomization technique was used as method of data collection. Firstly, two faculties from Panjab University and two faculties from University of Tehran (UT) namely, arts, science were randomly selected respectively. Secondly, from each selected faculty, five departments were randomly selected. 40 students questionnaire were distributed in each department randomly. Care was taken that female and male students were equally selected to answer questionnaires. The attitude scale was used to measure student attitude towards e-learning while computer self-efficacy scale was used to measure computer self-efficacy of university students. The scale was also administered to 800 university students from two countries (India and Iran). The data was analyzed in the study using both descriptive and inferential statistical techniques.

Omidian, Kamarzarrin, khaledian and Pourmaveddat findings clarify that computer self-efficacy had a significant positive effect on total scores of student attitude towards e-learning. Thus, findings demonstrated that computer self-efficacy and computer anxiety are as the best predictors of attitude towards e-earning. In addition, the higher the student's computer anxiety scores, the lower their attitude towards e-learning. The reviewed study is relevant to the present study because both studies investigated similar variables such as: computer self-efficacy, computer anxiety and attitude towards e-learning (use of electronic library resources). Also, it is related to the present study as both studies used questionnaire as instrument for data collection**.** However, the cited study differed from the present study on sampling technique, the cited study used randomization sampling technique. While, the present study used purposive and quota sampling technique.

Also, in the perspectives of statistical analysis used in the study, the cited study differed from the present study because both descriptive and inferential statistical techniques and multiple regression were used to analyzed data. While, the present study used inferential statistics, Pearson Product Moment Correlation Coefficient, simple linear and multiple regression analysis. Finally, the cited study differed from the present study on scope, the cited study is on postgraduate students who were studying in Panjab University Chandigarh, Iran as well as University of Tehran in India. While, the present study is from first to final year undergraduates in Southern Nigeria universities offering LIS.

The investigation of Tella, Tella, Ayeni and Omoba (2007) on self-efficacy and use of electronic information as predictors of academic performance in University of Ibadan, Nigeria. The study adopted a descriptive survey research approach to find out the prediction of academic performance of the respondents through their use of electronic information and their self-efficacy. The population of this study comprised 700 undergraduates and graduate students from the faculty of education, University of Ibadan, Nigeria. These were randomly selected from the seven departments that make up the faculty. One hundred students were selected from each of the department. This gave a total of seven hundred students that took part in the study. Of these respondents, 377 (53.9%) were male and 323 (46.1%) were female; 490 (70%) were undergraduate students and 210 (30%) were graduate students. Their age ranged from 25 to 45 years, with a mean age of 35 years and a standard error of 10.

The study use electronic information scale (UEIS) with r = 0.75, coupled with various standardized scales like Morgan-Jinks (1999) to measure impact of information technologies on academic achievement, was adapted and revalidated. Responses to the instrument ranges from strongly agree to strongly disagree. The reliability co-efficient of the scale yielded r= 0.82 using a test retest reliability method of two weeks' interval. The data obtained from the study was analyzed using Multiple Regression analysis, Pearson Product Moment correlation matrix, and simple percentage statistical tools. Tella, Tella, Ayeni and Omoba finding revealed that the two independent variables (self-efficacy and use of electronic information) made a joint contribution of .9% to academic performance of the respondents. The result of the analysis of variance (ANOVA) that was done on multiple regression data produced an F-ration 24.77 of which was significant at 0.05 Alpha level.

Tella, Tella, Ayeni and Omoba further illustrate that each of the variables in the study made a significant joint contribution to the prediction of academic performance. Use of electronic library information resources made the most significant contribution (Beta= .227; t= 2.45; P= <.05). Self-efficacy also made a significant contribution (Beta= .118; t= 2.03; P<.05). It can be deduce from the finding that self-efficacy and the use of electronic information jointly predict and contribute to academic performance; that respondents with high self-efficacy make better use of electronic information and have better academic performance; that a correlation exists among self-efficacy, use of electronic information and academic performance; and that the use of electronic information influenced respondents' performance in general education subjects more than other subjects

The reviewed study is relevant to the present study because both studies investigated similar variables and respondents such as: self-efficacy, use of electronic library resources) and undergraduates. However, the cited study differed from the present study on research design used, the cited study adopted a descriptive survey research approach. While, the present study used correlational research design. Secondly, the cited study differed from the present study on sampling technique used, the cited study used random sampling technique. While, the present study used purposive and quota sampling technique. Also, in the perspectives of statistical analysis used in the study, the cited study differed from the present study because both multiple regression analysis, Pearson Product Moment correlation matrix, and simple percentage statistical tools were utilized. While, the present study used inferential statistics, Pearson Product Moment Correlation Coefficient, simple linear and multiple regression analysis.

