

UNIVERSITY OF GHANA

DEPARTMENT OF INFORMATION STUDIES

ACADEMIC LIBRARY SERVICE QUALITY AND USER SATISFACTION: A SURVEY OF
DISTANCE EDUCATION STUDENTS AND FACULTY IN PUBLIC UNIVERSITIES IN
GHANA

BY

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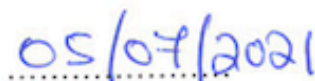
DECLARATION

I hereby declare that this Thesis is the result of my own original work except references to other people's work which have been duly acknowledged. And that no part of it has been presented for another degree elsewhere.



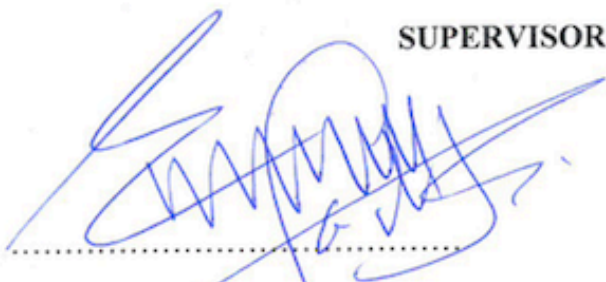
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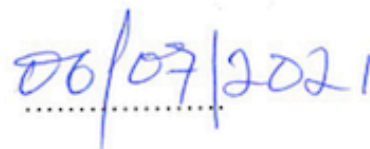
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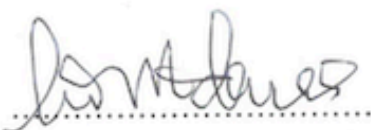


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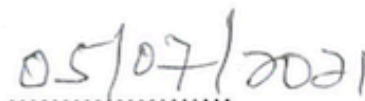


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DEDICATION

I dedicate this work to my Lord and personal Savior whose faithfulness has brought me this far.

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LIST OF ACRONYMS

CODE-UCC - College of Distance Education (CODE), University of Cape Coast

ICDE-UG - Institute of Continuing and Distance Education (ICDE) University of Ghana

IDL-KNUST - Institute of Distance Learning (IDL)-KNUST

IEDE-UEW - Institute for Educational Development and Extension (IEDE), University of Education (UEW)

KNUST – Kwame Nkrumah University of Science and Technology

UCC – University of Cape Coast

UEW – University of Education, Winneba

UG – University of Ghana

ABSTRACT

Universities in Ghana are positioning themselves to expand their distance education. Quality Library services that adequately meet the information needs of distance education students and tutors is a critical component of ensuring quality distance education. This study investigated academic library service quality and user satisfaction among distance education students and tutors. Data was gathered using survey. A sample of 335 distance education students and tutors was conveniently selected from IDL-KNUST, ICDE-UG, CODE-UCC and IEDE-UEW. The findings from the study showed that the frequency of library use was high in ICDE-UG and moderate in IDL-KNUST, CODE-UCC and IEDE-UEW. Borrowing books and reading personal notes dominated reasons for visiting the library. In CODE-UCC, majority of the respondents indicated visiting the library to read for pleasure. In terms of quality library services, respondents from ICDE-UG rated their library resources and services highest, followed by IDL-KNUST, CODE-UCC and IEDE-UEW. Respondents from ICDE-UG rated their library resources and services highest on reliability, responsiveness, empathy, accessibility and tangibility. Respondents from IEDE-UEW rated their institution highest on assurance of library services. Respondents from ICDE-UG rated highest on all the indicators of user satisfaction, followed by IEDE-UEW, IDL-KNUST and CODE-UCC. Library resources and service delivery were found to be most challenging in IDL-KNUST, followed by CODE-UCC and IEDE-UEW. ICDE-UG was rated least in terms of challenges of library resources and service delivery. It is recommended that continuous competency training, information literacy courses, expansion of electronic resources and off-campus access, as well as adopting customer care model be instituted to improve library service delivery for distance education students and tutors.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Distance education has revolutionized higher education globally, virtually tearing down the four walls of universities and other institutions of higher learning (Fressen, 2018). The proliferation of internet-based educational opportunities for instance, has expanded distance modalities to all parts of the globe (Roberts, 2018). Fressen (2018) for instance intimates that distance learning has revolutionized and democratized the delivery and accessibility of education. Distance education is defined as the formal learning activity where students and instructors are separated by geography, time or both for the majority of the instructional period (Qayyum & Zawacki-Richter, 2018).

Distance learning materials are delivered through a variety of media including (but not limited to) print, audio recording, videotape, broadcasts, computer software, web-based programmes and other online technology (Roberts, 2018). Lecturers and other course instructors support distance learners through communication via mail, telephone, email, or online technologies and software (Qayyum & Zawacki-Richter, 2018). Distance education offers opportunities for individuals to access tertiary education from the comfort of their homes or offices without having to physically relocate to university campuses (Owusu-Mensah, Anyan & Denkyi, 2015). In Ghana, for instance, almost all public universities are active in facilitating distance education programmes.

One critical factor which has been identified as crucial in the ever-expanding distance education, is advanced library resources and library service quality (Fressen, 2018; Owusu-Mensah et al. 2015). The library is the nerve centre of any educational institution as it promotes the acquisition of reading, inquiry and independent thinking through the provision of resources to support teaching and learning activities (Choshaly & Mirabolghasemi, 2018). It normally houses information materials in various formats such as electronic information sources like CD-ROM, the internet, etc (Natesan & Aerts, 2016). Quality library services are essential to support services to distance education students. Most researchers in distance learning are in agreement that library support is a key element (Aslam & Seher, 2018; Moses et al. 2016).

There is the urgent need to put in place quality library support services to aid significantly the distance educational curricula (Xi, Zhao, Hu, Tong & Bao, 2018). Indeed, distance education has also changed how critical support services, such as library and information service, are delivered in educational services in the twenty-first century (Aslam & Seher, 2018). Roberts (2018) underscored the fact that quality library services always played a major role in expanding distance learning programmes in higher learning institutions. Just as the library systems provide all type of services to regular students; it is the responsibility of the public university libraries to provide equal library services to distance learners. Significantly, library services such as borrowing library documents, locate materials using Online Public Access Catalogues (OPAC), searching for information using research and knowledge commons facilities exist for user usage. Other services include photocopying services, reference services and bibliographic searches (Fithri, Adnan & Syahmer, 2018; Association of College and Research Libraries - ACRL, 2008).

Library needs within distance education is argued to be even more critical, compared to on-campus education students (Fressen, 2018). Distance learners access library and educational resources and services in various ways (Agyekum & Filson, 2012). Access can be direct (e.g. face to face), mediated by printed material, (e.g. manuals, brochure), or mediated by technology, using a variety of media such as telephone, radio, the Internet etc (Tan, Chen & Yang, 2017). Successful direct access is characterized by flexibility, reliability, availability, user-friendliness, portability, efficiency and service ability (Benard & Dulle, 2014). Satija (2017) points out that some students have little or no exposure to library use and this affects their access to library resources.

Effective and appropriate services to distance learning communities may differ from, but must be equivalent to those services offered on a traditional campus (Namugera, 2014). The emphasis by distance users on electronic access gives academic libraries greater competition from many sources like bookstores and information from publishers and vendors who try to provide some of the same services that libraries provide (Badu-Nyarko, Benneh & Amponsah, 2015; Jackson, 2015). Indeed, by providing quality services and satisfaction to users, academic and research librarians can distinguish their services through friendly, helpful, and knowledgeable advice and the best technological resources available. Because academic library users have varying needs and expectations, it is the responsibility of the library staff to know these needs and expectations and strive to meet them. This study focuses on library service satisfaction within the context of distance education in Ghana.

1.2 Statement of Problem

Research indicates that distance education is growing very fast in Ghana, with more and more students enrolling on various undergraduate and graduate programmes (Badu-Nyarko & Amponsah, 2017; Owusu-Ansah et al. 2018). Given that library resources and services constitute a critical pillar in quality education at all levels (Agyekum & Filson, 2012; Hossain, 2018), including distance education (Owusu-Ansah et al. 2018), it is imperative to understand how students on distance education modules engage with library resources and services. Even though academic libraries are established to provide access to academic resources to students, distance education students have challenges with library resources and services (Fresen, 2018). In Ghana for instance, distance education students are faced with the fundamental problem of obtaining study materials and the ability to borrow library books (Ekumadze et al. 2017). The short and long-term consequences of not addressing library use among distance education students are high failure rates among students and low quality of graduates churned out from various distance education programmes respectively.

Despite the growing popularity of distance education programmes and the critical importance of library services in ensuring quality distance education, research on library services in distance education still lags behind. There are a few studies that have focused on library services available to distance education students, especially in low- and middle-income countries. In Ghana for instance, majority of studies on library resources and services and tertiary education have focused exclusively on regular students (e.g. Larson & Owusu-Acheaw, 2012; Yeboah, Adams & Boakye, 2018). The handful of studies in Ghana that have looked at library resources and services within

the context of distance education have focused on the use of digital library resources (Ekumadze et al. 2017; Owusu-Ansah et al. 2018).

So far in the literature reviewed, the researcher has not come across studies examining perceptions of library services and user satisfaction within the context of distance education in Ghana. This line of study is important because the library needs of distance education context may be different from those of the regular education context. Therefore, understanding the perceptions and satisfaction of their library services, would be a critical entry point into tailoring library services to suit the needs of distance education students in Ghana. This study responds to this gap in research by investigating academic library service quality and user satisfaction within the context of distance education and to recommend ways of improving academic library services.

1.3 Purpose of the Study

This main purpose of the current study was to investigate academic library service quality and user satisfaction in public universities in Ghana, with a focus on distance education students.

1.4 Objectives of the Study

The specific objectives of the study were;

- i. To assess the frequency and purposes of use of library services by distance education students and tutors
- ii. To assess the perceptions of distance education students and tutors of the quality of library resources and service delivery within their institutions.

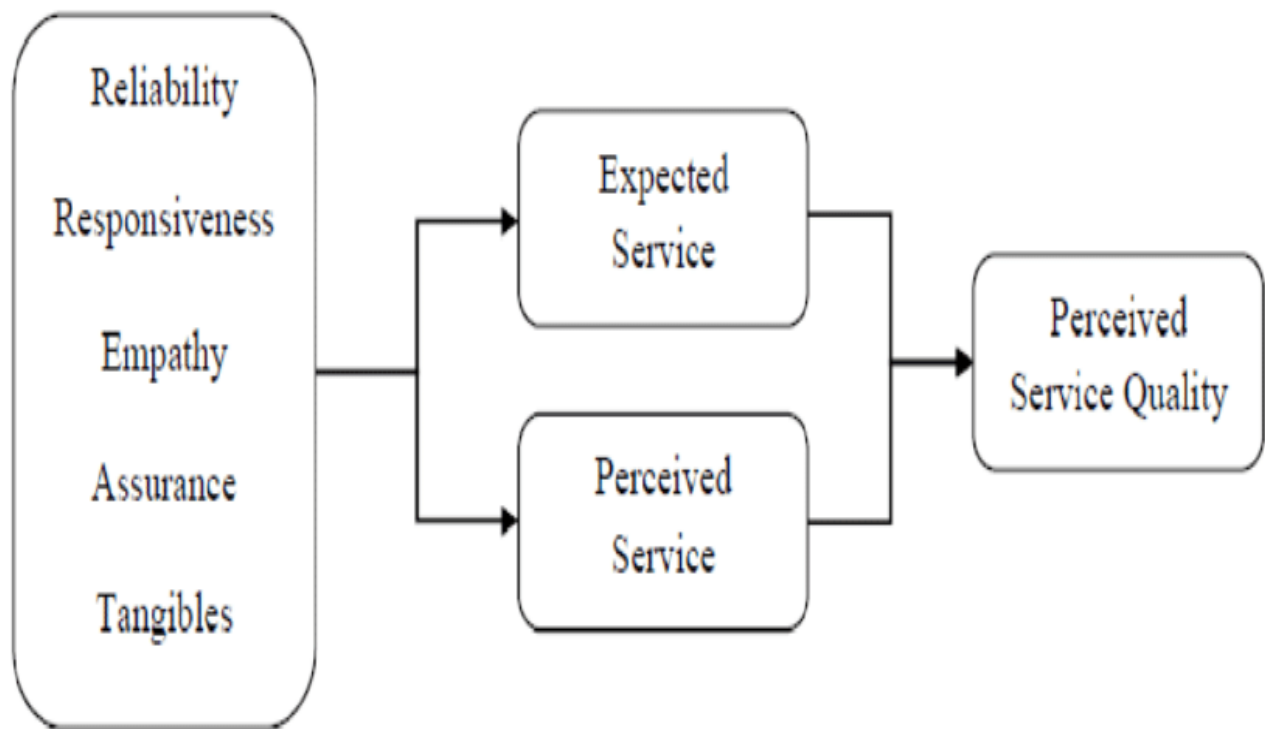
- iii. To examine the user satisfaction levels of distance education students and tutors in their library service delivery within their institutions.
- iv. To assess the challenges facing the distance learners in accessing quality library services at the public university libraries.
- v. Make recommendations on improving the quality of library services for distance education students base on the findings of the study.

1.5 Theoretical Framework

This section discusses the theoretical framework for the study. A theoretical framework plays significant roles in research. It guides the conduct of the entire research process. The fundamental unit of theoretical frameworks is a theory or a model (Tewell, 2015). A theory is defined as a system of ideas that are organized to explain a phenomenon (Lloyd, 2010). Within the context of research, theories shape how ideas and concepts are organized together to achieve the overarching aim or purpose of a study (Mackey & Jacobson, 2011). In this sense, theories are formulated to help in explaining, predicting and understanding, or even challenging assumptions in pre-existing knowledge in order to broaden the boundaries of knowledge (Tewell, 2015). Theoretical framework is, therefore, created by synthesizing the arguments and assumptions of more than one theory or model to provide a broader context for guiding research process (Lloyd, 2010). According to Mackey and Jacobson (2011) a theoretical framework acts as a structure that supports the entire research process.

In the current study, the SERVQUAL model was used as the framework. The traditional method of the size of holdings no longer fits the purpose for successfully measuring the user's demands for information. It is now time to evaluate the quality and significance of library service using alternative methods. The SERVQUAL method has evolved as a quality management instrument to measure service quality (Sahu, 2007). Thus, the present study adopts the SERVQUAL model to underpin investigation on academic library service quality and user satisfaction. Parasuraman *et al.* (1988) developed a customer-based approach called SERVQUAL to measure service quality which suggest an intriguing alternative to view and measure the quality of library services. Figure 1 represents the SERVQUAL model that was used to measure service quality perceptions and expectations.

Figure 1: SERVQUAL Model



Source: Parasuraman et al. (1988)

As can be seen in Figure 1 the SERVQUAL model identifies five dimensions with which consumers judge services. They include reliability, responsiveness, assurance, empathy, and tangibles. Brief explanation is as follows; reliability: the ability to perform the promised service both dependably and accurately, responsiveness: the willingness to help customers and to provide prompt service; assurance: the knowledge and courtesy of employees as well as their ability to convey trust and confidence, empathy: the provision of caring, individualized attention to customers and tangibles; the appearance of physical facilities, equipment, personnel, and communication materials.

The SERVQUAL model as shown in Figure 1 clearly depicts the reliance of perceived service quality on the above mentioned five dimensions by which customers judge services provided by organizations. Thus, how distance education students will perceive the quality of library services from libraries will depend on the service reliability, responsiveness, empathy demonstrated by library staff, assurance of the library service and the tangibles such as computers, building and library equipment that enable the service to be delivered. The model is applied in this study by identifying service quality from the perspective of library users (students and faculty). To measure potential gaps within the library service, the researcher adopts the 22-item questionnaire called SERVQUAL to investigate service quality and user satisfaction. The dimensions of the SERVQUAL model are explained below.

1.5.1 Reliability

The reliability component of the SERVQUAL model deals with the ability to perform the promised service dependably and accurately (Parasuraman et al., 1998). In this sense, reliability means that,

particularly within the context of commercial organizations, the company delivers on its promises- promises about delivery, service provision, problem resolutions and pricing (Benard & Dulle, 2014). In applying to the current study therefore, reliability looks at how libraries are able to capably provide the promised services to students and tutors on the distance education programmes in Ghana. This is in line with the fact that customers in general, and library users in particular want to do business with organizations, including libraries that keep their promises, particularly their promises about the service outcomes and core service attributes (Fressen, 2018). It is therefore imperative that libraries become aware of customer expectation of reliability.

1.5.2 Responsiveness

The responsiveness component of the SERVQUAL model focuses on the the willingness of organizations in general to help customers and provide prompt service (Namugera, 2014). In applying to academic library contexts, responsiveness encompasses the willingness of libraries in Ghana to provide distance education students and tutors prompt services and help them address their challenges. In this sense, the responsiveness dimension emphasizes attentiveness and promptness on the part of the libraries in dealing with the library users' concerns, including but not limited to questions, complaints, requests, and problems (Aslam & Seher, 2018).. Responsiveness is therefore communicated to users by taking into consideration the length of time they have to wait for assistance, answers to questions or attention to problems (Saija, 2017). Responsiveness also captures the notion of flexibility and ability to customize the service to the peculiar needs of the students and tutors, particularly those on the distance education programmes in Ghana.

1.5.3 Empathy

The empathy dimension of the SERVQUAL model focuses on the ability to provide individualized and attention to customers (Qayyum & Zawacki-Richter, 2018). In some organizational contexts, it is essential to provide individual attention and care to show to the customers that the organization does best to satisfy their individual needs. Within the context of academic institutions, it is essential for library to show empathy to students and tutors who use library facilities and resources (Roberts, 2018). Empathy is argued to be an additional plus or quality of organization that the trust and confidence of the customers and at the same time increase the loyalty (Roberts, 2018). In this competitive academic world, the library users' requirements are constantly increasing on daily basis and it is the duties of libraries to do their maximum best within their capacity to meet the demands of users, else users who do not receive individual attention will search elsewhere.

1.5.4 Assurance

The assurance dimension focuses on symbolic relationship dynamics such as trust and confidence (Namugera, 2014; Parasuraman et al., 1998). In order words, in the library context, do the staff inspire trust and confidence in the users? Thus, assurance is defined as staff's knowledge of courtesy and the ability of the library and its workers to inspire trust and confidence. The assurance dimension is likely to be particularly important for the services that the customers perceives as involving high rising and/or about which they feel uncertain about the ability to evaluate (Namugera, 2014). Trust and confidence may be embodied in the person who links the customer to the company, for example, the marketing department. Thus, workers are aware of the importance

to create trust and confidence from the customers to gain competitive advantage and for user loyalty Parasuraman et al., 1998).

1.5.5 Tangibility

The tangibility dimension of the SERVQUAL model deals with the tangible aspects of library resources and facilities. Since some aspects of library services are tangible, library users derive their perception of service quality by comparing the tangible associated with these services provided. Within the library context, tangibility focuses on the appearance of the physical facilities in the library, in terms of books, equipment, personnel and communication materials (Roberts, 2018). In this study, on the questionnaire designed, the students and tutors respond to the questions about the physical layout and the facilities that their libraries offer to them in their respective institutions.

1.6 Scope and limitation of the Study

The study mainly focused on users' evaluation of the quality of library services they enjoy as distance education students and tutors in Ghana. The study was conducted in the four public universities running the Distance Education programme. These are namely the University of Ghana, (UG), Kwame Nkrumah University of Science and Technology (KNUST), University of Cape Coast (UCC) and University of Education, Winneba (UEW). The study was limited to the Accra Learning Centres of all the above-mentioned Universities.

1.7 Significance of the study

The present study is of significance to the following groups: policy makers, professionals/practitioners, researchers and academia. The findings in this study will provide feedback on policies for implementation within the distance learning programmes in the public universities in Ghana. It will help design appropriate library systems to support appropriate learning experience for distance learners. In the last decade, research on library user satisfaction and library service quality in distance education or learning is limited in the field of library and information science.

In that regard, the results from the study are hoped to fill a gap in the literature on academic library service quality and user satisfaction among distance education students in public universities in Ghana. Furthermore, this study will contribute to the pool of knowledge and practice on DE and user library services. The findings and recommendations could be used as a benchmark for improving the learning environment of the distance learner. In addition, the research could serve as a secondary source of information to other researchers.

1.8 Organisation of the study

The study is organized into six chapters.

Chapter One introduces the study, and covers; the background to the study, statement of the problem, objectives of the study, theoretical framework, scope and limitations of the study, significance of the study, and organization of the study.

Chapter Two entails a review of pertinent literature of concepts and related empirical studies on service quality in academic libraries, specifically within the context of distance education.

Chapter Three covers the research methodology and it outlines the analytical strategies that were used for the study. This chapter also describes the research design, population, sampling technique and data collection methods, instrumentation, and also provides the procedure for data collection and data analysis.

Chapter four analyses the data and findings of the study. The results in this chapter are presented in systematic order based on the specific objectives of the study.

Chapter Five presents the discussions of the results originating from the analyzed data.