Sam, Othman and Nordin (2005) on computer self-efficacy, computer anxiety, and attitudes toward the Internet among undergraduate at University of Malaysia Sarawak (Unimas). The study employed a survey research design. The sample of the study is 148 undergraduates. The mean age of the subjects was 23.8 years old (standard deviation = 4.06), ranging from 19 to 43 years old but majority of the subjects were in the 19-23 age groups. The questionnaire divided into five sections was used as instrument for data collection. Data analyses was carried out with the Statistical Packages for Social Sciences using frequencies, percentages, cross-tabulations and chi-square tests, t-tests, One-Way ANOVAs and Pearson’s correlations. Sam, Othman and Nordin finding established that undergraduates had moderate computer anxiousness, satisfactory attitudes toward the Internet, high computer self-efficacy and Internet extensively used for educational

purposes such as doing research, downloading electronic resources and e-mail communications. Furthermore, higher levels of Internet or electronic usage did not necessarily translate into better computer self-efficacy among the undergraduates and that those who used the Internet more often may not necessarily feel more comfortable using them.

Sam, Othman and Nordin further pointed conceivably, other factors such as the types of application used, the purpose for using, and individual satisfaction could also influence computer self-efficacy, computer anxiety and information retrieval. The study concludes that although Internet usage levels may not have any impact on computer self-efficacy, higher usage of the Internet does seem to decrease the levels of computer anxiety among the undergraduates. Undergraduates with lower computer anxiousness demonstrated more positive attitudes toward the Internet or electronic library.

The reviewed study is relevant to the present study because both studies investigated similar variables and respondents such as: computer self-efficacy, computer anxiety and attitudes toward the Internet (use of electronic library resources) and undergraduates. Also, it is related to the present study as both studies used questionnaire as instrument for data collection**.** Also, in the perspectives of statistical analysis used in the study, the cited study differed from the present study because both Statistical Packages for Social Sciences using frequencies, percentages, cross-tabulations and chi-square tests, t-tests, One-Way ANOVAs and Pearson's correlations were used to analyzed data. While, the present study used inferential statistics, Pearson Product Moment Correlation Coefficient, simple linear and multiple regression analysis. Finally, the cited study differed from the present study on location, the cited study was carried out in University of Malaysia Sarawak (Unimas). While, the present study is on universities offering LIS in Southern Nigeria.

Computer self-efficacy, computer anxiety and information retrieval skill influence how users perceive ease of use of electronic library. The joint contribution on the variables believed to influence an individual's use of computers and performance for computer-based tasks (Saade and Kira, 2009). Undergraduate are generally more interested in performing activities in which they have high self-efficacy that will be favorable to them, students with high computer self-efficacy will be more likely to take advantage of what is around them. That is to say, if they are familiar and feel comfortable with computers, they will use them, and if they feel that learning about

information retrieval skill to use the electronic library to strengthen and enhance their academic performance, they will learn about them because higher self-efficacy translated in higher search efficiency, success and satisfaction with low computer anxiety. In a nut shell, computer self-efficacy, information retrieval skill and low computer anxiety jointly influence undergraduate use of electronic library among undergraduates.

Method

The correlational research design was adopted for this study. The correlation research design according to Nworgu (2015), refers to a design that seeks to establish what relationship exists between two or more variables, as well as indicating the direction and magnitude of relationship between the two variables. Also**,** Privetera and Wallece (2011) opined that correlation research is a type of research method that involves observing two variables in order to establish a statistically corresponding relationship between them. Gall, Gall and Borg (2003) indicated that the purpose of correlational research design is to determine the relation between two variables, these variables will either show a positive, negative or no relationship.

The population of this study consists of all 10, 345 library and information science undergraduates from 10 Federal, 17 State and 8 Private Universities in Southern Nigeria.