Chapter Six is the final chapter of the study and contains the summary of the findings, conclusion, recommendations and suggestions for future research based on the findings from the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The current study critically highlights the quality of academic library services and user satisfaction to distance education learners. A literature review plays a significant role in scientific research endeavor. Literature review has been explained to be both a process and a product (Ridley, 2012). As a process, literature review is defined as the systematic processes involved in searching for scholarly works within a research area (Ridley, 2012). As a product, literature review is defined as the final report or draft put together after critically reviewing scholarly works (Hart, 2018). The literature review, as part of a thesis, provides extensive reference to related research within the field of study, where connections are made within and among sources of knowledge drawn on for the study (Ridley, 2012). Fundamentally, the literature review shapes the entire study process including serving as a framework for interpreting research data and discussing research findings (Hart, 2018).

There are different levels of literature review depending on the degree levels being pursued (Ridley, 2012). For a Master of Philosophy (MPhil), Ridley (2012:5) argues that literature review involves analytical synthesis of scholarly works, encompassing all known literature on the research topic. It involves “high level of conceptual thinking within and across theories” (Ridley, 2012). In this sense, there is the need for both summative and formative evaluation of relevant previous empirical and scholarly works on the problem under study (Hart, 2018; Ridley, 2012). There is also the need for depth and breadth of discussion within the context of philosophical underpinning of the study in ways that relate to the problem under investigation (Hart, 2018).

The literature review helps the researcher to understand how the current work fit or differ from similar or other related studies on access to library information, library service quality and user satisfaction. Literature on the topic is therefore reviewed from the world point of view, African point of view and Ghanaian point of view. The literature review would be organized under the following headings and sub-headings:

- Definition of terms
- Distance education in Ghana
- Perception of quality of library services and user satisfaction
- Satisfaction levels of library users
- Challenges of library services among distance education students
- Improving library services and user satisfaction within distance education
- Summary of literature review is then provided.

2.2 Definition of Terms

Concepts play significant role in research. Concepts are argued to be the bedrock of every scientific research and therefore, the way they are defined and operationalized influence the progress and the trajectory of the research study (Ridley, 2012). In this sense, concepts become the main pillars in research on which all the other parts of research are hinged (Hart, 2018). Within the context of research in information science for instance, several scholars explain that the way and manner in which concepts are used and defined, help to simplify information in order to be able to appropriately apply within different contexts of study (Archibald & Worsley, 2019; Rubin, 2017). In this section, the main concepts of the study are defined and operationalized as applicable

to the current study. The terms defined in this section are; academic libraries, service quality, library service quality, library resources, library user expectations and library user satisfaction.

2.2.1 Academic Libraries

Academic libraries are service-oriented organizations that are established to provide relevant information resources and services to meet the information needs of the users (Thomson, 2017). Information provision has always been a key role of the public library and the ways in which information can be collected, accessed and presented have changed radically in recent years. In the past, traditional libraries provided information resources mainly in the form of print materials in hardcopy forms such as books and newspaper. However, in contemporary world, the advancement in technology has expanded the information resources and services provided by academic libraries (Satija, 2017). The rapid growth of information technology has brought a vast amount of information within reach of all those with access to electronic media (Middleton, Hall & Raeside, 2018).

In Ghana, academic libraries are mainly available in tertiary institutions, particularly universities. However, there are some senior high schools and junior high schools that have libraries. The current study however focused on academic libraries in universities. University students, both undergraduates and graduate students, and faculty members of universities depend on libraries for meeting their informational needs. These users of academic libraries are not only required to be provided with the needed library services but the quality of these services desired to be enhanced as well (Satija, 2017). For this reason, it is imperative that quality services are provided to users

of academic libraries in Ghana. The next subsection discusses the concept of service quality within the context of meeting customer expectation in general.

2.2.2 Service Quality

Service quality is an important strategy for marketing, particularly in differentiating customer service, offering and establishing customer value and satisfying the needs of customers (Kachwala et al., 2017; Sulemani & Katsekor, 2007; Thomson, 2017). Service quality and customer satisfaction have long been recognized as playing a crucial role for success and survival in today's competitive market. Not surprisingly, considerable research has been conducted on these two concepts (Allen & Seaman, 2017; Sulemani & Katsekor, 2007).

Service quality is defined as the quality of services available or delivered to customers and how the services meet the customers' expectations (Sulemani & Katsekor, 2007; Thomson, 2017). In most definitions, quality is defined in relation to the customer or user and the key issue is that quality becomes a meaningful concept only when it is indissolubly linked to the aim of total customer or user satisfaction. The effectiveness of assessment of service quality in public libraries depends on what service quality means to users. This means that users play an important role with regard to the perception of effect on quality of service delivered (Kachwala et al., 2017).

2.2.3 Library Service Quality

Libraries provide several services to users. Within the context of university education, libraries constitute the bedrock for information storage and delivery to students and faculty members. For this reason, the services offered in the library is critical to the advancement of teaching and learning. Library services are mainly assessed on three dimensions, which are; library information resources, library services and library facilities (Yeboah, Adams & Boakye, 2018). The synergy between these three dimensions defines what library service is (Kachwala, Dasgupta & Mukherjee, 2017). Therefore, the quality of library information sources, the quality of services offered in the library and the quality of facilities available in the library all combine to form library service quality (Yeboah et al., 2018).

In the current study, library service quality is operationalized as the the quality of resources available in a library, services delivered to library users and the facilities available for undergraduate distance education students and their tutors in Ghana. The assessment is to provide a managerial insight for diagnosing or determining the extent to which university libraries in Ghana serve the needs of distance education students and tutors, in order to know how best to improve areas that fall short of quality.

2.2.4 Library resources and services

Library resources and services are argued to be the fundamental lifeline of the existence of libraries (Archibald & Worsley, 2019). The resources of libraries are usually found in the entirety of their collection, while library services are found in how the library staff make the resources available to

the users (Kachwala et al., 2017). The Library collection is evidently one of the most important basic resources upon which the usefulness of public libraries depends (Haruna et al., 2017). The collection is a precious treasure for public libraries. Access to library professionals, information resources and library facilities are key in providing quality service to users of a library. The significance of information resources in libraries cannot be over-emphasized. All libraries are established to provide relevant and up to date information resources to its users (Allen & Seaman, 2017).

In terms of library services, Haruna et al., (2017) maintained that the friendly disposition of staff, the willingness of library staff to assist users to get needed materials from within or through inter-library loan will encourage users to patronize the library and above all increase users' satisfaction with library services. by Iwhiwhu and Okorodudu (2012) for instance, in their study of information resources, facilities, and services in public libraries in Nigeria identified information resources and facilities that were available to users such as textbooks, journals, audio-visual materials, toys, among others. The study further revealed that users were not satisfied with the photocopier facility, computers and periodicals in the Library but only satisfied with the library space, fans and air conditioners, lighting, ventilation and furniture at the Library. It was also found out that users were not satisfied with the overall information resources at the Edo state central library. In a related study, Archibald and Worsley, (2019) have also stated that the unsatisfactory level of users has serious implications for the library and the users. They therefore recommend that libraries must be supported financially to provide the necessary information resources and facilities to it users.

2.2.5 Library user expectation and perception

The expectations and perceptions that users have of libraries have gone through radical changes. Teixeira, Bates & Mota, (2019) opined that “today’s libraries including university libraries have a dire need to assess user's perceptions and expectations of quality library services in order to redesign their services and reorient their collection”. User expectations are defined as the standards against which a service provider’s performance should be judged by customers or users (Xi, Zhao, Hu, Tong & Bao, 2018). Within the context of library service provision, Teixeira et al., (2019) have suggested that performing a needs analysis is a way of determining user expectations which can assist librarians in assessing their situation by means of conducting an information audit or creating a customer service plan that will outline the goals and standards of customer service.

Over the years, advancement in technology and competition among libraries has added a huge challenge of keeping up with user expectation (Xi et al., 2018). The ability of users to access a vast range of resources from their own computers, without an intermediary, compels library managers to reconsider their service delivery (Roberts, 2018). Service quality perceptions stem from how well a provider performs in relation to the customer’s expectations about how the provider should perform (Allen & Seaman, 2017; Roberts, 2018). As a result, the research tends to define service quality in terms of meeting or exceeding customer expectations, or, more precisely, as the difference or gap between customer perceptions and expectations (Allen & Seaman, 2017).

2.2.6 Measuring library service quality

The standards and criteria for measuring and assessing service quality in customer care in general has seen dramatic change, and the same trend is observed in assessing library service quality. Within the library context, Teixeira et al., (2019) asserts that traditional methods such as size, relevance, the number of books on the shelves in relation to the number of people served and currency of collections for evaluating the value of library service are no longer valid and that service quality has shifted its emphasis for achieving excellence from product excellence towards building an ongoing relationship namely between users and library services. Thus, in other words the focus has moved from measuring outputs (circulation) to that of measuring outcomes (quality and satisfaction).

In line with the change, there have been the emergence of several models and instruments that are used to measure service quality, not only within commercial organizational settings, but also within public and academic library settings (Qayyum & Zawacki-Richter, 2018). This means that service quality in academic libraries addressing users' perceptions and expectations can be measured. Studies conducted by researchers such as Parasuraman (2004) confirms that service quality can be assessed in libraries using the SERVQUAL instrument. Over the years however, the LIBQUAL instrument has been developed to accurately measure service quality in libraries (Cann, 2009). Accurate measurement of service quality is important in order to better understand its essential antecedents and consequences, and, ultimately, establish methods for improving library service quality to achieve competitive advantage and build user loyalty (Agyekum & Filson, 2012).

2.2.7 Library user satisfaction

User satisfaction, as a concept in information science and library research, was borrowed from business management and customer service (Middleton, Hall & Raeside, 2018). The fundamental idea is that commercial businesses know that the more they meet their customers' satisfaction, the more their business grow because the customers become loyal to them and keep patronizing their business. Within knowledge revolution in information science and library studies, there was a paradigm shift, that focused on professional librarians seeing library users as their customers, and therefore the need to keep them satisfied (Kachwala, Dasgupta & Mukherjee, 2017).

Library user satisfaction is therefore defined as the extent to which library users feel satisfied with the three dimensions of library service, which are the the quality of resources available in a library, services delivered to library users and the facilities available for them (Thomson, 2017). Library user satisfaction is however a more subject than objective evaluation. This means that library user satisfaction is only best examined from the perspective of the library user, based on how they evaluate their experience of academic or public libraries (Satija, 2017). This means that, it is not just about the availability of the services, but rather how users experience these services (Xi, Zhao, Hu, Tong & Bao, 2018).

In the current study therefore, library user satisfaction is operationalized as the subjective evaluation of distance learning students and their tutors in Ghana concerning how they experience the services offered by their institutional libraries. This provides insight as to how distance

education students and tutors in Ghana experience their institutional libraries and the possible bottlenecks that may need to be addressed.

2.3 The Concept of Distance Education

Distance education is argued to be easily identified as a practice but difficult to define and operationalized as a concept (Archibald & Worsley, 2019). In a content analysis of journals study for instance, Boskurt et al., (2015) for instance showed that the trends in distance education research shows an expanding conceptualisation of the term. The difficulty with the definition of distance education or distance is that the concept of distance is difficult to define, in order to appreciate the kinds of learning or education that constitutes distance education (Archibald & Worsley, 2019). There are different terminologies used for distance education, such as distance learning and long-distance learning (Qayyum & Zawacki-Richter, 2018). In this study, these concepts are used interchangeably.

There have therefore been different definitions and conceptualisations of distance education, but mostly cohering around issues such as mode of delivery (Teixeira, Bates & Mota, 2019). Fundamentally, distance education (or as some refer to it as long-distance learning) is defined as the system of education of students, where the students may not always be physically present in the school or institution (Teixeira et a., 2019). Others also define distance education as formal learning activity where students and instructors are separated by geography, time or both for the majority of the instructional period (Allen & Seaman, 2017; Roberts, 2018). At the undergraduate level for instance, distance learning or distance education usually means students engaging with

learning materials at home or work (Archibald & Worsley, 2019). At the graduate level, distance education usually involves correspondence courses wherein the student corresponded with the school via post, and in todays, technology, mainly online (Teixeira et a., 2019). In the current study, the focus is on undergraduate distance education in Ghana.

Distance learning materials are delivered through a variety of media including, but not limited to, print, audio recording, videotape, broadcasts, computer software, web-based programmes and other online technology (Archibald & Worsley, 2019). Teachers support distance learners through communication via mail, telephone, email, or online technologies and software (Teixeira et a., 2019). These materials are produced by the university, college or learning provider and are either sent directly to the student or more usually today accessed via the internet. Depending on the mode through which learning materials are delivered, there have arisen different types or kinds of distance education. These include correspondence learning, electronic learning and online learning (Bozkurt et al., 2015).

Correspondence learning involves a system of delivery where students learn through correspondence between course instructors and learners (Allen & Seaman, 2017). Thus, with correspondence learning, students receive their study materials such as textbooks, study guides, assignments and other study materials via the post (Archibald & Worsley, 2019). Students are required to work through these materials in their own time and at their own pace (Archibald & Worsley, 2019). Depending on the institution through which students choose to study their course,

they may be able to meet a tutor or instructor sometimes face-to-face in regular basis (which can be weekly or monthly) for help (Teixeira et a., 2019).

Electronic learning, also referred to as e-learning involves delivery education via technology-mediated platforms (Teixeira et a., 2019). With e-learning, students get access to their course materials (on a computer CDs, DVDs, and computer-based applications can all be used to deliver e-learning courses (Allen & Seaman, 2017). Online learning on the other hand is a form of electronic learning that requires students to have access to the internet (Teixeira et a., 2019). Online learning is argued to be often more interactive than the other types of distance learning. This is because online learning allows students to communicate with tutors, instructors and fellow students in real time (Owusu-Ansah et al. 2018). With online learning, students might also be able to download their study material from the internet, submit your assignments via an online student portal, complete assessments online, attend webinars, and participate in virtual classes (Allen & Seaman, 2017).

In the current study, distance education is conceptualized as a hybridization of correspondence learning and electronic learning. This is because, in Ghana, distance education has traditionally been delivered using the print-module base, where printed materials are delivered to students in their study centers, which reflects correspondence learning (Owusu-Ansah et al. 2018). However, in recent years, universities such as University of Ghana and University of Cape Coast have included electronic component to it, with the supply of tablets to students and providing access to lectures delivered online, which reflects e-learning (Edumadze, Ogoe, Essilfie, Edumadze &

Graham, 2017; Owusu-Mensah, Anyan & Denkyi, 2015). Distance education in the current study is therefore operationalized as correspondence and electronic delivery of undergraduate education in Ghana.

2.4 Distance Education in Ghana

According to Owusu-Ansah, Rodrigues and Van Der Walt (2018), the idea of distance education (DE) is not new in Ghana. It used to be known as correspondence education, an avenue through which a number of workers and professionals upgraded themselves. A World Bank report, (2002) on priorities and strategies for capacity building in tertiary Distance education for human resources development in Ghana indicates that after some time the idea of using DE for manpower development resurfaced strongly and this led to the introduction of a number of DE initiatives including the Modular Teacher Training Programme (MTTP), which was introduced in 1982.

The MTTP programme was meant to upgrade untrained teachers academically and professionally through some form of DE. Through this programme 7,537 untrained teachers received professional training and obtained Teachers' Certificate A. However, this programme was abandoned because of certain difficulties it faced. Despite the difficulties encountered in the earlier attempts with DE in Ghana, there was still a strong conviction on the part of the government of Ghana that DE is a viable complement to conventional education especially at the tertiary level. This conviction was partly due to the fact that universities were not able to admit even half of qualified applicants due to limited facilities (Owusu-Mensah, Anyan, & Denkyi, 2015).

Consequently, according to Owusu-Ansah et al. (2018), between 1991 and 1994, the government of Ghana through the Ministry of Education (MOE) sponsored a number of surveys to assess the DE needs of Ghana. Two important international organisations which were involved in these surveys were the Commonwealth of Learning (COL) and the United National Education, Scientific and Cultural Organisation (UNESCO). Upon the recommendations from these surveys the universities agreed to start DE programmes.

The four universities, University of Ghana (UG), University of Cape Coast (UCC), University of Science and Technology (UST) and University College of Education of Winneba started preparations for this new model of educational delivery. The University of Ghana opted to offer four courses through its DE programme. These were Sociology, English, Religious and Political Science at the bachelor degree level. For University of Cape Coast the courses selected were Bachelor of Education in Primary Education and the Post graduate Diploma in Education (PGDE). At the University of Science and Technology two programmes were proposed for the programme. These were B.Sc. Building Technology and B.Sc. Biological Sciences. However, funding of the DE programme was a problem for the universities (Edumadze et al., 2017).

Of these four Universities only UCEW was able to take off in 1996 as a result of assistance from the then British Overseas Development Administration (ODA) now Department for International Development (DFID). UCEW took off by admitting a first batch of 196 students to pursue Post-Diploma Bachelor of Education (B.Ed) degree in four subject areas namely: English Education, Life Skills Education, Mathematics Education and Science Education. UCEW therefore became the pioneer in university level DE in Ghana. However, UCC and UG started their programmes in

2001/2002 academic year with diploma programmes in Basic Education and Youth in Development Work respectively.

2.5 Perception of Quality of Library Service and User Satisfactions

User satisfaction has seen increased interest among information science researchers and practitioners. There is a fundamental argument that what draw users to patronize library services are not any different from customer service in the corporate world (Sulemani & Katsekor, 2007). There is therefore the need to ensure that library users get positive experience in the library settings. Library user satisfaction has therefore seen increasing research attention, to among other things, find out the factors that shape user satisfaction and sustained patronage in the libraries.

Tan, Chen and Yang (2017) assessed the association between service experience, perceived quality and user satisfaction influence user loyalty in public library settings in Taiwan. A total of three hundred and thirty-nine (339) library users were conveniently selected for the study. Findings from the study showed that there were high levels of user satisfaction and positive service experience among the library users. Positive service experience was found to directly increase both user satisfaction and user loyalty.

However, the association between service quality and user satisfaction was not significant. These findings suggest that, when way library users subjectively experience positive service in library setting is more important in influencing user satisfaction than any form of objective service quality measure. In essence, even if libraries are rated high on service quality by standard indicators, but the users do not feel positive experience, they (library users) still rate their satisfaction levels as

low. Thus, when it comes to library services, the way the subjective assessment of how users experience services is more important than the objective assessment of service quality.

In a related study, Aslam and Sehr (2018) conducted a user satisfaction survey of public libraries in Pakistan and reported that there is a limited level of satisfaction from users of the public libraries. Data gathered from a total sample of three hundred (300) users of various public libraries indicated that the quality of services provided at the libraries were poor and therefore needed improvement. Namugera (2014) also examined how students rate university library services, using the Makerere University Library (MakLib) and its satellite libraries as a case study. Qualitative data in the form of individual interviews was gathered from ninety-four (94) users. Findings from the study showed that there is a high level of positive perceptions and user satisfaction among the students. The subjects rated the quality of service as high and also indicated that the library staff are very professional.

In a related study, Xi, Zhao, Tong and Bao (2018) in a related study, undertook two case studies to compare two models for assessing library service quality in China. The two models assessed and compared were the LibQUAL model and the Analytical Hierarchy Process (AHP) model. The findings showed that even though both models were effective in assessing library service quality, there were some significant nuances in the models. Specifically, the AHP model was found to be more effective when assessing library service quality between the [libraries] themselves, while the LibQUAL was more effective in evaluating library service quality from the perspective of the users. This suggests that individual library users and regulatory institutions evaluate library service quality in different ways. Therefore, the need to improve user satisfaction of library services should

take into consideration how individual library users feel or get positive experience when they visit the library.

Nzivo (2012) has also examined user perceptions of information resources and library services in public libraries in Kenya. The aim was to identify how adult users of public libraries perceived service delivery and resources in the library, with the aim of enhancing service delivery in public libraries. Data was gathered from a convenience sample of one hundred and twelve (112) adult users. Findings showed that public library resources and services are perceived positively among the adult users. They were found to rate their satisfaction levels higher for the public libraries as compared to university libraries.

In Ghana, Sulemani and Katsekor (2007) have reported low level of satisfaction with accessing information among undergraduate science students at the University of Ghana. In a study that examined information seeking behavior of a sample of 75 undergraduate science students at the University of Ghana, they observed that the students did not use the library's resources often because they were not satisfied with information services that they had access to. Kwadzo (2015) has reported similar findings to the effect of high level of satisfaction of information sources among graduate students in Ghana. The students reported that they are highly satisfied with the electronic information resources provided by the library for student research.

2.6 Satisfaction levels of Library Users

At the turn of the twentieth century however, research on perceptions and usage of library resources have largely focused on adults, especially among undergraduate students. In recent years, the focus has been on how university libraries are able to meet the expectations of users. Fundamentally, there are several studies that argue that in developing countries for instance, libraries barely meet the expectations of their users due to several structural and institutional level challenges that university libraries face.

In Ghana, Agyekum and Filson (2012) assessed the challenges of school libraries following the implementation of the new educational reforms in Ghana. They observed that in Ghana, school or academic library service provision did not see any remarkable changes, even five years post implementation of the new education reforms. Several challenges were identified to be facing academic libraries in Ghana, including poor funding, limited professionally trained staff, poor facilities and electronic resources.

In a related study, Jackson (2015) has reported that library users rate physical features as important indicators of quality of service. This was discovered in a study that examined how well university rankings measures service quality in university libraries across the world. Fundamentally, the study compared library-related results of two university ranking publications with scores on the LibQUAL survey to identify if library service quality—as measured within the LibQUAL dimensions effect of service, information control, and library as place—is related to the standings. Findings from the study showed that majority of the indicators used in ranking universities mostly

favoured libraries that had highly rated physical facilities, and largely ignored the actual services delivered in the libraries.

Fithri, Adnan and Syahmer (2017) have also proposed spatial focus on improving academic library service for users. In a study that examined the gaps between perceptions and expectations of library users in Indonesia, Fithri et al., (2017) observed that the users perceived high disparities between library service expectations and service provision. The subjects indicated that there are not enough spaces within the libraries, which makes air circulation difficult due to overcrowding. The ranking of the gap, for all dimensions, is the dimension of responsiveness, assurance, empathy, tangibles and reliability. It indicates that users' expectations were not being fulfilled yet.

Apart from the studies that have focused on structural and institutional challenges, the studies that focus on perception level report some form of satisfaction among users and the fact that users perhaps see their expectations met. Most of these studies largely report that the perceptions people hold about libraries influence the way they use library resources. For example, Dahan, Taib, Zainudin and Ismail (2016) examined user perceptions of academic library services among 382 undergraduate students in Malasia. They found that the students perceived the libraries resources as adequate and services provided as high quality. Because of this, majority of the students reported of using the library often for academic purposes.

Nzivo (2014) examined user perceptions and satisfaction of public libraries and information services in Kenya National Library Service (KNLS), among adult users. Findings from the study indicated that there was level of perceived quality of service and satisfaction among the adult users.

Specifically, comparing to other libraries, KNLS library services and information resources are very positively perceived by most subjects. The subjects indicated that KNLS libraries had several positive performances indicated that made it comparatively better off than universities and other public libraries. In a related study, Namugera (2014) also assessed user's awareness, perceptions and usage of Makere library services in South Africa by interviewing a total of 94 individuals. She found that majority of the users were undergraduate students and they indicated that the services offered there are of high quality. Thus, those who had high awareness and positive perceptions reported using the library more.

Nzivo (2012) also conducted a study to assess user perceptions of public library services and information resources among a sample of 112 individuals in Kenya. He found that the subjects perceived the public library services positively, even more than school libraries. The subjects therefore reported of using the public library and information resources services even more than the ones in their universities. Similarly, Ekere, Omekwu & Nwoha, (2016) have also assessed perceptions concerning facilities, resources and services of MTN digital library in Nigeria. The study used 196 registered users of the digital library and administered questionnaires to them. Subjects reported higher satisfaction towards the library due to available of resources including books, computers and internet connectivity.

In Ghana for instance, Larson and Owusu-Acheaw (2012) have examined satisfaction with library resources among undergraduate students in University of Education. The study involved a sample of 454 students from 9 different departments. They found that even though students reported being satisfied with library services, more needed to be done in terms of resources. The problem of

inadequate resources was reported by the students to impede their efficient use of the library. Thus, the students also indicated that there are still more gaps that the libraries need to address to improve.

Buabeng-Andoh and Issifu (2015) also conducted a study in Ghana to examine students' perceptions of implementing information and communication technology (ICT) in learning in senior high schools. The study involved 3380 students from 24 different public and private schools from four different regions in Ghana. The findings from the study showed that even though students' perception of ICT was positive, they had concerns about the opportunities that ICT can offer them in their academic performance due to the high cost involved and therefore reported of not willing to utilize ICT assisted learning. Male students were found to perceive ICT more positively than female students.

2.7 Challenges of Library Services among Distance Education Students

The challenges library users face has received research attention especially in developing countries. The findings from different sets of studies report that the challenges range from structural problems to resource and behavioral challenges. However, research is very scarce on library services available to distance education students and tutors, especially in developing countries. Meanwhile, the few studies available show a great need for library resources and services for distance education students. For instance, distance learners access library and educational resources and services in various ways (Sacchanand, 2002). Access can be direct e.g. face to face, or mediated by printed material, e.g. manuals, brochure, or mediated by technology, using a variety of media such as telephone, radio, the Internet etc. Successful direct access is

characterized by flexibility, reliability, availability, user-friendly, portability, efficiency and service ability (Sacchanand, 2002).

However, there are fundamental challenges to access to library information and resources, especially among distance education students in developing countries. For instance, Kavulya (2004) in his study of distance education in four universities in Kenya opined that some of the students have little or no exposure to library use and this affects their access to library resources. Effective and appropriate services to distance learning communities may differ from, but must be equivalent to those services offered on a traditional campus (Kavulya, 2004).

In a related study, Bernard and Dulle (2014) have reported that students face several challenges and constraints in accessing library services. In a study that investigated access and use of library information resources by students, they found that students encounter several constraints and challenges in using school libraries. Some of the constraints identified included lack of current and up to date reading materials, restricted reading hours, lack of sitting facilities, and lack of informational professional/ librarian for processing materials.

In Ghana for instance, Agyekum and Filson (2012) examined the challenges of academic libraries in Ghana, within the context of new educational reforms. They observed that academic libraries in Ghana did not undergo any major or remarkable improvement or changes following the implementations of the new educational reforms in Ghana. The challenges of academic libraries

which included poor funding, limited professionally-trained library staff, and poor facilities were still dominant in many academic libraries across the country. Libraries in Ghana therefore face severe challenges such as poor funding, untrained library staff, poor facilities among others.

Owusu-Ansah, Rodrigues and Walt (2017) have also argued that institutional-level factors such as course designs also constraints access to library information among distance education students in Ghana. In a study that examined how institutional-level factors (such as academic task) and individual-level factors (such as preference for print sources and information skills) affect distance learners' use of digital libraries in a teacher distance education programme at the University of Education, Winneba in Ghana.

The findings from the study showed that, at the institutional-level, the way academic tasks of distance learners are designed and delivered did not require them to use digital library resources, and this resulted in low or no academic use of digital libraries. At the individual-level. Owusu-Ansah et al. (2017) reported further that there is high preference for print resources among distance education students, a situation which accounted for low use of digital library resources. They also found that even though most of the distance learners possessed basic ICT skills, this did not result in their use of digital library resources.

Similar findings have been reported in other African countries. For instance, in another study conducted by Benard and Dulle (2014) assessed access and use of library information resources

by students of secondary schools in Morogoro Municipal in Tanzania. They found that secondary school students face many constraints in using school library. Among the challenges listed include lack of current and up to date reading materials, restricted reading hours, lack of sitting facilities, and lack of informational professional/ librarian for processing materials.

Rowland and Rubbert (2001) in their study on information needs of distant learners reported that the university libraries did not cater for the specific needs of these students. Apart from the manner in which they are accessed, requested and delivered, the same resources are required, the same questions are asked, and the same quality of service is expected, and they expect the same level of library service as that provided to their peers on campus (Rodrigues & Rubbert, 2001).

In Nigeria, the challenges are not any different. Owate and Iroha (2013) investigated the availability and utilization of school library resources by Secondary School Students. The number of schools involved in the study was eight high schools in Rivers State, Nigeria. The schools were selected based on their performance in external examinations and geographic locations. Findings from the study showed that library services in all the schools were lacking and that none of the secondary school met the prescribed standard for established school libraries at the secondary levels. In cases where spaces were provided for library, the materials in the libraries were not only scanty but poorly organized for effective library and information service delivery.

Another study in Nigeria conducted by Moruf (2015) to investigate utilization of Secondary school libraries by Students also reported that school libraries were not utilized effectively by students due to inadequate resources, poor funding and lack of adequate provision for school library development. Other studies have also reported in different developing countries that there are staggering shortages of professional librarians at the pre-tertiary levels, especially in secondary schools. For instance, Shandu, Evans and Mostert (2014) investigated the challenges in the provision of school libraries in secondary schools in Katlehong, Gauteng province in South Africa. The study was conducted among 14 teacher-librarians, 14 principals and one Gauteng Department of Education (GDE) official and 102 teachers.

Findings from the study showed that the teachers themselves do not use the school libraries due to several challenges in library provision services. Among some of the challenges they cited were inability of the libraries to provide relevant information services due to a lack of space; outdated and inadequate information collections; uncatalogued and poorly organized books; inaccessible opening hours; and a lack of funds and networked computers. Findings from these studies speak to the need to address the various challenges students in general, and distance education students in particular face.

2.8 Improving Library Service and User Satisfaction for Distance Education

Distance learners' expectations of library services as revealed in the literature, demonstrate a great need. The library needs of distant learners are unique, even though they have the same library and information needs as on-campus students. There is therefore the need to put measures in place to improve library services for distance education students and tutors.

The emphasis by distance users on electronic access gives academic libraries greater competition from many sources like bookstores and information from publishers and vendors who try to provide some of the same services that libraries provide. These competitors sometimes provide information services faster and more efficiently, while academic libraries seem not to.

Indeed, by providing quality services and satisfaction to users, academic and research librarians can distinguish their services through friendly, helpful, and knowledgeable advice and the best technological resources available. Because distance education students have varying needs and expectations, it is the responsibility of the library staff to know these needs and expectations and strive to meet them.

There have been some suggestions on what can be done to improve library services for distance education. Cox (2004) for instance, underscored that library services always played a major role in expanding distance learning programmes in higher learning institutions. Just as the library systems provide all type of services to regular students; it is the responsibility of the public university libraries to provide equal library services to distance learners. Significantly, library services such as borrowing library documents, locate materials using Online Public Access Catalogues (OPAC), search information using research and knowledge commons facilities exist for user usage. Other services include photocopying services, reference services and bibliographic searches (Cann, 2009; Association of College and Research Libraries - ACRL, 2008).

Fithri, Adnan and Syahmer (2017) proposes spatial focus on improving academic library service for users. In a study that examined the gaps between perceptions and expectations of library users

in Indonesia, Fithri et al., (2017) observed that that the users perceived high disparities between library service expectations and service provision. The subjects indicated that there are not enough spaces within the libraries, which makes air circulation difficult due to overcrowding. For this reason, Fithri et al., (2017) recommended that academic libraries need to provide enough spaces both to reduce overcrowding and allow for air circulation.

In Ghana, some scholars have also suggested the way forward. Badu Nyarko, Benneh and Amponsah (2015) for instance have suggested the need to migrate to web tools in facilitating access to information for distance education students in Ghana. In a study that examined implementation strategies for the establishment of the University of Ghana's distance education program, Badu-Nyarko (2015) noted that access to information and library services among distance education students is poor, and therefore suggested that digital libraries is the way to go in meeting the library needs of the growing distance education students in Ghana.

In a related study, Owusu-Ansah, Rodrigues and Walt (2018) examined the availability of policies and strategies initiatives available to university libraries in Ghana for developing digital library service for distance education students. Data was gathered from major stakeholders using interviews. Findings from the study showed that digital library use for distance education faces serious institutional-level challenges including absence of strategic support, consistent policies and dedicated funding towards the implementations of digital library initiatives.

2.9 Summary of Literature Review

In summary, the literature broadly indicates that even though research on library services in general has increased, the focus on distance education is extremely limited. The common theme running through these studies is the fact that, information needs among students have been reported in many studies to be complex and multi-faceted. Distance education students for instance have different library and information needs from on-campus students. Research on library needs of distance education in particular, however, is steadily gaining attention. Evidence emerge from the literature review that students in general, there is a growing recognition for universities to tailor library services to suit distance learners and tutors as well.

Following the complexities of information needs among distance education students and tutors in particular, the literature shows further that information sources are also complex. For instance, evidence from the literature shows that distance education students (especially undergraduate students) seek information from variety of sources ranging from technology-mediated sources to interpersonal sources. There is however much to be done to be able get a deeper understanding of information needs and experience of library services among distance education students with different disciplinary backgrounds. Majority of the studies conducted have examine generic information needs among students, especially on-campus students. For this reason, there is limited understanding of distance education students in Ghana experience library resources, services and facilities. The current study therefore makes substantial contribution to understanding the situation of how to improve and tailor library services, resources and facilities to the needs of the growing number of distance learners in Ghana a in particular and Africa in general.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

The methodology chapter discusses the design and procedures that were followed to gather and analyse data for the study. Methodology in research is defined as the systematic scientific processes and procedures that are used to gather and analyse data to arrive at findings, test research objectives and or answer research questions (Patten & Newhart 2017). Fundamentally, methodology provides detail and systematic descriptive accounts and discussion of research processes. It is essential because it allows both for providing context and also serving as replication, where other researchers can follow the same systematic processes to verify the findings (Creswell & Creswell 2017).

This chapter therefore presents the detailed methodological processes that were followed in collecting data for the study. The chapter consists of a detailed description of the research paradigm, research approach, research design, population of the study, sample size, sampling techniques and data collection tools, procedure and methods of data analysis. The chapter also presents detailed descriptions of the questionnaire and the interview guide used. After that, the trustworthiness of the research process is discussed.

3.2 Research Design

Plonsky (2017) defines research design as the overall strategy that is chosen to integrate different parts of a study in a coherent manner to address a research question. A research design thus

describes the ways, the process or techniques for gathering and analysing data (Cresswell, 2009). There are three broad types of designs which are quantitative, qualitative and mixed-methods. Quantitative research approach is defined as the kind of studies that are usually undertaken using numbers as the basic data for analysis among a large sample of subjects (Plonsky, 2017). Qualitative research approach on the other hand is defined as research studies that use mostly narratives or observations as data for analysis among a small sample of subjects (Creswell & Creswell, 2017; Plonsky, 2017). However, in some cases, both quantitative and qualitative methods are combined to form a mixed-method approach to gather data for research (Plonsky, 2017).

In the current study, the quantitative research design was used. The quantitative approach was used because the study sought to explore library service quality among a sample of distance education students and faculty. Specifically, data was gathered using a cross-sectional survey, through the administration of a questionnaire. Cross-sectional survey is defined as a quantitative method for collecting data where researchers collect data from a representative cross section of the population of interest in order to understand the situation (Creswell & Creswell, 2017). According to Plonsky (2017), cross-sectional survey design is best suited and chosen because for its appropriateness in descriptive, explanatory and exploratory purposes and is mostly used in studies that have the individual as the unit of analysis. The cross-sectional survey method was therefore used for this study because it allowed the researcher to collect the data from a large number of distance education students and faculty so that results could be generalized (Creswell & Creswell, 2017).

3.3 Research Setting

A research setting is defined as the place or the location where researchers collect or gather data for their studies (Creswell & Creswell, 2017). As Plonsky (2017) shows, research settings can be institutions, or organizations, communities, districts, region or a country based on what the focus of the study is. For the current study, the focus was institutionally-based where the sample was taken from a university setting. Specifically, the current study was conducted among distance education students of four public universities in Ghana. The schools were; IDL – KNUST, ICDE – UG, CODE – UCC and IEDE – UEW. The institutions used for the study are described below.

3.3.1 Institute of Distance Learning (IDL)-KNUST, Kumasi

According to Mends-Brew & Asabere (2016) the Institute of Distance Learning (IDL) at the KNUST was initially established as the Faculty of Distance Learning (FDL) in 2005 in response to the demand for tertiary education outstretching the limited resources of Ghana's Higher Educational Institutions. Since its inception, IDL has been offering both undergraduate and postgraduate programmes to the general public through DE. In fulfilling its avowed goal of making Science and Technology Education accessible to the citizenry of the nation, it has 13 different learning centres established across towns and cities in the various regions of Ghana with a student population of 10,000. The Accra and the Kumasi centres provide the bulk of the institutions share of patronage by students. Currently, the IDL runs 17 undergraduate programmes across the academic spectrum from the various departments of the University in addition to 13 postgraduate programmes.

3.3.2 Institute of Continuing and Distance Education (ICDE) University of Ghana, Accra

The Institute of Continuing and Distance Education (ICDE) is one of the key Institutions through which Ghana's premier university carries its presence, mission, standards and curricula into Ghanaian cities, towns and communities. The institution offers courses leading to Diploma, Bachelors, M. A., M. Phil., Ph.D., in Adult education; Youth in Development Work; and short courses for community leaders. In recognition of the significant challenges facing education in Ghana with increasing pressure on limited state resources and to ensure relevancy and equitable access for the growing number of students seeking education at the tertiary level, the role of IDCE cannot be over emphasized since it plays a crucial rule in the country's socio-economic development.

As technology continues to transform how students are educated, more students resort to Open and Distance Education as the preferred mode of learning. For over 20 years, the IDCE at the University of Ghana has become the vehicle that has conveyed the University of Ghana's rich traditions of teaching, learning, and research into Ghanaian homes. With expanded vision, the Institute has now transformed itself into a more visible, resource- enhanced, dynamic Institute that is responsive in providing lifelong learning opportunities and distance education to all Ghanaians to meet their diverse learning needs for academic, personal, and professional growth. Its mandate re-affirms the University of Ghana's resolve to providing wider and flexible educational access to Ghanaians while maintaining their respective jobs and fulfilling family and other obligations (Mends-Brew & Asabere, 2016).

3.3.3 College of Distance Education (CODE), University of Cape Coast, Cape Coast

The College of Distance Education was initially established by the University of Cape Coast as the Centre for Continuing Education (CCE) in 1997. The CODE is an affiliated member of the West African Distance Education Association (WADEA). The CODE, apart from being a subverted sector of the Ministry of Education, maintains active collegial relationship with the sister universities in Ghana and Simon Fraser University of Canada. The Centre was established, primarily, to provide opportunities for people to pursue higher education; train more professional teachers for all levels of Education in the Ghana Education Service (GES), raise the professional competence of serving teachers and personnel of the GES, as well as accounting and secretarial personnel in civil/public service, commerce and industry through Continuing Education.

Provide opportunities for applicants who, even though qualify for admission, fail to enter the University due to constraints in physical facilities. The main focus of the CODE, currently, is directed at mounting distance education programmes leading to the award of Diploma, Post-Diploma Degree and Master's Degree. Mounting all the other viable academic programmes in the University, especially Bachelor of Commerce (B. Com) and Bachelor of Management Studies (BMS) on Distance Education Programme. Using the multi-media mode of delivery for its distance education – print, audio-visuals, radio broadcast; television, internet etc. (Mends-Brew & Asabere, 2016).

3.3.4 Institute for Educational Development and Extension (IEDE -UEW)

The Institute for Educational Development and Extension (IEDE) according to Mends-Brew & Asabere, (2016), was established in November 1992 as one of the seven academic divisions of the

then University College of Education, Winneba (UCEW), now University of Education, Winneba (UEW). The mandate of the university is to produce professional educators to spearhead a national vision of education aimed at redirecting Ghana's effort along the path of rapid economic and social development. It is also the vision of the university to be an internationally reputable institution for teacher education and research. In keeping with its mandate, the Institute aims at training competent professional teachers for all levels of education as well as conducts research, disseminate knowledge and contribute to educational policy and development.

The Institute for Educational Development and Extension, IEDE is the extension wing of the University of Education, Winneba, which is responsible for the distance education programmes of the University. It is also responsible for providing opportunities for student teachers to experience holistic and quality school-based teaching experiences as well as providing opportunities for continuing professional development of staff of UEW and professionals from other tertiary and non-tertiary educational institutions. Incidentally, the founding of the Institute coincided with the decision of the then British Overseas Development Administration (ODA) which is now, the Department for International Development (DFID) to support quality improvement of education in Ghana in accordance with the Education Reform Programme by assisting with the production of better trained teachers for primary, junior secondary and senior secondary schools as well as training colleges in a project known as Support for Teacher Education Project.

3.4 Selection of Cases

This study was conducted among distance education students and faculty of four public universities in Ghana. The schools are; IDL – KNUST, ICDE – UG, CODE – UCC and IEDE – UEW. These are the four biggest universities with distance education programmes in Ghana. This helps the results to be generalized to all distance education students in Ghana. This study was conducted in the four most established distance learning public universities in Ghana. These are the University of Ghana, Legon (UG), Kwame Nkrumah University of Science and Technology (KNUST), University of Cape Coast University (UCC) and University of Education, Winneba (UEW).

3.5 Selection of Subjects

This study focused only on Level 400 DE students and faculty from the Accra Learning Centres of the public universities namely UG, KNUST, UCC and UEW. Level 400 students were selected for the study because they were in their final year, they have better appreciation of their experiences of access to library resources. Also, because they were in their final year, they may need library resources more for their research projects and other academic activities, compared to those in level 300, 200 or 100.

3.5.1 Population of the Study

A research population is a well-defined collection of individuals who share similar characteristics based on what a researcher is interested in and therefore qualify to be included in the study (Cresswell, 2013). Within the context of research, a population is defined as a group of individuals

taken from the general population who share a common characteristic, such as age, sex, or work conditions who are researched on because of their relevance to a research question (Plonsky, 2017). In terms of research about college students, the population is defined to include all students within the college or departments of the researcher's interest (Norman & Eva, 2014).