S/N	Name of Institution	Ownership	No. of Reg. LIS Undergraduates					Zone
			100L	200L	300L	400L	**Total**	
1	Michael Okpara University of Agriculture, Umudike, Abia State	Federal	74	59	44	37	214	**South-East**
2	Nnamdi Azikiwe University, Awka, Anambra State.	Federal	90	105	119	43	357	
3	University of Nigeria, Nsukka, Enugu State.	Federal	65	63	78	90	298	
4	Abia State University, Uturu, Abia State.	State	85	94	78	49	306	
5	Anambra State University of Science and Technology, Uli, Anambra State.	State	11	19	21	23	74	
6	Ebonyi State University, Abakaliki, Ebonyi State	State	54	63	0	0	117	

7	Enugu State University of Science and Technology, Enugu, Enugu State.	State	118	98	105	81	402	
8	Imo State University, Owerri, Imo State	State	129	95	72	56	352	
9	Madonna University Okija, Anambra State	Private	3	1	6	2	12	
10	University of Portharcourt	Fedeal	113	95	89	95	392	**South-South**
11	University of Benin, Benin City, Edo State.	Federal	88	79	62	65	294	
12	University of Calabar, Cross River State.	Federal	120	137	115	117	489	
13	University of Uyo, Akwa Ibom State.	Federal	102	98	72	69	341	
14	Niger Delta University, Wiiberforce Island Bayelsa	State	51	47	0	0	98	
15	Cross River State University of Science and Technology, Calabar, Cross River.	State	216	118	96	59	489	
16	Delta State University, Abraka, Delta State.	State	115	127	121	118	481	
17	Ignatius Ajuru University of Education, Rumuolumeni, Rivers State.	State	102	88	71	55	316	
18	Rivers State University, Port-Harcourt	State	105	119	205	85	514	
19	Rivers State University of Science and Technology, Nkpolu Rivers State.	State	122	110	103	81	416	
20	Ambrose Ali University, Ekpoma Edo State.	State	48	39	32	33	152	
21	Benson Idahosa University, Benin City, Edo State.	Private	71	58	47	38	214	
22	Adekunle Ajasin University, Akungha, Ondo State	State	73	69	51	54	247	**South-West**
23	Federal University of Oye Ekiti, Ekiti State.	Federal	78	64	47	30	219	
24	University of Ibadan, Ibadan, Oyo State.	Federal	115	137	121	159	532	

25	University of Agriculture, Abeokuta, Ogun State.	Federal	115	83	55	45	298	
26	Ekiti State University, Ado Ekiti, Ekiti State.	State	69	58	44	42	213	
27	Tai Solarin University of Education, Ijebu- Ode, Ogun State	State	90	81	68	73	312	
28	Lagos State University, Ojo, Lagos State.	State	92	87	74	62	315	
29	Adeleke Ajasin University, Akungba Akoko, Ondo State	State	185	0	0	0	185	
30	Adeleke University, Ede, Osun State.	Private	92	73	52	54	271	
31	Ajayi Crowther University, Ibadan, Oyo State.	Private	88	84	71	77	320	
32	Babcock University, Ilishan-Remo, Ogun State.	Private	110	92	79	91	372	
33	Crescent University, Ogun, Ogun State.	Private	63	51	42	58	214	
34	Fountain University, Oshogbo, Osun State.	Private	61	54	41	49	205	
35	Leed City University, Ibadan, Oyo State.	Private	97	86	69	64	316	
			3,210	**2,731**	**2,350**	**2,054**	**10,345**	

Sources: 2020/2021 Academic Session Retrieved from Universities LIS Departmental Office

The sample size for this study is 1,006 library and information science undergraduates. This was derived by taking 10% of the entire population. It should be noted that Ebonyi State University Abakaliki, Niger Delta University, Wilberforce Island and Adeleke Ajasin University have been excluded from this study because they do not have 200-400 level at the time of this study. Therefore, the total population figure for the three universities has been removed from the sample. The sample is regarded as adequate because Seaberg (1988) and Grinnell and Williams (1990) suggested that in most cases a minimum of 10% sample should be sufficient for controlling sampling error. However, combinations of sampling techniques were used for this study. First, the purposive sampling technique was used to sample the 10%. Secondly, the quota sampling technique was used to determine the sample size for each university as well as levels of study.