In the current study, the interest was to investigate the perception of library service quality among final year distance education students. Thus, the study targeted two groups of the population. They were Level 400 distance learners and teaching faculty at the Accra learning Centres of the four universities. The population for the DE students was 2084. Table 3.1 illustrate a tabular distribution of population Level 400 DE students and faculty from the Accra Learning Centres.

Table 3. 1: Population distribution (faculty/tutors and students)

| | Population by institution | Faculty/Tutors | Students |
|---|----------------------------------|-----------------------|-----------------|
| 1 | UG | 226 | 544 |
| 2 | KNUST | 67 | 623 |
| 3 | UCC | 154 | 725 |
| 4 | UEW | 88 | 192 |
| | Total | 535 | 2084 |

Source: Accra Learning Centres of UG, KNUST, UCC, UEW (2018)

3.5.2 Sample Size

Sample size as the proportion of a population that is selected for research (Creswell & Creswell, 2017). Within the context of quantitative research, a sample size is defined as a section of an

accessible population that is selected and studied (Patten & Newhart, 2017). The reasons for selecting a sample size for research is that in most social science research, it is impossible or impractical to study the entire population (Creswell & Creswell, 2017). Secondly, it is possible to select a portion of the population to study and inferences made about the entire population of interest (Pattern & Newhart 2017). For the purpose of rigor, a sample size determination is used to guide the selection of sample size for a study. It is important that the right sample size is selected out of the population of interest for the study (Plonsky, 2017). Pattern and Newhart (2017) explain that both under-sampling and over-sampling constitute a methodological flaw that prevents generalization of findings.

For the purpose of practicality, a sample size is always selected from the population and used for the research. However, the sample size should be large enough so that the findings from the study can be generalized to the entire population (Plonsky, 2017). Some researchers postulate that a sampling ratio of 10 - 20% is adequate for a population of less than 1000 (Plonsky, 2017). In the current study, a sample of five hundred and seventy-eight (578) subjects which constituted about 27.7% of the total population of 2084 was selected to respond to the questionnaire. This sample falls within the postulated sample ratio of more than 20% range for a population of more than 1000 (ibid).

3.5.3 Sampling Technique

A Sampling technique is defined as the processes involved in selecting part of a population for research (Patten & Newhart, 2017). What this means is that a sampling technique encompasses all the processes utilized in the selection of research subjects from a larger group of population so that

conclusion can be drawn as a representation of how the larger group of people act or what they believe (Plonsky, 2017). The main aim of sampling is to get a representative sample of subjects from a much larger collection or population to inform accurate generalizability about a larger group (Patten & Newhart, 2017). The right sample size depends on the nature of a population and the purpose of the study.

There are two main types of sampling techniques, which are probability and non-probability sampling (Patten & Newhart, 2017). Probability sampling is defined as the type of sampling technique in which all individuals in a population has equal chance of being selected for the study (Plonsky, 2017). Probability sampling includes simple random sampling, systematic sampling, cluster sampling and stratified sampling (Patten & Newhart, 2017). Non-probability sampling technique is also defined as procedures for selecting subjects where the members of a population do not have equal chances of being selected (Gravetter & Forsano, 2018). The difference between probability and non-probability sampling is therefore the extent or chance by which each member of the population has for being part of the study (Patten & Newhart, 2017). Example of non-probability sampling techniques include convenience, purposive, quota and snow balling (Patten & Newhart, 2017).

In the current study, convenience sampling was used in selecting the subjects for the study. Convenience sampling is a non-probability sampling technique where subjects are selected because of their convenient accessibility and proximity to the researcher (Shuttleworth, 2009). Convenience sampling is useful when the population is homogenous and inaccessible (Neuman,

2007). Criticism about convenience sampling is that the sampling technique is biased and that the sample is not representative of the entire population. However, convenience sampling is also argued to be the best sampling technique for survey studies among homogenous population samples such as students. A convenience sampling technique has an element of flexibility in the selection of research subjects such that subjects who are available at the time of data collection and are ready to take part in the study are used (Patten & Newhart, 2017). Convenience sampling helps in speeding up research process since it is based on availability and willingness of subjects. For this reason, subjects do not feel pressured or burdened to be part of the study. They do so at their own volition and free will.

For each contributing institution, the proportionate sample size was determined using the formula postulated by Babbie, (2010):

$$P.S. = (\text{Population of Faculty/tutors of each Institution} \times \text{Approximate Sample Size}) / \text{Total Faculty Population}$$

Where P.S. = Proportionate sample size

Therefore, the approximate Sample Size for students was 417. For each contributing institution therefore, the proportionate sample size was determined using the formula postulated by Babbie (2010). The proportionate sample size formula is given as follows

$$P_s = \frac{\text{Population size of school}}{\text{Total Population Size}} \times 417$$

The proportionate sample size values for both students and faculty are therefore displayed in the Table 3.2.

Table 3. 2: Sample size distribution (faculty and students)

| | Population by institution | Faculty/Tutors | Students |
|---|----------------------------------|-----------------------|-----------------|
| 1 | UG | 68 | 109 |
| 2 | KNUST | 20 | 125 |
| 3 | UCC | 46 | 145 |
| 4 | UEW | 27 | 38 |
| | Total | 161 | 417 |

Source: Accra Learning Centres of UG, KNUST, UCC, UEW (2018)

Thus, for a population size of 535 units representing faculty, a sample size of 161 is adequate. Similarly, a sample size of 417 students is ideal for a student population of 2084. The figures stated above are enough to draw inferential conclusions, and as far as possible, represent the target population under scrutiny. Therefore, the sample size for the study was 161 tutors and 417 students, making it 578 subjects in total.

3.6 Data Collection Instrument

Data collection tools and methods are the various instruments, methods and means such as observation, survey questionnaire, interview guide and focus group guide that are used to obtain research data (Pattern & Newhart, 2017). In the current study, questionnaire (see Appendix I) was the main data collection instrument used. The choice of the questionnaire includes usually cheaper and ability to collect data over a wide geographical area within a short period of time. Additionally, Neuman (2007) explains that subjects do not spend too much time answering questionnaires as compared to the other forms and also allows subjects to remain anonymous. The instrument was distributed by the researcher.

The questionnaire had different sections with each of the sections addressing specific objective in the study. The sections in the questionnaire included; demographic information, library use, perceived quality of academic services, e-resources, library staff, library services, library environment, user satisfaction and challenges in accessing quality library service. The sections in the questionnaire included the following sections:

Section A: Demographic Information

Section B: Library use

Section C: Perceived quality of library services

Section D: User satisfaction

Each of the sections in the questionnaire are described below.

Section A: Demographic Information: this section contained items on socio-demographic information of the students such as institution, status, course of study, gender and age

Section B: Library use: this section elicited information concerning library use among the subjects. Some of the information gathered included how often they visited the library, the purposes for which they visited the library and others.

Section C: Perceived Quality of Academic Library Services: this section elicited information concerning how the subjects perceived the quality of the library services. The dimensions examined were; library resources and facilities, e-resources, library staff, library services and library environment. The items were rated on a 5-point Likert scale as follows; 1 = strongly disagree (SD), 2 = disagree (D), 3 = somehow (S), 4 = agree (A), 5 = strongly disagree (SD)

Section D: User satisfaction: this section examined the satisfaction of the users of the library resources, as well as the challenges they face when accessing the library services, on a 5-point Likert scale, ranging from 1 = Very Dissatisfied (VD), 2 = Dissatisfied (D), 3 = Somehow (NS), 4 = Satisfied (S), 5 = Very Satisfied (VS).

3.7 Pilot Study

A pilot study was first conducted to finalize all necessary corrections to enhance the questionnaire for the actual study based on the feedback obtained. This was done to ascertain the level of understanding of the questionnaires for the study. The purpose of the pilot study was to; assess how the questionnaire made sense to the subjects in different institutional contexts, identify any challenges that the students may have, finalize all necessary corrections to enhance the questionnaire for the actual study based on the feedback obtained. Fifteen (15) students and ten (10) faculty/tutors of the University of Ghana Tsito Awudome (Volta Region) distance learning centre were used to enable the researcher to check for inconsistencies in the questionnaires.

3.8 Data Collection Procedure

After completing the pilot study successfully and revising the questionnaire, the data for the main study was then collected. The researcher obtained an introductory letter (see Appendix II) from the Department of Information Studies which enabled him introduce himself and the purpose for conducting the research. Letters were given to administrators of all the selected centres to help establish good rapport with the targeted subjects and also ensure that most of the subjects were reached. Subjects were informed on the objectives and design of the study. Emphasis was made on the fact that the findings are primarily for academic purposes. Copies of the questionnaire

distributed were personally to subjects. Retrieval of the distributed questionnaires began five days after distribution, which gave subjects ample time to answer the questions. The time frame for the data collection procedure was three months.

3.9 Data Analysis

The data for the study was analysed using descriptive statistics including frequency distribution table, percentages and analysis of variance, with the help of Microsoft Excel and Statistical Package for Social Sciences (SPSS) software version 20. The descriptive statistics was used to analyse distribution and description of the subjects' perceptions of library services and user satisfaction. After that, correlational tests were also used to analyse the relationship between perceptions of library services and user satisfaction of the subjects.

3.10 Ethical Considerations

All ethical considerations in conducting research with human subjects were followed. Creswell (2009) states that researchers need to protect their research subjects; develop a trust with them; promote the integrity of the research; guard against misconducts and impropriety that might reflect on their organizations or institutions; and cope with new challenges. Ethics help to define what is or is not legitimate to do, and what moral research procedure involves (Neuman, 2007).

An introductory letter was obtained from the Department of Information Studies which was sent to the distance learning centres. In the data collection process, informed consent of the subjects was sought and subjects were guaranteed beforehand the privacy of the information they provide.

The anonymity of subjects was adhered to when storing and processing data. The researcher accordingly acknowledged all scholarly work and data consulted including books, journals, theses, and field data.

CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

4.1 Introduction

This study explored academic library service quality and user satisfaction among distance education students and tutors in four public institutions in Ghana. This chapter presents the analysis and findings based on the following objectives:

- To assess the frequency and purposes of use of library services by distance education students and tutors
- To assess the perceptions of distance education students and tutors of the quality of library resources and service delivery within their institutions.
- To examine the user satisfaction levels of distance education students and tutors in their library service delivery within their institutions.
- To assess the challenges facing the distance learners in accessing quality library services at the public university libraries.

A total of 578 questionnaire were distributed among the four institutions. At the end of the data collection process, a total of three hundred and thirty-five (335) copies of the questionnaire were successfully retrieved. The total response rate for the study is therefore 58.0%. The breakdown of the response rate is provided in Table 4.1.

Table 4. 1: Response rate

| Institution | Questionnaires distributed | Questionnaires retrieved | Response Rate |
|--------------------|-----------------------------------|---------------------------------|----------------------|
| ICDE – UG | 177 | 118 | 66.7% |
| IDL - KNUST | 145 | 99 | 68.3% |
| CODE - UCC | 191 | 65 | 34.0% |
| IEDE - UEW | 61 | 53 | 86.9% |
| Total | 578 | 335 | 58.0% |

Source: Field data (2020)

4.2 Demographic characteristics of subjects

This section presents the demographic profiles of the respondents. The demographic characteristics presented are institution of affiliation, status of the respondents., gender, age and level of study of the respondents. The information is presented in frequency and percentages, and where necessary, pie chart and graphs are used.

4.2.1 Institutions of Affiliation

This sub-section presents information on the distribution of the respondents based on the universities they were coming from. The institutional distribution of the subjects is provided in Figure 2.

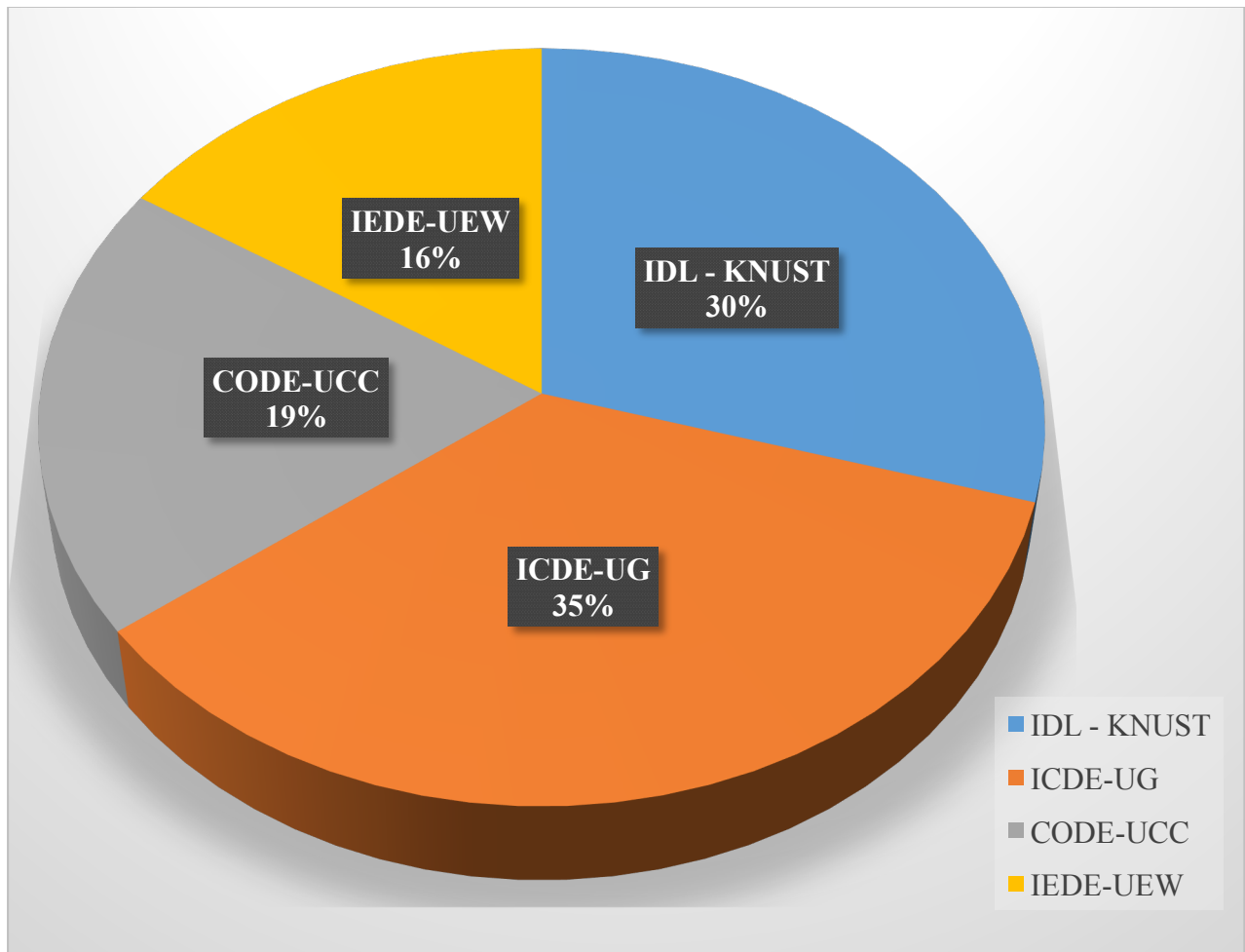


Figure 2: Institutional affiliation of respondents

As shown in Figure 2, 118 (35.3%) of the subjects were from the University of Ghana’s Distance Education programme, 99 (29.6%) were from Kwame Nkrumah University of Science and Technology’s Distance Education programme, 65 (19.4%) were from the University of Cape

Coast's Distance Education programme, and 53 (15.8%) were from the University of Education's Distance Education programme.

4.2.2 Status of respondents

The status of the subjects in each of the four institutions are presented in Table 4.2.

Table 4. 2: Distribution of students and tutors

| Institutions | | Status | | Total |
|--------------|-------|---------|-------|--------|
| | | Student | Tutor | |
| IDL - KNUST | Freq. | 88 | 11 | 99 |
| | % | 88.8% | 11.1% | 100.0% |
| ICDE-UG | Freq. | 98 | 20 | 118 |
| | % | 83.1% | 16.9% | 100.0% |
| CODE-UCC | Freq. | 54 | 11 | 65 |
| | % | 83.1% | 16.9% | 100.0% |
| IEDE-UEW | Freq. | 43 | 10 | 53 |
| | % | 81.1% | 18.9% | 100.0% |
| Total | Freq. | 250 | 85 | 335 |
| | % | 74.6% | 25.4% | 100.0% |

Source: Field data (2020)

As shown in Table 4.2, ICDE-UG had the highest number of respondents, with 98 (83.1%) students and 20 (16.9%) tutors. IDL-KNUST followed second with 88 (88.8%) students and 11 (11.1%)

students. CODE-UCC came third with 54 (83.1%) students and 11 (16.9) tutors. IEDE-UEW had the least respondents with 43 (81.1%) students and 10 (18.9%) tutors.

4.2.3 Gender of Subjects

The gender distribution of by subjects are presented in Table 4.3. As indicated on the Table 4.3, in the total sample, 172(51.3%) were females and 163(48.7%) were males. In terms of institutional differences, in IDL-KNUST, 55(55.6%) were males while 44(44.4%) were females. In ICDE-UG, 63(53.4%) were females while 55(46.6%) were males. In CODE-UCC, 39(60%) were females while 26(40%) were males. In IEDE-UEW, 27(50.9%) were males while 26(49.1%) were females.

Table 4. 3: Gender distribution of subjects

| Institutions | | Gender | | Total |
|--------------|-----------|--------|--------|--------|
| | | Male | Female | |
| IDL - KNUST | Frequency | 55 | 44 | 99 |
| | % | 55.6% | 44.4% | 100.0% |
| ICDE-UG | Frequency | 55 | 63 | 118 |
| | % | 46.6% | 53.4% | 100.0% |
| CODE-UCC | Frequency | 26 | 39 | 65 |
| | % | 40.0% | 60.0% | 100.0% |
| IEDE-UEW | Frequency | 27 | 26 | 53 |
| | % | 50.9% | 49.1% | 100.0% |
| Total | Frequency | 163 | 172 | 335 |
| | % | 48.7% | 51.3% | 100.0% |

Source: Field data (2020)

4.3 Library usage by the subjects

The first objective sought to assess the frequency and purposes of use of library services by distance education students and tutors within the four institutions. The frequency of visit to the library and the purposes for which the visit the library was assessed.

4.3.1 Frequency of subjects' visit to the library

The subjects rated the frequency with which they visited the library, on a 5-point Likert scale, ranging from very often to never. The findings are provided in Table 4.4.

Table 4. 4: Frequency of library visits among subjects

| Institution | | How often do you visit the library? | | | | | Total |
|-------------|-------|-------------------------------------|--------|-----------------|-------|------------|--------|
| | | Never | Rarely | Once in a while | Often | Very often | |
| IDL - KNUST | Freq. | 9 | 17 | 45 | 19 | 9 | 99 |
| | % | 9.1% | 17.2% | 45.5% | 19.2% | 9.1% | 100.0% |
| ICDE-UG | Freq. | 1 | 6 | 35 | 42 | 34 | 118 |
| | % | 0.8% | 5.1% | 29.7% | 35.6% | 28.8% | 100.0% |
| CODE-UCC | Freq. | 2 | 8 | 29 | 19 | 7 | 65 |
| | % | 3.1% | 12.3% | 44.6% | 29.2% | 10.8% | 100.0% |
| IEDE-UEW | Freq. | 2 | 7 | 22 | 12 | 10 | 53 |
| | % | 3.8% | 13.2% | 41.5% | 22.6% | 18.9% | 100.0% |
| Total | Freq. | 14 | 38 | 131 | 92 | 60 | 335 |
| | % | 4.2% | 11.3% | 39.1% | 27.5% | 17.9% | 100.0% |

Source: Field data (2020)

Overall, the respondents moderately visited their libraries. Looking at the frequencies, 92(27.5%) of the subjects indicated visiting the library often, while 60(17.5%) indicated visiting the library very often. Therefore, in total (often + very often), 152(45.4%) indicated visiting the library frequently. This is less than half of the total sample.

In comparing the four institutions, in terms of (often + very often), 76(64.4%) of the distance education students from ICDE-UG visited the library most frequently, followed by IEDE-UEW 22(41.5%), then CODE-UCC 26(41.1%) and then 28(28.3%) from IDL-KNUST in that order.

4.3.2 Purpose for subjects' visit to the library

The subjects were also made to indicate the purposes for which they visited the libraries in their respective institutions. The findings are provided in Table 4.5. In the total sample, borrowing books emerged the topmost reason why the distance education students visited the library (243, 79.9%). This was followed by reading personal notes (173, 57.9%), then preparing for examination (146, 47.2%), working on assignment (143, 47.0%), and then reading for leisure (66, 22.8%).

In terms of comparing the four institutions, borrowing books also emerged as the topmost reason for visiting the library by those in IDL-KNUST (81, 82.7%), followed by preparation for examination (46, 46.9%), reading personal notes (44, 44.9%) and then reading for leisure (13, 13.3%).

In ICEDE-UG, borrowing books was also the most dominant reason for visiting the library, as indicated by (94,81.3%) respondents, followed by (77,65.3%) reading personal notes, preparing for examination 58 (49.2%), working on assignment (56,47.5%) and then reading for leisure (27,22.9%).

In CODE-UCC, borrowing books was also the most frequent reason totalling (27,75.0%), followed by reading personal notes (22,73.3%), reading for leisure 12 (57.1%), working on assignment (18,51.4%), and then preparing for examination (18,45.0%).

In IEDE-UEW, borrowing books was also the most frequent reason (41,77.4%), followed by both working on assignments (30,56.6%) and reading personal notes (30,56.6%), and then reading for leisure (14,26.4%).

Table 4. 5: Purpose of library visits

| | | IDL KNUST | | ICDE UG | | CODE UCC | | IEDE UEW | | Total | |
|----------------------------|-----|--------------|-------|------------|-------|-------------|-------|-------------|-------|-------|-------|
| | | F | % | F | % | F | % | F | % | F | % |
| To borrow book | Yes | 81 | 82.7% | 94 | 17.3% | 27 | 75.0% | 41 | 77.4% | 243 | 79.9% |
| | No | 17 | 80.3% | 23 | 19.7% | 9 | 25.0% | 12 | 22.6% | 61 | 20.1% |
| | | | | | | | | | | | |
| To work on assignment | Yes | 39 | 39.8% | 56 | 47.5% | 18 | 51.4% | 30 | 56.6% | 143 | 47.0% |
| | No | 59 | 60.2% | 62 | 52.5% | 17 | 48.6% | 23 | 43.6% | 161 | 53.0% |
| | | | | | | | | | | | |
| To prepare for examination | Yes | 46 | 46.9% | 58 | 49.2% | 18 | 45.0% | 24 | 45.3% | 146 | 47.2% |
| | No | 52 | 53.1% | 60 | 50.8% | 22 | 55.0% | 29 | 54.7% | 163 | 52.8% |
| | | | | | | | | | | | |
| To read personal notes | Yes | 44 | 44.9% | 77 | 65.3% | 22 | 73.3% | 30 | 56.6% | 173 | 57.9% |
| | No | 54 | 55.1% | 41 | 34.7% | 8 | 26.7% | 23 | 43.4% | 126 | 42.1% |
| | | | | | | | | | | | |
| To read for leisure | Yes | 13 | 13.3% | 27 | 22.9% | 12 | 57.1% | 14 | 26.4% | 66 | 22.8% |
| | No | 85 | 86.7% | 91 | 77.1% | 9 | 42.9% | 39 | 73.6% | 224 | 77.2% |

Source: Field data (2020)

4.4 Perception of Distance Education Users of Quality of Library Services

The second objective of the study assessed the perceptions of distance education students and tutors of the quality of library resources and service delivery within their institutions. The findings are presented based on their perceptions of reliability of library service, responsiveness of staff, empathy, assurance, accessibility and tangibility of library infrastructure.

4.4.1 Perception of reliability of library service

The subjects' ratings of the perceptions of reliability of their library staff are provided in Tables 4.6 – 4.10.

Table 4. 6: Library staff are reliable

| Institutions | | The library staff are very reliable | | | | | Total |
|--------------|-------|-------------------------------------|----------|---------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq. | 4 | 8 | 32 | 49 | 6 | 99 |
| | % | 4.0% | 8.1% | 32.3% | 49.5% | 6.1% | 100.0% |
| ICDE-UG | Freq. | 6 | 7 | 21 | 59 | 25 | 118 |
| | % | 5.1% | 5.9% | 17.8% | 50.0% | 21.2% | 100.0% |
| CODE-UCC | Freq. | 1 | 9 | 22 | 25 | 8 | 65 |
| | % | 1.5% | 13.8% | 33.8% | 38.5% | 12.3% | 100.0% |
| IEDE-UEW | Freq. | 3 | 2 | 13 | 33 | 2 | 53 |
| | % | 5.7% | 3.8% | 24.5% | 62.3% | 3.8% | 100.0% |
| Total | Freq. | 14 | 26 | 88 | 166 | 41 | 335 |
| | % | 4.2% | 7.8% | 26.3% | 49.6% | 12.2% | 100.0% |

Source: Field data (2020)

Table 4.6 shows that in the total sample, 166 (49.6%) agreed and 41 (12.2%) strongly agreed that the library staff were reliable. This suggest that in total (agree + strongly agree), 207 (61.8%) perceived their library staff as reliable. In comparing the four institutions in terms of frequency of agreement (agree + strongly agree), ICDE-UG emerged highest in terms of reliability of library staff with 83 (71.2%) respondents, followed by IEDE-UEW with 35 (66.1%), then IDL – KNUST with 56 (55.6%) and lastly CODE-UCC (50.8%).

Courtesy and friendliness of library staff

Table 4. 7: Library staff are always courteous, showing friendly behavior

| Institutions | | Library staff are always courteous, showing friendly behavior | | | | | Total |
|--------------|-------|---|----------|---------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq. | 6 | 10 | 16 | 59 | 8 | 99 |
| | % | 6.1% | 10.1% | 16.2% | 59.6% | 8.1% | 100.0% |
| ICDE-UG | Freq. | 6 | 13 | 23 | 54 | 22 | 118 |
| | % | 5.1% | 11.0% | 19.5% | 45.8% | 18.6% | 100.0% |
| CODE-UCC | Freq. | 0 | 3 | 24 | 26 | 12 | 65 |
| | % | 0.0% | 4.6% | 36.9% | 40.0% | 18.5% | 100.0% |
| IEDE-UEW | Freq. | 0 | 1 | 17 | 29 | 6 | 53 |
| | % | 0.0% | 1.9% | 32.1% | 54.7% | 11.3% | 100.0% |
| Total | Freq. | 12 | 27 | 80 | 168 | 48 | 335 |
| | % | 3.6% | 8.1% | 23.9% | 50.1% | 14.3% | 100.0% |

Source: Field data (2020)

Table 4.7 shows that in the total, 168(50.1%) respondents strongly agreed and 48(14.3%) agreed that library staff were always courteous and were friendly. This in totality shows that 216, representing 64.4% agreed and strongly agreed that library staff were always courteous, showing friendliness.

In comparing the four institutions, 76(64.3%) respondents in ICDE-UG rated highest in agreement, IDL – KNUST took the second highest with 67(67.7%) subjects in agreement, CODE-UCC took the third position with 38(58.5%) and last IEDE-UEW with 35(66.0%) subjects.

Willingness of library staff to help users

Table 4. 8: Library staff are always willing and ready to help users

| Institutions | | Library staff are always willing and ready to help users | | | | | Total |
|--------------|-------|--|----------|---------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq. | 4 | 7 | 28 | 50 | 10 | 99 |
| | % | 4.0% | 7.1% | 28.3% | 50.5% | 10.1% | 100.0% |
| ICDE-UG | Freq. | 4 | 2 | 26 | 60 | 26 | 118 |
| | % | 3.4% | 1.7% | 22.0% | 50.8% | 22.0% | 100.0% |
| CODE-UCC | Freq. | 4 | 5 | 15 | 26 | 15 | 65 |
| | % | 6.2% | 7.7% | 23.1% | 40.0% | 23.1% | 100.0% |
| IEDE-UEW | Freq. | 0 | 3 | 17 | 26 | 7 | 53 |
| | % | 0.0% | 5.7% | 32.1% | 49.1% | 13.2% | 100.0% |
| Total | Freq. | 12 | 17 | 86 | 162 | 58 | 335 |
| | % | 3.6% | 5.1% | 25.7% | 48.4% | 17.3% | 100.0% |

Source: Field data (2020)

In Table 4.8, 162(48.4%) subjects agreed and 58(17.3%) strongly agreed that library staff were always willing and ready to help users. From this total sampling (agree + strongly agree), ICDE-UG ranked highest with 86(72.8%), followed by IDL – KNUST with 60(60.6%), next CODE-UCC with 41(63.1%) and last IEDE-UEW with 33(62.3%).

Ease of making complaints and suggestions

Table 4. 9: Making of complaints and suggestions

| Institutions | | One can make a complaint or suggestion easily about the existing conditions in the library | | | | | Total |
|--------------|-------|---|----------|---------|-------|-------------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq. | 9 | 14 | 23 | 46 | 7 | 99 |
| | % | 9.1% | 14.1% | 23.2% | 46.5% | 7.1% | 100.0% |
| ICDE-UG | Freq. | 11 | 11 | 37 | 39 | 20 | 118 |
| | % | 9.3% | 9.3% | 31.4% | 33.1% | 16.9% | 100.0% |
| CODE-UCC | Freq. | 6 | 3 | 26 | 23 | 7 | 65 |
| | % | 9.2% | 4.6% | 40.0% | 35.4% | 10.8% | 100.0% |
| IEDE-UEW | Freq. | 3 | 6 | 16 | 22 | 6 | 53 |
| | % | 5.7% | 11.3% | 30.2% | 41.5% | 11.3% | 100.0% |
| Total | Freq. | 29 | 34 | 102 | 130 | 40 | 335 |
| | % | 8.7% | 10.1% | 30.4% | 38.8% | 11.9% | 100.0% |

Source: Field data (2020)

Table 4.9 shows that in the total sample, 130(38.8%) subjects agreed and 40(11.9%) strongly agreed that one could make a complaint or suggestion easily about the existing conditions in the library. In terms of institutional differences, the ICDE-UG took the highest with 59(50.0%), followed by IDL – KNUST with 53(53.6%), followed by the CODE-UCC with 40(46.2%) and the IEDE-UEW rated their school last with 28(52.8%).

Prompt attention to complaints

Table 4. 10: Library staff attend to complaints promptly

| Institutions | | The library staff attend to complaints promptly | | | | | Total |
|--------------|-------|---|----------|---------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq. | 8 | 14 | 43 | 29 | 5 | 99 |
| | % | 8.1% | 14.1% | 43.4% | 29.3% | 5.1% | 100.0% |
| ICDE-UG | Freq. | 7 | 14 | 41 | 38 | 18 | 118 |
| | % | 5.9% | 11.9% | 34.7% | 32.2% | 15.3% | 100.0% |
| CODE-UCC | Freq. | 4 | 4 | 14 | 38 | 5 | 65 |
| | % | 6.2% | 6.2% | 21.5% | 58.5% | 7.7% | 100.0% |
| IEDE-UEW | Freq. | 3 | 7 | 19 | 19 | 5 | 53 |
| | % | 5.7% | 13.2% | 35.8% | 35.8% | 9.4% | 100.0% |
| Total | Freq. | 22 | 39 | 117 | 124 | 33 | 335 |
| | % | 6.6% | 11.6% | 34.9% | 37.0% | 9.9% | 100.0% |

Source: Field data (2020)

From Table 4.10, 124(37.0%) subjects agreed and 33(9.9%) strongly agreed that the library staff attended to complaints promptly. In terms of individual institutions, CODE-UCC also had 43(66.2%), ICDE-UG had 56(47.5%), IEDE-UEW had 24(45.2%) and IDL – KNUST had 34(34.4%).

4.4.2 Perception of responsiveness of library services

Tables 4.12 – 4.16 present the findings on the subjects’ ratings of the responsiveness of library services in their institutions.

Table 4. 11: Responsiveness of library staff

| Institutions | | Library staff are efficient and knowledgeable to answer users’ query | | | | | Total |
|--------------|-------|--|----------|---------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq. | 3 | 11 | 33 | 45 | 7 | 99 |
| | % | 3.0% | 11.1% | 33.3% | 45.5% | 7.1% | 100.0% |
| ICDE-UG | Freq. | 7 | 9 | 22 | 62 | 18 | 118 |
| | % | 5.9% | 7.6% | 18.6% | 52.5% | 15.3% | 100.0% |
| CODE-UCC | Freq. | 0 | 8 | 25 | 30 | 2 | 65 |
| | % | 0.0% | 12.3% | 38.5% | 46.2% | 3.1% | 100.0% |
| IEDE-UEW | Freq. | 2 | 2 | 19 | 26 | 4 | 53 |
| | % | 3.8% | 3.8% | 35.8% | 49.1% | 7.5% | 100.0% |
| Total | Freq. | 12 | 30 | 99 | 163 | 31 | 335 |
| | % | 3.6% | 9.0% | 29.6% | 48.7% | 9.3% | 100.0% |

Table 4.11 shows that in total, 163(48.7%) subjects agreed and 31(9.3%) strongly agreed that library staff were efficient and knowledgeable to answer users' query. When the four institutions were compared, the ICDE-UG took the highest with 80(67.3%), followed by IDL – KNUST with 52(52.6%), followed by the CODE-UCC with 32(49.3%) and then IEDE-UEW with 30(56.6%).

Prompt delivery of library services

Table 4. 12: Library staff deliver prompt and timely service to users

| Institutions | | Library staff deliver prompt and timely service to users | | | | | Total |
|--------------|-------|--|----------|---------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq. | 3 | 13 | 35 | 41 | 7 | 99 |
| | % | 3.0% | 13.1% | 35.4% | 41.4% | 7.1% | 100.0% |
| ICDE-UG | Freq. | 5 | 10 | 36 | 50 | 17 | 118 |
| | % | 4.2% | 8.5% | 30.5% | 42.4% | 14.4% | 100.0% |
| CODE-UCC | Freq. | 7 | 10 | 21 | 25 | 2 | 65 |
| | % | 10.8% | 15.4% | 32.3% | 38.5% | 3.1% | 100.0% |
| IEDE-UEW | Freq. | 1 | 2 | 15 | 29 | 6 | 53 |
| | % | 1.9% | 3.8% | 28.3% | 54.7% | 11.3% | 100.0% |
| Total | Freq. | 16 | 35 | 107 | 145 | 32 | 335 |
| | % | 4.8% | 10.4% | 31.9% | 43.3% | 9.6% | 100.0% |

Source: Field data (2020)

Table 4.12 shows that in total,145(43.3%) subjects agreed and 32(9.6%) strongly agreed that Library staff delivered prompt and timely service to users. In comparing the four institutions, IEDE-UEW had 35(67.0%), ICDE-UG had 67(56.8%), IDL – KNUST had 48(48.5%), and CODE-UCC had 27(41.6%). This suggests that comparatively, subjects in ICDE-UG rated their institution higher than the rest of the three institutions, followed by IDL – KNUST, IEDE-UEW and CODE-UCC.

Accurate provision of services

Table 4. 13: Library staff provide services accurately with minimum interruption

| Institutions | | Library staff provide services accurately with minimum interruption | | | | | Total |
|--------------|-------|---|----------|---------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq. | 2 | 14 | 38 | 36 | 9 | 99 |
| | % | 2.0% | 14.1% | 38.4% | 36.4% | 9.1% | 100.0% |
| ICDE-UG | Freq. | 5 | 8 | 32 | 57 | 16 | 118 |
| | % | 4.2% | 6.8% | 27.1% | 48.3% | 13.6% | 100.0% |
| CODE-UCC | Freq. | 4 | 8 | 26 | 26 | 1 | 65 |
| | % | 6.2% | 12.3% | 40.0% | 40.0% | 1.5% | 100.0% |
| IEDE-UEW | Freq. | 3 | 4 | 21 | 21 | 4 | 53 |
| | % | 5.7% | 7.5% | 39.6% | 39.6% | 7.5% | 100.0% |
| Total | Freq. | 14 | 34 | 117 | 140 | 30 | 335 |
| | % | 4.2% | 10.1% | 34.9% | 41.8% | 9.0% | 100.0% |

Source: Field data (2020)

Table 4.13 shows a total of 140(41.8%) respondents agreeing and 30(9.0%) strongly agreed that their library staff provide services accurately with minimum interruption. When put frequency of agreement together (agree + strongly agree), IDL – KNUST got 45(45.5%), ICDE-UG got 73(61.9%), CODE-UCC got 27(41.5%) and IEDE-UEW had 25(47.1%). This suggests that ICDE-UG is rated highest, followed by IDL – KNUST, CODE-UCC and IEDE-UEW.

Subscription to documents from other libraries

Table 4. 14: Library staff subscribes for documents from other Information Centers

| Institutions | | Library staff subscribes for documents from other Information Centers if not already available in the library's collection. | | | | | Total |
|--------------|-------|---|----------|---------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq. | 6 | 19 | 35 | 34 | 5 | 99 |
| | % | 6.1% | 19.2% | 35.4% | 34.3% | 5.1% | 100.0% |
| ICDE-UG | Freq. | 8 | 20 | 36 | 39 | 15 | 118 |
| | % | 6.8% | 16.9% | 30.5% | 33.1% | 12.7% | 100.0% |
| CODE-UCC | Freq. | 0 | 8 | 39 | 14 | 4 | 65 |
| | % | 0.0% | 12.3% | 60.0% | 21.5% | 6.2% | 100.0% |
| IEDE-UEW | Freq. | 4 | 8 | 20 | 18 | 3 | 53 |
| | % | 7.5% | 15.1% | 37.7% | 34.0% | 5.7% | 100.0% |
| Total | Freq. | 18 | 55 | 130 | 105 | 27 | 335 |
| | % | 5.4% | 16.4% | 38.8% | 31.3% | 8.1% | 100.0% |

Source: Field data (2020)

As shown in Table 4.14, a total of 105(31.3%) subjects agreed and 27(8.1%) strongly agreed that library staff subscribed to documents from other Information Centers if not already available in the library’s collection. When the four institutions were compared on these responses (agree + strongly agree), respondents from ICDE-UG rated their institution higher with 54(45.8%), followed by IDL – KNUST with 39(39.4%), followed by IEDE-UEW with 21(39.7%) and then CODE-UCC with 18(27.7%).

Efficient use of IT

Table 4. 15: Library staff use technology (IT) efficiently

| Institutions | | Library staff use technology (IT) efficiently | | | | | Total |
|--------------|-------|---|----------|---------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq. | 6 | 6 | 33 | 43 | 11 | 99 |
| | % | 6.1% | 6.1% | 33.3% | 43.4% | 11.1% | 100.0% |
| ICDE-UG | Freq. | 7 | 9 | 29 | 41 | 32 | 118 |
| | % | 5.9% | 7.6% | 24.6% | 34.7% | 27.1% | 100.0% |
| CODE-UCC | Freq. | 5 | 4 | 24 | 16 | 16 | 65 |
| | % | 7.7% | 6.2% | 36.9% | 24.6% | 24.6% | 100.0% |
| IEDE-UEW | Freq. | 3 | 6 | 14 | 21 | 9 | 53 |
| | % | 5.7% | 11.3% | 26.4% | 39.6% | 17.0% | 100.0% |
| Total | Freq. | 21 | 25 | 100 | 121 | 68 | 335 |
| | % | 6.3% | 7.5% | 29.9% | 36.1% | 20.3% | 100.0% |

Source: Field data (2020)

In Table 4.15, 121(36.1%) subjects agreed and 68(20.3%) strongly agreed that library staff used technology (IT) efficiently. Put together (agree + strongly agree) it can be seen that 189(56.4%) respondents perceived library staff as using technology efficiently. When the four institutions were compared among, ICDE-UG was rated highest with 73(61.8%), followed by IDL – KNUST with 54(54.5%), followed by CODE-UCC with 32(49.2%) and then IEDE-UEW was rated lowest with 30(56.6%)

4.4.3 Perceptions of empathy of library staff

Tables 4.16 – 4.19 present findings on the subjects’ ratings of empathy of their library staff.

Table 4. 16: *Library staff have sincerity in handling users’ problems*

| Institutions | | Library staff have sincerity in handling users’ problems and making prompt solutions | | | | | Total |
|--------------|-------|--|----------|---------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq. | 4 | 12 | 34 | 44 | 5 | 99 |
| | % | 4.0% | 12.1% | 34.3% | 44.4% | 5.1% | 100.0% |
| ICDE-UG | Freq. | 7 | 12 | 35 | 43 | 21 | 118 |
| | % | 5.9% | 10.2% | 29.7% | 36.4% | 17.8% | 100.0% |
| CODE-UCC | Freq. | 5 | 5 | 26 | 23 | 6 | 65 |
| | % | 7.7% | 7.7% | 40.0% | 35.4% | 9.2% | 100.0% |
| IEDE-UEW | Freq. | 3 | 9 | 18 | 20 | 3 | 53 |
| | % | 5.7% | 17.0% | 34.0% | 37.7% | 5.7% | 100.0% |
| Total | Freq. | 19 | 38 | 113 | 130 | 35 | 335 |
| | % | 5.7% | 11.3% | 33.7% | 38.8% | 10.4% | 100.0% |

Source: Field data (2020)

Table 4.16 shows that 130(38.8%) subjects strongly agreed and 35(10.4%) agreed that library staff had sincerity in handling users’ problems and making prompt solutions. This in totality shows that 165, representing 49.2%% agreed and strongly agreed that library staff had sincerity in handling users’ problems and making prompt solutions. Subjects from ICDE-UG rated their institution highest with 64(54.2%), followed by IDL – KNUST with 49(49.5%), CODE-UCC with 29(44.6%), and then IEDE-UEW with 23(43.4%) subjects.