S/N	Name of Institution	100 level	200 level	300 level	400 level	Total
1	Michael Okpara University of Agriculture, Umudike, Abia State	7	6	4	4	21
2	Nnamdi Azikiwe University, Awka, Anambra State.	9	11	12	4	36
3	University of Nigeria, Nsukka, Enugu State.	7	6	8	9	30
4	Abia State University, Uturu, Abia State.	9	9	8	5	31
5	Anambra State University of Science and Technology, Uli, Anambra State.	1	2	2	2	7
6	Enugu State University of Science and Technology, Enugu, Enugu State.	12	10	11	8	41
7	Imo State University, Owerri, Imo State	13	10	7	6	36
8	Madonna University Okija, Anambra State	0.3	0.1	0.6	0.2	1
9	University of Portharcourt	11	10	9	10	40
10	University of Benin, Benin City, Edo State.	9	8	6	7	40
11	University of Calabar, Cross River State.	12	14	11	12	49
12	University of Uyo, Akwa Ibom State.	10	9	7	7	33
13	Cross River State University of Science and Technology, Calabar, Cross River.	22	12	10	6	50
14	Delta State University, Abraka, Delta State.	12	13	12	12	49
15	Ignatius Ajuru University of Education, Rumuolumeni, Rivers State.	10	9	7	6	29
16	Rivers State University, Port-Harcourt	11	12	21	9	53
17	Rivers State University of Science and Technology, Nkpolu Rivers State.	12	11	10	8	41
18	Ambrose Ali University, Ekpoma Edo State.	5	4	3	3	15
19	Benson Idahosa University, Benin City, Edo State.	7	6	5	4	22

20	Adekunle Ajasin University, Akungha, Ondo State	7	7	5	5	24
21	Federal University of Oye Ekiti, Ekiti State.	8	6	5	5	24
22	University of Ibadan, Ibadan, Oyo State.	12	14	12	16	54
23	University of Agriculture, Abeokuta, Ogun State.	12	8	6	5	31
24	Ekiti State University, Ado Ekiti, Ekiti State.	7	6	4	4	21
25	Tai Solarin University of Education, Ijebu-Ode, Ogun State	9	8	7	7	31
26	Lagos State University, Ojo, Lagos State.	9	8	7	6	30
27	Adeleke University, Ede, Osun State.	9	7	5	5	26
28	Ajayi Crowther University, Ibadan, Oyo State.	9	8	7	8	32
29	Babcock University, Ilishan-Remo, Ogun State.	11	9	8	9	37
30	Crescent University, Ogun, Ogun State.	6	5	4	6	21
31	Fountain University, Oshogbo, Osun State.	6	5	4	5	20
32	Leed City University, Ibadan, Oyo State.	10	9	7	6	31
Total						**1, 006**

The instrument for data collection was structured questionnaire divided into four sections entitled "Undergraduates' Computer Self-Efficacy Questionnaire" (UCSQ), "Undergraduates' Computer Anxiety Questionnaire" (UCAQ), "Undergraduate Information Retrieving Skills Questionnaire" (UIRSQ), and "Undergraduates' Electronic Library Use Questionnaire" (UELUQ) respectively are used to collect data.

The computer self-efficacy scale was adapted from Murphy, Coover and Owen (1989) self-efficacy scale. The computer anxiety scale was adapted from Heinssen, Glass and Knight (1987) computer anxiety scale. The information retrieval skills scale was adapted from Adekannbi (2016) and Onah, Adayi, Okonkwo, Onyebuchi (2020) information retrieval skill scale. The electronic

library use scale was adapted from Umar, Azeez and Haruna (2020) computer self-efficacy and electronic resources use scale

Furthermore, to ascertain the internal consistency of the items, the instruments were administered to 20 LIS undergraduates in Federal University of Technology Minna, Niger State of Nigeria, which is not part of the researchers 'area of the study because they share similar characteristics. Data collected were analyzed using Cronbach Alpha method to measure the internal consistency and the reliability of the instrument. The alpha value of the reliability of the instrument resulted to coefficient of each cluster, cluster A876.21, B903.21, C935.25 and D885.15 of the different clusters for each of the four sections of the instrument respectively were obtained. The overall reliability indexes for the whole clusters A, B, C and D were .88, .90, .94, and .89 respectively. These reliability coefficients were considered high enough for the instruments. It was also considered reliable and appropriate for the study because the higher the value of reliability coefficient, the more reliable the test is. This is supported by Olayiwola (2007) who established that an instrument is considered reliable when its reliability coefficient is close to one.

More so, out of 1,017 copies of the instrument distributed to the respondents, only 983 completed the exercise, give return rate of 97% which is found usable for data analyses in this study. Data collected were analyzed using inferential statistics. The research question was analyzed using Pearson's Product Moment Correlation Coefficient (PPMC) and the hypothesis was tested using multiple regression analysis. Decision on the research question was based on the values assigned to the different statements. In taking decision in research question, Nwana (2007) opinion was used, thus the relationship coefficient (r) with score: 0.00 - 0.20 = Very low relationship, 0.20-0.40=Low relationship, 0.40-0.60=Moderate relationship, 0.60-0.80=High relationship, 0.80-0.90=Very high relationship, 1.00=Perfect relationship.