Individual attention to library users

Table 4. 17: Library staff give individual attention to the users

| Institutions | | Library staff give individual attention to the users | | | | | Total |
|--------------|-------|--|----------|---------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq. | 4 | 14 | 28 | 47 | 6 | 99 |
| | % | 4.0% | 14.1% | 28.3% | 47.5% | 6.1% | 100.0% |
| ICDE-UG | Freq. | 4 | 12 | 27 | 54 | 21 | 118 |
| | % | 3.4% | 10.2% | 22.9% | 45.8% | 17.8% | 100.0% |
| CODE-UCC | Freq. | 5 | 12 | 23 | 23 | 2 | 65 |
| | % | 7.7% | 18.5% | 35.4% | 35.4% | 3.1% | 100.0% |
| IEDE-UEW | Freq. | 5 | 3 | 19 | 21 | 5 | 53 |
| | % | 9.4% | 5.7% | 35.8% | 39.6% | 9.4% | 100.0% |
| Total | Freq. | 18 | 41 | 97 | 145 | 34 | 335 |
| | % | 5.4% | 12.2% | 29.0% | 43.3% | 10.1% | 100.0% |

Source: Field data (2020)

In the total as can be seen from Table 4.17, 145(43.3%) respondents agreed and 34(10.1%) strongly agreed that library staff gave individual attention to the users. In comparing the four institutions, subjects from ICDE-UG rated their institution highest with 75(63.6%), followed by IDL – KNUST with 53(53.6%), followed by the IEDE-UEW with 26(49.0%) and the CODE-UCC rated their institution last with 25(38.5%).

Friendly and non-discriminatory treatment

Table 4. 18: Library staff treat users fairly and without discrimination

| Institutions | | Library staff treat users fairly and without discrimination | | | | | Total |
|--------------|-------|---|----------|---------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq. | 4 | 16 | 30 | 46 | 3 | 99 |
| | % | 4.0% | 16.2% | 30.3% | 46.5% | 3.0% | 100.0% |
| ICDE-UG | Freq. | 4 | 11 | 26 | 44 | 33 | 118 |
| | % | 3.4% | 9.3% | 22.0% | 37.3% | 28.0% | 100.0% |
| CODE-UCC | Freq. | 1 | 13 | 20 | 26 | 5 | 65 |
| | % | 1.5% | 20.0% | 30.8% | 40.0% | 7.7% | 100.0% |
| IEDE-UEW | Freq. | 2 | 8 | 15 | 25 | 3 | 53 |
| | % | 3.8% | 15.1% | 28.3% | 47.2% | 5.7% | 100.0% |
| Total | Freq. | 11 | 48 | 91 | 141 | 44 | 335 |
| | % | 3.3% | 14.3% | 27.2% | 42.1% | 13.1% | 100.0% |

Source: Field data (2020)

It can be gleaned from Table 4.18 that in total, 141(42.1%) subjects agreed and 44(13.1%) strongly agreed that library staff treat users fairly and without discrimination. In comparing the institutions, subjects from ICDE-UG rated their institution first with 77(65.3%), followed by IEDE-UEW with 28(52.9%), then IDL – KNUST with 49(49.5%), and lastly CODE-UCC with 31(47.7%).

Prioritizing users' interest

Table 4. 19: Library staff give priority to the users' interest

| Institutions | | Library staff give priority to the users' interest | | | | | Total |
|--------------|-------|--|----------|---------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq. | 5 | 11 | 38 | 39 | 6 | 99 |
| | % | 5.1% | 11.1% | 38.4% | 39.4% | 6.1% | 100.0% |
| ICDE-UG | Freq. | 3 | 10 | 31 | 56 | 18 | 118 |
| | % | 2.5% | 8.5% | 26.3% | 47.5% | 15.3% | 100.0% |
| CODE-UCC | Freq. | 3 | 12 | 20 | 23 | 7 | 65 |
| | % | 4.6% | 18.5% | 30.8% | 35.4% | 10.8% | 100.0% |
| IEDE-UEW | Freq. | 4 | 3 | 18 | 20 | 8 | 53 |
| | % | 7.5% | 5.7% | 34.0% | 37.7% | 15.1% | 100.0% |
| Total | Freq. | 15 | 36 | 107 | 138 | 39 | 335 |
| | % | 4.5% | 10.7% | 31.9% | 41.2% | 11.6% | 100.0% |

Source: Field data (2020)

From the responses indicated in Table 4.19, 138(41.2%) subjects agreed and 39(11.6%) strongly agreed that library staff give priority to the users' interest. In terms of institutional differences, ICDE-UG was rated highest with 74(62.8%), followed by and IEDE-UEW with 28(52.8%), then IDL – KNUST with 45(45.5%), and CODE-UCC with 30(36.2%).

4.4.4 Perceptions of assurance of library services

Tables 4.20 – 4.23 present findings on the participants' ratings of their perceptions of assurance of library services within their individual institutions.

Table 4. 20: Library information guides are clear and useful

| Institutions | | Library information guides are clear and useful | | | | | Total |
|--------------|-------|---|----------|---------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq. | 0 | 15 | 15 | 49 | 20 | 99 |
| | % | 0.0% | 15.2% | 15.2% | 49.5% | 20.2% | 100.0% |
| ICDE-UG | Freq. | 5 | 8 | 26 | 55 | 24 | 118 |
| | % | 4.2% | 6.8% | 22.0% | 46.6% | 20.3% | 100.0% |
| CODE-UCC | Freq. | 0 | 9 | 11 | 31 | 14 | 65 |
| | % | 0.0% | 13.8% | 16.9% | 47.7% | 21.5% | 100.0% |
| IEDE-UEW | Freq. | 1 | 6 | 6 | 31 | 9 | 53 |
| | % | 1.9% | 11.3% | 11.3% | 58.5% | 17.0% | 100.0% |
| Total | Freq. | 6 | 38 | 58 | 166 | 67 | 335 |
| | % | 1.8% | 11.3% | 17.3% | 49.6% | 20.0% | 100.0% |

Source: Field data (2020)

As can be seen from responses in Table 4.20, 166(49.6%) respondents strongly agreed, 67(20.0%) agreed library information guides were clear and useful. This in total shows that 233(69.6%) agreed that library information guides were clear and useful. Subjects from IEDE-UEW rated their institution highest with 40(75.5%), followed by IDL – KNUST with 69(69.7%), CODE-UCC with 45(69.2%) and then ICDE-UG with 79(66.9%).

Provision of user education programs

Table 4. 21: Library provides user education programmes

| Institutions | | Library provides user education programmes to help users make more effective use of resources | | | | | Total |
|--------------|-------|---|----------|---------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq. | 3 | 13 | 26 | 51 | 6 | 99 |
| | % | 3.0% | 13.1% | 26.3% | 51.5% | 6.1% | 100.0% |
| ICDE-UG | Freq. | 6 | 6 | 34 | 49 | 23 | 118 |
| | % | 5.1% | 5.1% | 28.8% | 41.5% | 19.5% | 100.0% |
| CODE-UCC | Freq. | 2 | 11 | 17 | 32 | 3 | 65 |
| | % | 3.1% | 16.9% | 26.2% | 49.2% | 4.6% | 100.0% |
| IEDE-UEW | Freq. | 0 | 13 | 16 | 19 | 5 | 53 |
| | % | 0.0% | 24.5% | 30.2% | 35.8% | 9.4% | 100.0% |
| Total | Freq. | 11 | 43 | 93 | 151 | 37 | 335 |
| | % | 3.3% | 12.8% | 27.8% | 45.1% | 11.0% | 100.0% |

Source: Field data (2020)

In Table 4.21, it can be seen that 151(45.1%) subjects agreed and 37(11.0%) strongly agreed that library provided user education programmes to help users make more effective use of resources. Specifically, the ICDE-UG took the highest with 72(61.0%), IDL – KNUST was the second highest with 57(57.6%), followed by the CODE-UCC with 35(53.8%) and the IEDE-UEW rated their school last with 24(45.2%).

Safety and security in the library

Table 4. 22: Feel safe and secure when I am using the services in the library

| Institutions | | I feel safe and secure when I am using the services in the library | | | | | Total |
|--------------|-------|--|----------|---------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq. | 1 | 10 | 18 | 52 | 18 | 99 |
| | % | 1.0% | 10.1% | 18.2% | 52.5% | 18.2% | 100.0% |
| ICDE-UG | Freq. | 3 | 8 | 21 | 42 | 44 | 118 |
| | % | 2.5% | 6.8% | 17.8% | 35.6% | 37.3% | 100.0% |
| CODE-UCC | Freq. | 1 | 7 | 12 | 28 | 17 | 65 |
| | % | 1.5% | 10.8% | 18.5% | 43.1% | 26.2% | 100.0% |
| IEDE-UEW | Freq. | 1 | 4 | 13 | 24 | 11 | 53 |
| | % | 1.9% | 7.5% | 24.5% | 45.3% | 20.8% | 100.0% |
| Total | Freq. | 6 | 29 | 64 | 146 | 90 | 335 |
| | % | 1.8% | 8.7% | 19.1% | 43.6% | 26.9% | 100.0% |

Source: Field data (2020)

From the responses indicated in Table 4.22, 146(43.6%) respondents agreed and 90(26.9%) strongly agreed that they felt safe and secure when they were using the services in the library. Subjects from ICDE-UG rated their institution highest with 86(72.9%), followed by IDL – KNUST with 70(70.7%), next CODE-UCC with 45(69.3%) and last IEDE-UEW with 35(66.1%).

Inspiring library space

Table 4. 23: Library provides a space that inspires study and learning

| Institutions | | The library provides a space that inspires study and learning | | | | | Total |
|--------------|-------|---|----------|---------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq. | 3 | 11 | 10 | 54 | 21 | 99 |
| | % | 3.0% | 11.1% | 10.1% | 54.5% | 21.2% | 100.0% |
| ICDE-UG | Freq. | 4 | 4 | 12 | 56 | 42 | 118 |
| | % | 3.4% | 3.4% | 10.2% | 47.5% | 35.6% | 100.0% |
| CODE-UCC | Freq. | 4 | 5 | 8 | 30 | 18 | 65 |
| | % | 6.2% | 7.7% | 12.3% | 46.2% | 27.7% | 100.0% |
| IEDE-UEW | Freq. | 1 | 1 | 11 | 28 | 12 | 53 |
| | % | 1.9% | 1.9% | 20.8% | 52.8% | 22.6% | 100.0% |
| Total | Freq. | 12 | 21 | 41 | 168 | 93 | 335 |
| | % | 3.6% | 6.3% | 12.2% | 50.1% | 27.8% | 100.0% |

Source: Field data (2020)

From Table 4.23, 168(50.1%) subjects agreed and 93(27.8%) strongly agreed that the library provide space that inspired studying and learning. Subjects from ICDE-UG ranked their institution highest with 98(93.1%), followed by IDL – KNUST with 75(75.7%), followed by IEDE-UEW with 40(75.4%), and then CODE-UCC with 48(73.9%).

4.4.5 Perceptions of accessibility of library services

Tables 4.24 – 4.30 present findings on the respondents’ perceptions of accessibility of library services within their institutions.

Table 4. 24: Library online catalogue is an accurate source of information

| Institutions | | Library online catalogue is an accurate source of information | | | | | Total |
|--------------|-------|---|----------|---------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq. | 1 | 12 | 27 | 47 | 12 | 99 |
| | % | 1.0% | 12.1% | 27.3% | 47.5% | 12.1% | 100.0% |
| ICDE-UG | Freq. | 6 | 8 | 30 | 50 | 24 | 118 |
| | % | 5.1% | 6.8% | 25.4% | 42.4% | 20.3% | 100.0% |
| CODE-UCC | Freq. | 1 | 9 | 18 | 29 | 8 | 65 |
| | % | 1.5% | 13.8% | 27.7% | 44.6% | 12.3% | 100.0% |
| IEDE-UEW | Freq. | 4 | 4 | 14 | 19 | 12 | 53 |
| | % | 7.5% | 7.5% | 26.4% | 35.8% | 22.6% | 100.0% |
| Total | Freq. | 12 | 33 | 89 | 145 | 56 | 335 |
| | % | 3.6% | 9.9% | 26.6% | 43.3% | 16.7% | 100.0% |

Source: Field data (2020)

From the responses indicated in Table 4.24, 145(43.3%) subjects agreed and 56(16.7%) strongly agreed that library online catalogue was an accurate source of information. Specifically, ICDE-UG took the highest with 74(62.7%), IDL – KNUST was the second highest with 59(59.6%), followed by IEDE-UEW with 31(58.4%), and then CODE-UCC with 37(56.9%).

Comfortable and inviting library location

Table 4. 25: Library has comfortable and inviting location

| Institutions | | The library has comfortable and inviting location | | | | | Total |
|--------------|-------|---|----------|---------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq. | 2 | 14 | 22 | 44 | 17 | 99 |
| | % | 2.0% | 14.1% | 22.2% | 44.4% | 17.2% | 100.0% |
| ICDE-UG | Freq. | 2 | 4 | 20 | 55 | 37 | 118 |
| | % | 1.7% | 3.4% | 16.9% | 46.6% | 31.4% | 100.0% |
| CODE-UCC | Freq. | 3 | 3 | 16 | 32 | 11 | 65 |
| | % | 4.6% | 4.6% | 24.6% | 49.2% | 16.9% | 100.0% |
| IEDE-UEW | Freq. | 5 | 4 | 6 | 28 | 10 | 53 |
| | % | 9.4% | 7.5% | 11.3% | 52.8% | 18.9% | 100.0% |
| Total | Freq. | 12 | 25 | 64 | 159 | 75 | 335 |
| | % | 3.6% | 7.5% | 19.1% | 47.5% | 22.4% | 100.0% |

Source: Field data (2020)

From the total responses, 159(47.5%) subjects strongly agreed 75(22.4%) agreed that the library had comfortable and inviting location, representing 234(64.4%) total agreement. The following were the responses of the four institutions base on how they agreed and strongly agreed to the item. ICDE-UG took the highest position with 92(80.0%), followed by IEDE-UEW with 38(71.7%), CODE-UCC took the third position 43(66.1%), and then IDL – KNUST with 61(61.6%).

Convenient library hours

Table 4. 26: Library has convenient library hours

| Institutions | | The library has convenient library hours (opening and closing hours) | | | | | Total |
|--------------|-------|--|----------|---------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq. | 2 | 18 | 22 | 37 | 20 | 99 |
| | % | 2.0% | 18.2% | 22.2% | 37.4% | 20.2% | 100.0% |
| ICDE-UG | Freq. | 9 | 9 | 12 | 48 | 40 | 118 |
| | % | 7.6% | 7.6% | 10.2% | 40.7% | 33.9% | 100.0% |
| CODE-UCC | Freq. | 2 | 9 | 14 | 28 | 12 | 65 |
| | % | 3.1% | 13.8% | 21.5% | 43.1% | 18.5% | 100.0% |
| IEDE-UEW | Freq. | 3 | 5 | 9 | 29 | 7 | 53 |
| | % | 5.7% | 9.4% | 17.0% | 54.7% | 13.2% | 100.0% |
| Total | Freq. | 16 | 41 | 57 | 142 | 79 | 335 |
| | % | 4.8% | 12.2% | 17.0% | 42.4% | 23.6% | 100.0% |

Source: Field data (2020)

Table 4.26 shows that 142(42.4%) subjects agreed and 79(23.6%) strongly agreed that their libraries had convenient library hours (opening and closing hours). In comparing the four institutions, ICDE-UG ranked highest with 88(74.6%), followed by IEDE-UEW with 36(67.9%), then CODE-UCC with 40(61.6%), and then IDL – KNUST had 57(57.6%).

Convenient access to electronic resources

Table 4. 27: There is convenient facility to access electronic resources

| Institutions | | There is convenient facility to access electronic e-resources | | | | | Total |
|--------------|-------|---|----------|---------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq. | 10 | 16 | 27 | 37 | 9 | 99 |
| | % | 10.1% | 16.2% | 27.3% | 37.4% | 9.1% | 100.0% |
| ICDE-UG | Freq. | 12 | 9 | 33 | 39 | 25 | 118 |
| | % | 10.2% | 7.6% | 28.0% | 33.1% | 21.2% | 100.0% |
| CODE-UCC | Freq. | 7 | 9 | 23 | 21 | 5 | 65 |
| | % | 10.8% | 13.8% | 35.4% | 32.3% | 7.7% | 100.0% |
| IEDE-UEW | Freq. | 3 | 7 | 20 | 18 | 5 | 53 |
| | % | 5.7% | 13.2% | 37.7% | 34.0% | 9.4% | 100.0% |
| Total | Freq. | 32 | 41 | 103 | 115 | 44 | 335 |
| | % | 9.6% | 12.2% | 30.7% | 34.3% | 13.1% | 100.0% |

Source: Field data (2020)

In Table 4.27, a total of 115(34.3%) subjects agreed and 44(13.1%) strongly agreed that there were convenient facilities to access electronic resources. ICDE-UG rated their institution first with 64(54.3%), followed by IDL – KNUST with 46(46.5%), next last IEDE-UEW with 23(43.4%), and lastly CODE-UCC with 26(40.0%).

Access to computers

Table 4. 28: Access to computers to support study / research is adequate

| Institutions | | Access to computers to support study / research is adequate | | | | | Total |
|--------------|-------|---|----------|---------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq. | 7 | 28 | 31 | 30 | 3 | 99 |
| | % | 7.1% | 28.3% | 31.3% | 30.3% | 3.0% | 100.0% |
| ICDE-UG | Freq. | 16 | 17 | 36 | 35 | 14 | 118 |
| | % | 13.6% | 14.4% | 30.5% | 29.7% | 11.9% | 100.0% |
| CODE-UCC | Freq. | 2 | 18 | 23 | 19 | 3 | 65 |
| | % | 3.1% | 27.7% | 35.4% | 29.2% | 4.6% | 100.0% |
| IEDE-UEW | Freq. | 2 | 14 | 19 | 14 | 4 | 53 |
| | % | 3.8% | 26.4% | 35.8% | 26.4% | 7.5% | 100.0% |
| Total | Freq. | 27 | 77 | 109 | 98 | 24 | 335 |
| | % | 8.1% | 23.0% | 32.5% | 29.3% | 7.2% | 100.0% |

Source: Field data (2020)

In Table 4.28, 98(29.3%) subjects agreed and 24(7.2%) strongly agreed that access to computers to support study or research was adequate. Comparatively, ICDE-UG was rated highest with 49(41.6%), followed by IEDE-UEW with 18(33.9%), then CODE-UCC with 22(33.8%), and then IDL – KNUST with 33(33.3%).

Modern equipment

Table 4. 29: Library has modern equipment in good conditions

| Institutions | | The library has modern equipment (photocopiers, computers, printers) in good condition | | | | | Total |
|--------------|-------|--|----------|----------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Someho w | Agree | Strongly Agree | |
| IDL - KNUST | Freq. | 11 | 22 | 29 | 26 | 11 | 99 |
| | % | 11.1% | 22.2% | 29.3% | 26.3% | 11.1% | 100.0% |
| ICDE-UG | Freq. | 12 | 21 | 31 | 37 | 17 | 118 |
| | % | 10.2% | 17.8% | 26.3% | 31.4% | 14.4% | 100.0% |
| CODE-UCC | Freq. | 9 | 15 | 17 | 17 | 7 | 65 |
| | % | 13.8% | 23.1% | 26.2% | 26.2% | 10.8% | 100.0% |
| IEDE-UEW | Freq. | 6 | 12 | 14 | 19 | 2 | 53 |
| | % | 11.3% | 22.6% | 26.4% | 35.8% | 3.8% | 100.0% |
| Total | Freq. | 38 | 70 | 91 | 99 | 37 | 335 |
| | % | 11.3% | 20.9% | 27.2% | 29.6% | 11.0% | 100.0% |

Source: Field data (2020)

In Table 4.29, a total of 99(29.6%) subjects agreed and 37(11.0%) strongly agreed that the library had modern equipment (photocopiers, computers, printers) in good condition. When the four institutions' responses were compared, ICDE-UG took the highest with 54(45.8%), followed by IEDE-UEW with 21(39.6%), then IDL – KNUST with 37(37.4%), and CODE-UCC with 24(37.0%).

Adequate printing materials

Table 4. 30: Adequate printed materials for my course

| Institutions | | The printed library materials I need are adequately available as per my course needs | | | | | Total |
|--------------|-------|--|----------|---------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq. | 11 | 13 | 28 | 39 | 8 | 99 |
| | % | 11.1% | 13.1% | 28.3% | 39.4% | 8.1% | 100.0% |
| ICDE-UG | Freq. | 8 | 21 | 39 | 39 | 11 | 118 |
| | % | 6.8% | 17.8% | 33.1% | 33.1% | 9.3% | 100.0% |
| CODE-UCC | Freq. | 6 | 8 | 22 | 25 | 4 | 65 |
| | % | 9.2% | 12.3% | 33.8% | 38.5% | 6.2% | 100.0% |
| IEDE-UEW | Freq. | 3 | 8 | 18 | 23 | 1 | 53 |
| | % | 5.7% | 15.1% | 34.0% | 43.4% | 1.9% | 100.0% |
| Total | Freq. | 28 | 50 | 107 | 126 | 24 | 335 |
| | % | 8.4% | 14.9% | 31.9% | 37.6% | 7.2% | 100.0% |

Source: Field data (2020)

From Table 4.30, 126(37.6%) respondents strongly agreed and 24(7.2%) agreed that the printed library materials they needed were adequately available as per their course needs. In terms of institutional differences, IDL – KNUST was ranked the highest with 47(47.5%), followed by IEDE-UEW with 24(45.3%) subjects, CODE-UCC with 29(44.7%), and then ICDE-UG with 50(42.4%).

4.4.6 Perception of tangibility of library infrastructures

Tables 4.31 – 4.35 presents findings on the subjects’ perceptions of the tangibility of their libraries’ infrastructure and resources.

Table 4. 31: *Internal environment of the library is calm, welcoming and conducive*

| Institutions | | Internal environment of the library is calm, welcoming and conducive to studying | | | | | Total |
|--------------|------|--|----------|---------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq | 4 | 9 | 22 | 37 | 27 | 99 |
| | % | 4.0% | 9.1% | 22.2% | 37.4% | 27.3% | 100.0% |
| ICDE-UG | Freq | 6 | 5 | 13 | 50 | 44 | 118 |
| | % | 5.1% | 4.2% | 11.0% | 42.4% | 37.3% | 100.0% |
| CODE-UCC | Freq | 8 | 4 | 13 | 21 | 19 | 65 |
| | % | 12.3% | 6.2% | 20.0% | 32.3% | 29.2% | 100.0% |
| IEDE-UEW | Freq | 5 | 2 | 8 | 22 | 16 | 53 |
| | % | 9.4% | 3.8% | 15.1% | 41.5% | 30.2% | 100.0% |
| Total | Freq | 23 | 20 | 56 | 130 | 106 | 335 |
| | % | 6.9% | 6.0% | 16.7% | 38.8% | 31.6% | 100.0% |

Source: Field data (2020)

From Table 4.31, a total of 130(38.8%) respondents agreed and 106(31.6%) strongly agreed that the internal environment of the libraries was calm, welcoming and conducive to studying. ICDE-UG was ranked highest with 94(79.7%), followed by IEDE-UEW with 38(71.7%), then IDL – KNUST with 64(64.7%), and lastly CODE-UCC with 40(61.5%)

Sufficient and suitable space

Table 4. 32: Library has suitable and sufficient space that encourages study and research

| Institutions | | Library has suitable and sufficient space that encourages study and research | | | | | Total |
|--------------|------|--|----------|---------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq | 3 | 8 | 24 | 41 | 23 | 99 |
| | % | 3.0% | 8.1% | 24.2% | 41.4% | 23.2% | 100.0% |
| ICDE-UG | Freq | 6 | 4 | 14 | 54 | 40 | 118 |
| | % | 5.1% | 3.4% | 11.9% | 45.8% | 33.9% | 100.0% |
| CODE-UCC | Freq | 2 | 3 | 18 | 27 | 15 | 65 |
| | % | 3.1% | 4.6% | 27.7% | 41.5% | 23.1% | 100.0% |
| IEDE-UEW | Freq | 2 | 2 | 8 | 30 | 11 | 53 |
| | % | 3.8% | 3.8% | 15.1% | 56.6% | 20.8% | 100.0% |
| Total | Freq | 13 | 17 | 64 | 152 | 89 | 335 |

| | | | | | | | |
|--|---|------|------|-------|-------|-------|--------|
| | % | 3.9% | 5.1% | 19.1% | 45.4% | 26.6% | 100.0% |
|--|---|------|------|-------|-------|-------|--------|

Source: Field data (2020)

Form the total, 152(45.4%) respondents agreed and 89(26.6%) strongly agreed that library had suitable and sufficient space that encouraged study and research. ICDE-UG rated their institution highest with 94(79.7%), followed by IEDE-UEW with 41(77.4%) subjects, followed by IDL – KNUST with 64(64.6%), next CODE-UCC with 42(64.6%).

Pleasant, comfortable and inviting location

Table 4. 33: Library is a pleasant, comfortable and inviting location

| Institutions | | Library is a pleasant, comfortable and inviting location to carry out study | | | | | Total |
|--------------|------|---|----------|---------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq | 1 | 6 | 25 | 43 | 24 | 99 |
| | % | 1.0% | 6.1% | 25.3% | 43.4% | 24.2% | 100.0% |
| ICDE-UG | Freq | 4 | 2 | 15 | 48 | 49 | 118 |
| | % | 3.4% | 1.7% | 12.7% | 40.7% | 41.5% | 100.0% |
| CODE-UCC | Freq | 3 | 2 | 13 | 34 | 13 | 65 |
| | % | 4.6% | 3.1% | 20.0% | 52.3% | 20.0% | 100.0% |
| IEDE-UEW | Freq | 3 | 1 | 11 | 30 | 8 | 53 |
| | % | 5.7% | 1.9% | 20.8% | 56.6% | 15.1% | 100.0% |
| Total | Freq | 11 | 11 | 64 | 155 | 94 | 335 |

| | | | | | | | |
|--|---|------|------|-------|-------|-------|--------|
| | % | 3.3% | 3.3% | 19.1% | 46.3% | 28.1% | 100.0% |
|--|---|------|------|-------|-------|-------|--------|

Source: Field data (2020)

In Table 4.33 it can be seen that, 155(46.3%) respondents agreed and 94(28.1%) strongly agreed that library was a pleasant, comfortable and inviting location to carry out study. Specifically, the ICDE-UG took the highest rating response with 97(82.2%), followed by CODE-UCC with 47(72.3%), followed by IEDE-UEW with 38(71.7%) and then IDL – KNUST with 67(65.7%).

Condition of library materials

Table 4. 34: Library materials are in good condition

| Institutions | | The library materials are in good condition (not brittle or falling apart) | | | | | Total |
|--------------|------|--|----------|---------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq | 7 | 10 | 33 | 39 | 10 | 99 |
| | % | 7.1% | 10.1% | 33.3% | 39.4% | 10.1% | 100.0% |
| ICDE-UG | Freq | 6 | 7 | 28 | 53 | 24 | 118 |
| | % | 5.1% | 5.9% | 23.7% | 44.9% | 20.3% | 100.0% |
| CODE-UCC | Freq | 5 | 4 | 26 | 24 | 6 | 65 |
| | % | 7.7% | 6.2% | 40.0% | 36.9% | 9.2% | 100.0% |
| IEDE-UEW | Freq | 2 | 5 | 21 | 22 | 3 | 53 |
| | % | 3.8% | 9.4% | 39.6% | 41.5% | 5.7% | 100.0% |

| | | | | | | | |
|-------|------|------|------|-------|-------|-------|--------|
| Total | Freq | 20 | 26 | 108 | 138 | 43 | 335 |
| | % | 6.0% | 7.8% | 32.2% | 41.2% | 12.8% | 100.0% |

Source: Field data (2020)

From the responses indicated in Table 4.34, 138(41.2%) respondents strongly agreed and 43(12.8) agreed that the library materials were in good condition (not brittle or falling apart). ICDE-UG took the highest rated position 77(65.2%), IDL – KNUST took the second highest 49(49.5%), followed by IEDE-UEW with 25(47.2%) subjects, and lastly CODE-UCC with 30(46.1%).

Adequate electronic resources

Table 4. 35: Adequate electronic resources subscribed

| | | Number and variety of electronic resources subscribed are adequate | | | | | Total |
|-------------|------|---|-----------------|----------------|--------------|---------------------------|--------------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq | 7 | 12 | 44 | 29 | 7 | 99 |
| | % | 7.1% | 12.1% | 44.4% | 29.3% | 7.1% | 100.0% |
| ICDE-UG | Freq | 4 | 19 | 44 | 37 | 14 | 118 |
| | % | 3.4% | 16.1% | 37.3% | 31.4% | 11.9% | 100.0% |
| CODE-UCC | Freq | 4 | 4 | 31 | 22 | 4 | 65 |
| | % | 6.2% | 6.2% | 47.7% | 33.8% | 6.2% | 100.0% |
| IEDE-UEW | Freq | 2 | 6 | 27 | 16 | 2 | 53 |
| | % | 3.8% | 11.3% | 50.9% | 30.2% | 3.8% | 100.0% |

| | | | | | | | |
|-------|------|------|-------|-------|-------|------|--------|
| Total | Freq | 17 | 41 | 146 | 104 | 27 | 335 |
| | % | 5.1% | 12.2% | 43.6% | 31.0% | 8.1% | 100.0% |

Source: Field data (2020)

Table 4.35 shows that 104(31.0%) subjects agreed and 27(8.1%) strongly agreed that the number and variety of electronic resources subscribed to were adequate. IDL – KNUST had 36(36.4%), ICDE-UG had 51(43.3%), CODE-UCC had 26(40.0%) and IEDE-UEW had 18(34.0%). This suggests that comparably, ICDE-UG rated their institution higher than the other three institutions. Followed by IDL – KNUST, followed by IEDE-UEW and CODE-UCC took the last rated institution.

Modern technological equipment

Table 4. 36: Library has sufficient modern technological equipment and facilities

| Institutions | | The library has sufficient modern technological equipment and facilities | | | | | Total |
|--------------|------|--|----------|---------|-------|----------------|--------|
| | | Strongly Disagree | Disagree | Somehow | Agree | Strongly Agree | |
| IDL - KNUST | Freq | 9 | 12 | 38 | 31 | 9 | 99 |
| | % | 9.1% | 12.1% | 38.4% | 31.3% | 9.1% | 100.0% |
| ICDE-UG | Freq | 13 | 10 | 41 | 40 | 14 | 118 |
| | % | 11.0% | 8.5% | 34.7% | 33.9% | 11.9% | 100.0% |
| CODE-UCC | Freq | 5 | 7 | 23 | 25 | 5 | 65 |
| | % | 7.7% | 10.8% | 35.4% | 38.5% | 7.7% | 100.0% |
| IEDE-UEW | Freq | 2 | 10 | 19 | 19 | 3 | 53 |

| | | | | | | | |
|-------|------|------|-------|-------|-------|------|--------|
| | % | 3.8% | 18.9% | 35.8% | 35.8% | 5.7% | 100.0% |
| Total | Freq | 29 | 39 | 121 | 115 | 31 | 335 |
| | % | 8.7% | 11.6% | 36.1% | 34.3% | 9.3% | 100.0% |

Source: Field data (2020)

As indicated in Table 4.36, 115(34.3%) subjects agreed and 31(9.3%) strongly agreed that the library had sufficient modern technological equipment and facilities. Subjects from CODE-UCC rated their institution highest with 30(46.2%), followed by ICDE-UG with 54(45.8%), followed by IEDE-UEW with 22(41.5%) and then IDL – KNUST with 40(40.4%).

4.5 Satisfaction of Distance Education Library Users

Tables 4.37 – 4.43 presents findings on the subjects’ evaluation of their satisfaction with levels the quality of their library resources and service delivery.

Table 4. 37: Satisfaction with internet/computer services

| Institutions | | Satisfaction with internet/computer services | | | | | Total |
|--------------|------|--|--------------|---------|-----------|----------------|--------|
| | | Very dissatisfied | Dissatisfied | Somehow | Satisfied | Very Satisfied | |
| IDL - KNUST | Freq | 10 | 14 | 36 | 28 | 11 | 99 |
| | % | 10.1% | 14.1% | 36.4% | 28.3% | 11.1% | 100.0% |
| ICDE-UG | Freq | 10 | 14 | 28 | 41 | 25 | 118 |
| | % | 8.5% | 11.9% | 23.7% | 34.7% | 21.2% | 100.0% |
| CODE-UCC | Freq | 7 | 8 | 19 | 24 | 7 | 65 |
| | % | 10.8% | 12.3% | 29.2% | 36.9% | 10.8% | 100.0% |
| IEDE-UEW | Freq | 6 | 9 | 16 | 19 | 3 | 53 |

| | | | | | | | |
|-------|------|-------|-------|-------|-------|-------|--------|
| | % | 11.3% | 17.0% | 30.2% | 35.8% | 5.7% | 100.0% |
| Total | Freq | 33 | 45 | 99 | 112 | 46 | 335 |
| | % | 9.9% | 13.4% | 29.6% | 33.4% | 13.7% | 100.0% |

Source: Field data (2020)

From Table 4.37, a total of 112(33.4%) subjects indicated being satisfied and 46(13.7%) very satisfied with internet or computer services. Putting the frequencies of agreement together (satisfied + very satisfied), ICDE-UG got 66(55.9%), CODE-UCC got 31(47.7%), IDL – KNUST got 40(39.4%), and IEDE-UEW had 22(41.5%). This shows that ICDE-UG was rated highest as compared to the others, followed by IDL – KNUST, CODE-UCC and then IEDE-UEW.

Satisfaction with staff

Table 4. 38: Library staff

| Institutions | | Satisfaction with Library staff | | | | | Total |
|--------------|------|---------------------------------|--------------|---------|-----------|----------------|--------|
| | | Very dissatisfied | Dissatisfied | Somehow | Satisfied | Very Satisfied | |
| IDL - KNUST | Freq | 1 | 7 | 32 | 48 | 11 | 99 |
| | % | 1.0% | 7.1% | 32.3% | 48.5% | 11.1% | 100.0% |
| ICDE-UG | Freq | 5 | 7 | 29 | 55 | 22 | 118 |
| | % | 4.2% | 5.9% | 24.6% | 46.6% | 18.6% | 100.0% |
| CODE-UCC | Freq | 1 | 5 | 15 | 31 | 13 | 65 |
| | % | 1.5% | 7.7% | 23.1% | 47.7% | 20.0% | 100.0% |

| | | | | | | | |
|----------|------|------|------|-------|-------|-------|--------|
| IEDE-UEW | Freq | 1 | 2 | 20 | 22 | 8 | 53 |
| | % | 1.9% | 3.8% | 37.7% | 41.5% | 15.1% | 100.0% |
| Total | Freq | 8 | 21 | 96 | 156 | 54 | 335 |
| | % | 2.4% | 6.3% | 28.7% | 46.6% | 16.1% | 100.0% |

Source: Field data (2020)

In total, 156(46.6%) subjects were satisfied and 54(16.1%) very satisfied with library staff. In comparing the institutions, the ICDE-UG was highly rated with 77(65.2%), followed by IDL – KNUST with 59(59.6%), followed by the CODE-UCC with 44(47.7%) and then IEDE-UEW with 30(56.6%).

Satisfaction with lending services

Table 4. 39: Lending services

| Institutions | | Satisfaction with lending services | | | | | Total |
|--------------|------|------------------------------------|--------------|---------|-----------|----------------|--------|
| | | Very dissatisfied | Dissatisfied | Somehow | Satisfied | Very Satisfied | |
| IDL - KNUST | Freq | 5 | 11 | 35 | 40 | 8 | 99 |
| | % | 5.1% | 11.1% | 35.4% | 40.4% | 8.1% | 100.0% |
| ICDE-UG | Freq | 9 | 11 | 37 | 46 | 15 | 118 |
| | % | 7.6% | 9.3% | 31.4% | 39.0% | 12.7% | 100.0% |
| CODE-UCC | Freq | 3 | 6 | 21 | 29 | 6 | 65 |
| | % | 4.6% | 9.2% | 32.3% | 44.6% | 9.2% | 100.0% |

| | | | | | | | |
|----------|------|------|------|-------|-------|-------|--------|
| IEDE-UEW | Freq | 1 | 3 | 22 | 21 | 6 | 53 |
| | % | 1.9% | 5.7% | 41.5% | 39.6% | 11.3% | 100.0% |
| Total | Freq | 18 | 31 | 115 | 136 | 35 | 335 |
| | % | 5.4% | 9.3% | 34.3% | 40.6% | 10.4% | 100.0% |

Source: Field data (2020)

From the data in Table 4.39, 136(40.6%) subjects were satisfied and 35(10.4%) very satisfied with lending services. Comparably, the ICDE-UG was rated highest with 61(51.7%), followed by CODE-UCC with 35(53.8%), followed by IEDE-UEW with 27(50.9%), and then IDL – KNUST 48(48.5%).

Access to information resources

Table 4. 40: Access to information resources

| | | Satisfaction with Access to information resources in the library | | | | | Total |
|-------------|------|--|--------------|---------|-----------|----------------|--------|
| | | Very dissatisfied | Dissatisfied | Somehow | Satisfied | Very Satisfied | |
| IDL - KNUST | Freq | 5 | 7 | 24 | 51 | 12 | 99 |
| | % | 5.1% | 7.1% | 24.2% | 51.5% | 12.1% | 100.0% |
| ICDE-UG | Freq | 4 | 9 | 27 | 56 | 22 | 118 |
| | % | 3.4% | 7.6% | 22.9% | 47.5% | 18.6% | 100.0% |
| CODE-UCC | Freq | 2 | 4 | 21 | 31 | 7 | 65 |
| | % | 3.1% | 6.2% | 32.3% | 47.7% | 10.8% | 100.0% |

| | | | | | | | |
|----------|------|------|------|-------|-------|-------|--------|
| IEDE-UEW | Freq | 1 | 4 | 17 | 26 | 5 | 53 |
| | % | 1.9% | 7.5% | 32.1% | 49.1% | 9.4% | 100.0% |
| Total | Freq | 12 | 24 | 89 | 164 | 46 | 335 |
| | % | 3.6% | 7.2% | 26.6% | 49.0% | 13.7% | 100.0% |

Source: Field data (2020)

In Table 4.40, a total of 164(49.0%) subjects indicated being satisfied and 46(13.7%) were very satisfied with access to information resources in the library. ICDE-UG rated their institution first with 78(66.1%), followed by IDL – KNUST with 63(63.6%), next CODE-UCC with 38(58.5) and then IEDE-UEW with 31(58.5%).

Library environment

Table 4. 41: Library environment

| Institutions | | Satisfaction with Library environment | | | | | Total |
|--------------|------|---------------------------------------|--------------|---------|-----------|----------------|--------|
| | | Very dissatisfied | Dissatisfied | Somehow | Satisfied | Very Satisfied | |
| IDL - KNUST | Freq | 6 | 2 | 20 | 48 | 23 | 99 |
| | % | 6.1% | 2.0% | 20.2% | 48.5% | 23.2% | 100.0% |
| ICDE-UG | Freq | 3 | 2 | 18 | 46 | 49 | 118 |
| | % | 2.5% | 1.7% | 15.3% | 39.0% | 41.5% | 100.0% |
| CODE-UCC | Freq | 4 | 1 | 10 | 35 | 15 | 65 |
| | % | 6.2% | 1.5% | 15.4% | 53.8% | 23.1% | 100.0% |
| IEDE-UEW | Freq | 1 | 1 | 8 | 30 | 13 | 53 |

| | | | | | | | |
|-------|------|------|------|-------|-------|-------|--------|
| | % | 1.9% | 1.9% | 15.1% | 56.6% | 24.5% | 100.0% |
| Total | Freq | 14 | 14 | 6 | 56 | 159 | 335 |
| | % | 4.2% | 4.2% | 1.8% | 16.7% | 47.5% | 100.0% |

Source: Field data (2020)

From the responses indicated in Table 4.41, 56(16.7%) were satisfied and 159(47.5%) were very satisfied with Library environment, suggesting that 215(64.2%) satisfied and very satisfied with Library environment. ICDE-UG was rated the highest response with 95(80.5%), followed by IEDE-UEW with 43(81.1%) subjects, CODE-UCC was rated the third position with 50(76.9%) and then IDL – KNUST with 71(71.7%).

Orientation and training

Table 4. 42: Orientation and trainings

| Institutions | | Satisfaction with orientation and training | | | | | Total |
|--------------|------|--|--------------|---------|-----------|----------------|--------|
| | | Very dissatisfied | Dissatisfied | Somehow | Satisfied | Very Satisfied | |
| IDL - KNUST | Freq | 4 | 24 | 34 | 29 | 8 | 99 |
| | % | 4.0% | 24.2% | 34.3% | 29.3% | 8.1% | 100.0% |
| ICDE-UG | Freq | 11 | 25 | 25 | 36 | 21 | 118 |
| | % | 9.3% | 21.2% | 21.2% | 30.5% | 17.8% | 100.0% |
| CODE-UCC | Freq | 0 | 15 | 22 | 22 | 6 | 65 |
| | % | 0.0% | 23.1% | 33.8% | 33.8% | 9.2% | 100.0% |
| IEDE-UEW | Freq | 2 | 13 | 16 | 16 | 6 | 53 |

| | | | | | | | |
|-------|------|------|-------|-------|-------|-------|--------|
| | % | 3.8% | 24.5% | 30.2% | 30.2% | 11.3% | 100.0% |
| Total | Freq | 17 | 77 | 97 | 103 | 41 | 335 |
| | % | 5.1% | 23.0% | 29.0% | 30.7% | 12.2% | 100.0% |

Source: Field data (2020)

From Table 4.42, a total of 103(30.7%) subjects were satisfied and 41(12.2%) were very satisfied with orientation and training. When the four institutions were compared, IDL – KNUST was rated the highest with 37(52.6%), followed by ICDE-UG with 57(48.3%), followed by CODE-UCC +with 28(43.0%) and then IEDE-UEW rated their school last with 22(41.5%).