Results

Research Question

What is the relationship among computer self-efficacy, computer anxiety, information retrieval skills and electronic library use of LIS undergraduates in universities in Southern Nigeria?

The data in table 1 are used to answer the research question.

Table 1.

Summary of Multiple Regression Analysis with Undergraduates' Computer Self-efficacy, Computer Anxiety and Information Retrieval Skills as Predictors of their Electronic Library Use N=983

Variables	*R*	R^2	Remark
Computer Self-efficacy Computer anxiety Information Retrieval Skills	.48	.23	Moderate Relationship

Table one displayed that the multiple regression R was .48 while the R^2 was .23. The R value of .48 indicates that the three variables computer self-efficacy, computer anxiety and information retrieval skills jointly had a moderate relationship with LIS undergraduates' electronic library use. The R^2 of .23 implies that the three variables explained 23% of the variance in electronic library use of the LIS undergraduates.

Test of significant hypothesis

Hypothesis

There is no significant relationship among LIS undergraduate computer self-efficacy, computer anxiety, information retrieval skills and electronic library use in universities in Southern Nigeria.

The data in table 2 are used to test the hypothesis.

Table 2.

Test of Significance of Multiple Regression Analysis with LIS Undergraduates' Computer Self-efficacy, Computer Anxiety and Information Retrieval Skills as Predictors of Electronic Library Use among LIS undergraduates

Variables	*R*	R^2	*F(1,981)*	*p*	Decision
Computer Self-efficacy Computer anxiety Information Retrieval Skills	.48	.20	97.22	.00	Significant

The result of the multiple regression model in table 8 indicates that there was a significant relationship between computer self-efficacy, computer anxiety, information retrieval skills and electronic library use among LIS undergraduates, $f(df; 3,981) = 97.22$, $p<0.05$. The null hypothesis was, therefore, rejected.

Discussion

Relationship among computer self-efficacy, computer anxiety, information retrieval skills and electronic library use of LIS undergraduates

The findings revealed with the R value of .48 indicates that the three variables computer self-efficacy, computer anxiety and information retrieval skills jointly had relationship with LIS undergraduates' electronic library use. The R^2 of .23 implies that the three variables explained 23% of the variance in electronic library use of the LIS undergraduates. Moreover, analysis carried out In line with the hypothesis tested demonstrate that there was a significant relationship between computer self-efficacy, computer anxiety, information retrieval skills and electronic library use among LIS undergraduates, $f(df; 3,981) = 97.22$, $p<0.05$.

This finding aligns with Popoola and Adedokun (2021) that there were significant relationships among computer self-efficacy, computer anxiety, cognitive skills, and use of electronic library resources by the respondents. Thus, computer self-efficacy, computer anxiety, and cognitive skills individually and jointly had a significant influence on the use of electronic library resources of undergraduates.

Summary of Findings

Based on the data analysis carried out, the following findings are summarized:

1. There exist a joint moderate relationship between computer self-efficacy, computer anxiety and information retrieval skills with LIS undergraduates' electronic library use.
2. H_0 4 stated that there is a joint significant positive relationship among computer self-efficacy, computer anxiety and information retrieval skills with LIS undergraduates' electronic library use.

Conclusion

The main thrust of this study was to investigate relationship between computer self-efficacy, computer anxiety, information retrieval skill and electronic library use among LIS undergraduates. Electronic library use is an extremely complex concept that is influenced by

different factors, or more accurately by a group of factors that often have interwoven impact. The present study concludes that indicators such as computer self-efficacy, computer anxiety and information retrieval skill significantly relates with electronic library use among LIS undergraduates in universities in Southern, Nigeria.

Recommendations

Base on the findings the study recommended that all stakeholders in university education in Nigeria namely; Nigeria University Commission (NUC), Librarian Registration Council of Nigeria (LRCN) and Nigeria Library Association (NLA) should collaborate to redesign or tailor LIS curriculum to reflect information and communication technological courses with innovations prevalent in this 21st century like what is obtainable in developed world. Also, the new LIS curriculum advocated should ensure that the teaching of computer skills to LIS undergraduate in universities is promoted. This is to enable the moderate usage of electronic library information resources by LIS undergraduate changed to high and is sustained for adequate academic prowess.

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