Information literacy

Table 4. 43: Information literacy

| Institutions | | Satisfaction with Information literacy (Being taught how to use the library and searching for information) | | | | | Total |
|--------------|------|--|--------------|---------|-----------|----------------|--------|
| | | Very dissatisfied | Dissatisfied | Somehow | Satisfied | Very Satisfied | |
| IDL - KNUST | Freq | 4 | 15 | 35 | 39 | 6 | 99 |
| | % | 4.0% | 15.2% | 35.4% | 39.4% | 6.1% | 100.0% |
| ICDE-UG | Freq | 13 | 20 | 28 | 38 | 19 | 118 |
| | % | 11.0% | 16.9% | 23.7% | 32.2% | 16.1% | 100.0% |
| CODE-UCC | Freq | 3 | 13 | 21 | 23 | 5 | 65 |
| | % | 4.6% | 20.0% | 32.3% | 35.4% | 7.7% | 100.0% |
| IEDE-UEW | Freq | 1 | 12 | 16 | 19 | 5 | 53 |

| | | | | | | | |
|-------|------|------|-------|-------|-------|-------|--------|
| | % | 1.9% | 22.6% | 30.2% | 35.8% | 9.4% | 100.0% |
| Total | Freq | 21 | 60 | 100 | 119 | 35 | 335 |
| | % | 6.3% | 17.9% | 29.9% | 35.5% | 10.4% | 100.0% |

Source: Field data (2020)

In Table 4.43, 119(35.5%) subjects stated being satisfied and 35(10.4%) were very satisfied with information literacy. When the four institutions were compared, ICDE-UG was rated the highest with 57(48.3%), followed by IDL – KNUST was the second highest with 45(45.5%), followed by IEDE-UEW with 24(45.2%), and then CODE-UCC with 28(43.1%).

4.6 Challenges of Library Use among Distance Education Library Users

The respondents also rated the challenges that they encountered when they accessed library services in their institutions. The findings are provided in Table 4.44 and depicted in Figure 3 show that, in total, 194(57.9%) subjects rated inadequate library facilities as a major challenge, followed by 177(52.8%) on low computer knowledge, 160(47.8%) insufficient user education, 155(46.3%) lack of information retrieval skills, and then 136(41.0%) limited ICT facilities for accessing information.

In comparing the institutions, in IDL-KNUST, 64(64.6%) rated inadequate library facilities, followed by 59(59.6%) low computer knowledge, 56(56.6%) lack of information retrieval skills, 49(49.5%) insufficient user education, and 48(84.5%) limited ICT facilities for accessing information.

In ICDE-UG, 54(45.8%) rated insufficient user education as most challenging, followed by 53(44.9%) inadequate library facilities, then 48(40.7%) lack of information retrieval skills, 46(39.0%) low computer knowledge, and then 34(28.8%) limited ICT facilities for accessing information.

In CODE-UCC, inadequate library facilities 41(63.1%) and low computer knowledge 41(63.1%) were both rated highest challenge, followed by 33(52.4%) limited ICT facilities for accessing information, 33(50.8%) insufficient user education, and then 27(41.5%) lack of information retrieval skills.

In IEDE-UEW, 36(67.9%) rated inadequate library facilities as the highest challenge, followed by 31(58.5%) low computer knowledge, 24(45.3%) insufficient user education, 24(45.3%) lack of information retrieval skills, and then 21(40.4%) limited ICT facilities for accessing information.

Table 4. 44: Challenges faced by library users

| | | IDL KNUST | | ICDE UG | | CODE UCC | | IEDE UEW | | Total | |
|--|-----|--------------|-------|------------|-------|-------------|-------|-------------|-------|-------|-------|
| | | F | % | F | % | F | % | F | % | F | % |
| Insufficient user education | Yes | 49 | 49.5% | 54 | 45.8% | 33 | 50.8% | 24 | 45.3% | 160 | 47.8% |
| | No | 50 | 50.5% | 64 | 54.2% | 32 | 49.2% | 29 | 54.7% | 175 | 52.2% |
| Lack of information retrieval skills | Yes | 56 | 56.6% | 48 | 40.7% | 27 | 41.5% | 24 | 45.3% | 155 | 46.3% |
| | No | 43 | 43.4% | 70 | 59.3% | 38 | 58.5% | 29 | 54.7% | 180 | 53.7% |
| Low computer knowledge | Yes | 59 | 59.6% | 46 | 39.0% | 41 | 63.1% | 31 | 58.5% | 177 | 52.8% |
| | No | 40 | 40.4% | 72 | 61.0% | 24 | 36.9% | 22 | 41.5% | 158 | 47.2% |
| Limited ICT facilities for accessing information | Yes | 48 | 48.5% | 34 | 28.8% | 33 | 52.4% | 21 | 40.4% | 136 | 41.0% |
| | No | 51 | 51.5% | 84 | 71.2% | 30 | 47.6% | 31 | 59.6% | 196 | 59.0% |
| Inadequate library facilities | Yes | 64 | 64.6% | 53 | 44.9% | 41 | 63.1% | 36 | 67.9% | 194 | 57.9% |
| | No | 35 | 35.4% | 65 | 55.1% | 24 | 36.9% | 17 | 32.1% | 141 | 42.1% |

Source: Field data (2020)

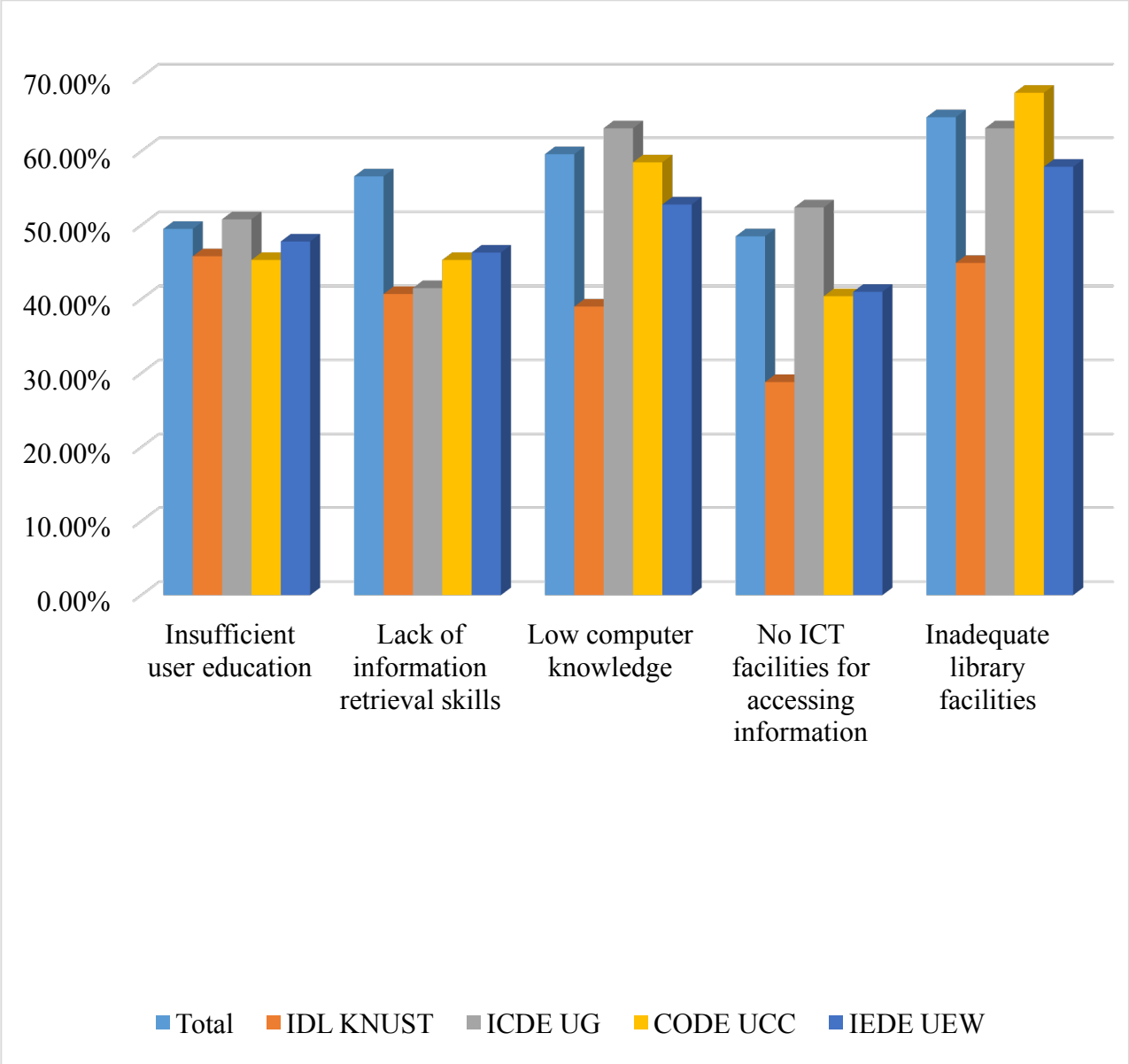


Figure 3: Comparison of challenges faced by library users

Figure 3 shows that insufficient library facilities were a dominant challenge that cut across all the institutions, but was visibly highest in CODE-UCC, compared to the others. Low computer knowledge was also visibly highest in ICDE-UG compared to the other institutions.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.1 Introduction

This chapter presents a syntheses and discussion of the findings from this study. Distance education can only keep expanding in Ghana, particularly so in this era of global health pandemic where on-campus education has been migrated online in many universities across the world. In Ghana, many public universities are poised for expanding their distance education. Library service delivery will play critical role in delivering quality distance education. This study investigated perceptions of quality of library service delivery among distance education students and tutors in four public universities in Ghana. The following objectives guided the study:

- To assess the frequency and purposes of use of library services by distance education students and tutors
- To assess the perceptions of distance education students and tutors of the quality of library resources and service delivery within their institutions.
- To examine the user satisfaction levels of distance education students and tutors in their library service delivery within their institutions.
- To assess the challenges facing the distance learners in accessing quality library services at the public university libraries.
- Make recommendations on improving the quality of library services for distance education students base on the findings of the study.

The discussion is organized around the objectives. In discussing each of the objectives, the findings are situated within the context of existing empirical and theoretical literature

5.2 Frequency and purpose of library visit

In distance education, learners spend much of their educational life away from the campus of their universities. For this reason, they do not use their library resources on daily basis. But they still do use the library. It is therefore imperative that the extent of library use among distance education students and tutors is assessed. The first objective of this study examined how often the subjects visited their libraries and the purpose for which they visited their libraries.

The findings showed that frequency of library use was moderate, except in ICDE-UG where frequency of library use was highest. In comparing the four institutions, in terms of (often + very often), 76(64.4%) of the distance education students from ICDE-UG visited the library most frequently, followed by IEDE-UEW 22(41.5%), then CODE-UCC 26(41.1%) and then 28(28.3%) from IDL-KNUST in that order. In terms of purposes of visiting the library, borrowing books emerged the topmost reason for why the distance education students visited the library (243, 79.9%). This was followed by reading personal notes (173, 57.9%), then preparing for examination (146, 47.2%), working on assignment (143, 47.0%), and then reading for leisure (66, 22.8%).

In terms of comparing the four institutions, borrowing books also emerged as the topmost reason for visiting the library by those in IDL-KNUST (81, 82.7%), followed by preparation for examination (46, 46.9%), reading personal notes (44, 44.9%) and then reading for leisure (13, 13.3%). In ICEDE-UG, borrowing books was also the most dominant reason for visiting the library, as indicated by 94 (81.3%) subjects, followed by 77 (65.3%) reading personal notes, preparing for examination 58 (49.2%), working on assignment 56 (47.5%) and then reading for

leisure 27 (22.9%). In CODE-UCC, borrowing books was also the most frequent reason 27 (75.0%), followed by reading personal notes 22 (73.3%), reading for leisure 12 (57.1%), working on assignment 18 (51.4%), and then preparing for examination 18 (45.0%). In IEDE-UEW, borrowing books was also the most frequent reason 41 (77.4%), followed by both working on assignments 30 (56.6%) and reading personal notes 30 (56.6%), and then reading for leisure 14 (26.4%).

These findings suggest that library use is low among the subjects. However, when put within the context of distance education, where learners do not have access to the libraries on daily basis, then library use can be argued to be relatively high. In distance education programs, particularly among the four institutions selected, students meet their tutors on weekly basis, mostly weekends at their study centers for their tutorials. In most cases, distance students only visit the libraries only weekends when they attend tutorials. Even though some may visit the libraries during weekdays, majority of distance students tend to be full time workers, and therefore unable to visit their institutional libraries during weekdays. Therefore, visiting the libraries often could be interpreted as often on weekends when they attend tutorials.

Within the Greater Accra region where the data was collected, IDL-UG has dedicated campus (City Campus) where distance students in Accra meet their tutors. IDL-KNUST also has similar centers in Accra. The center is well developed campus that runs some of the private programs of the University of Ghana. So, the centers have dedicated libraries that is well-stocked and connected to their libraries within their respective institutions. These may explain why library use among the

subjects of ICDE-UG and IDL-KNUST are relatively higher compared to those from CODE-UCC and IEDE-UEW.

5.3 Perception of Quality of Library Services Delivery

Current library practice globally has moved to a stage where library philosophy is underpinned by service quality (Aslam & Sehr, 2018; Tan et al., 2017). This is the fundamental assumption of the SERVQUAL model proposed by Parasuraman et al. (1998) which has been incorporated in library practice and research. The SERVQUAL model identifies five dimensions of library service quality as reliability, responsiveness, empathy, assurance, and tangibility (Parasuraman et al., 1998). The second objective of the study looked at the perceptions of distance education students and tutors of the quality of library resources and service delivery within their institutions.

Based on the SERVQUAL model, the subjects were made to rate their perception of their library resources and services of their institutions based on reliability of library service, responsiveness of staff, empathy, assurance, accessibility and tangibility of library infrastructure. The findings showed that generally, the respondents rated their institutions average when it comes to the perceptions of the quality of the library services they received. These findings align with some previous studies that have argued that there are significant gaps in the quality of library services available to distance education students (Bernard & Dulle, 2014; Owusu-Ansah et al., 2017; Sacchanand, 2002). Owusu-Ansah et al., (2017) for instance have argued that institutional-level factors such course designs also constraints access to library information among distance education students in Ghana.

When the four institutions were compared, the study showed that in terms of reliability of library services, subjects from ICDE-UG rated their institutions, followed by IEDE-UEW, then IDL – KNUST and lastly CODE-UCC. When it comes to responsiveness of library staff, ICDE-UG was ranked highest, followed by IDL – KNUST, followed by the CODE-UCC and then IEDE-UEW. In terms of empathy of library staff, again, ICDE-UG was rated highest, followed by IDL – KNUST, CODE-UCC with and then IEDE-UEW.

In terms of accessibility of library services, ICDE-UG was rated highest, followed by IDL – KNUST, followed by IEDE-UEW and then CODE-UCC. When it comes to tangibility of library infrastructure and resources, ICDE-UG was again ranked highest, followed by IEDE-UEW, then IDL – KNUST and lastly CODE-UCC. However, when it comes to assurance of library services, IEDE-UEW was rated highest, followed by IDL – KNUST, CODE-UCC and then ICDE-UG.

Synthesizing the comparative analysis of the institutions together, the findings from the study showed that ICDE-UG was ranked highest when it comes to perception of quality of library service delivery. This was followed by IDL-KNUST, CODE-UCC and then IEDE-UEW. These findings mean that library resources and services available to distance education students and tutors at the University of Ghana is comparatively best among the four institutions.

There are gaps in the library service delivery that the other institutions need to address. For example, IEDE-UEW and CODE-UCC in particular need to expand access to library resources to

their distance education students and tutors. IDL-KNUST on the other hand need to improve on the quality of library service delivery to their distance education students and tutors. When these gaps are addressed, it will ensure the subjects' perceptions of the quality of the library resources and service delivery in their institutions are improved. This will help to bridge the gaps in quality library service delivery for regular and distance students.

5.4 Satisfaction of Library Use

The fundamental aim of the SERVQUAL model which underpins library practice is to increase satisfaction among library users (Dahan et al., 2018; Fithri et al., 2017; Parasuraman 1998) as the library professionals strive to improve on the quality of the library services they provide. Ekere et al. (2016), Larson and Owusu-Acheaw (2016) have all argued that the fundamental essence of improving library service quality is to increase satisfaction among library users. The SERVQUAL model ensures that quality of service delivery is given priority of library practice even if library resources are inadequate (Sulemani & Katsekor, 2007; Tan et al., 2017; Xi et al., 2018). The third objective of this study therefore examined the satisfaction levels of the distance education students and tutors within the four institutions.

The subjects were asked to indicate their level of satisfaction with internet services, library staff, lending services, access to information resources, library environment, orientation and trainings, and their information literacy. The findings showed that generally, satisfaction of library services was moderate, with satisfaction levels ranging between 30 – 65%. In total, satisfaction with library environment was highest, followed by satisfaction with library staff and access to information

resources. The subjects were least satisfied with training and orientation, information literacy, internet services and lending services.

These findings suggest that generally, satisfaction of library service delivery among the subjects was very low. The satisfaction among the subjects is lower than the level of satisfaction that have been recorded among regular university students reported elsewhere (Dahan et al, 2016; Ekere et al., 2016; Fithri et al., 2017; Jackson, 2015) and in Ghana (Buabeng-Andoh et al., 2015; Ekumadze et al. 2017; Owusu-Ansah et al. 2018; Larson & Owusu-Acheaw, 2012). Ekere et al., (2016) for instance have reported high satisfaction rate of about 81% among regular university students in Nigeria. In Ghana, Larson and Owusu-Acheaw (2012) have also reported high satisfaction of between 70 – 75% of regular students of University of Education in Ghana. Integrating the findings in this study into existing studies point to the fact that distance education students and tutors are less satisfied with the quality of library resources and services available to them.

When the four institutions were compared, there were subtle differences. In ICDE-UG, the subjects were very satisfied with library environment, access to information and library staff, but very dissatisfied with information literacy and training and orientation. In IEDE-UEW, the subjects were very satisfied with library environment, moderately satisfied with access to information, but very dissatisfied with training and orientation and internet services. In CODE-UCC, the subjects were very most satisfied with library environment and library staff, but least satisfied with information library and training and orientation. In IDL-KNUST, the subjects were most satisfied

with library environment and access to information but very dissatisfied with training and orientation.

These findings align with what was observed in the first objective. Subjects from ICDE-UG rated their perceptions of quality of library resources and services higher than subjects from all the other institutions. Consistently, subjects from ICDE-UG have also rated their satisfaction of library service delivery to be highest among all the other institutions. The findings suggest that among the four institutions, there is something that the University of Ghana is doing right, which needs to be emulated by the other institutions in meeting the library needs of their distance education students and tutors.

5.5 Challenges of Library Use among Distance Education Library Users

Improving the quality of library service delivery for distance education students and tutors requires a deeper understanding and insights into the challenges that undermine the access to quality library services (Bernard & Dulle, 2014; Choshaly & Mirabolghasemi, 2018; Shandu et al., 2014). Understanding of these challenges would help the library professionals in these institutions to appreciate areas of their services where distance education students and tutors have difficulties, in order to inform the practitioners of how best to meet their information needs (Roberts, 2018). The fourth objective of this study therefore assessed the challenges facing the distance education students and tutors in their bid to access quality library services within the four institutions.

The findings show that generally, there were severe challenges across the four institutions. In the total samples, the subjects identified inadequacy of library facilities as most challenging, followed

by low computer knowledge, insufficient user education, and lack of information retrieval skills. These findings show that distance education students and tutors face multi-level challenges, cutting across individual, institutional and structural levels. At the individual level for instance, the subjects allude to having limited computer knowledge and information retrieval skills. At the institutional level also, subjects indicated insufficient user education, in the form of information literacy trainings. At the structural level, the subjects rated inadequate library facilities and limited ICT facilities as very challenging.

The structural level challenges reveal the limited funding that is allocated to library resources and facilities in Ghana. The findings of the current study confirm with similar findings of previous studies in Ghana by Badu-Nyarko and Amponsah (2017), Owusu-Ansah et al. (2018) and Owusu-Mensah et al. (2015). Therefore, at the structural level, limited investment from government to provide universities with the needed funding to provide requisite library materials translate into library challenges for distance education students and tutors as well. At the institutional level, each of the institutions also face severe problems in improving the quality of library service delivery. The institutional challenges feed into individual challenges where the distance education students and tutors have limited competence in accessing information, particularly on electronic platforms. Some previous studies have made similar observations in technical universities outside Ghana (Aslam & Seher, 2018; Moses et al. 2016; Qayyum & Zawacki-Richter, 2018).

In comparing the four institutions, Limited ICT facilities was most challenging in CODE-UCC and IDL-KNUST. Subjects from ICDE-UG rated their library service delivery as least challenging

on across all the five challenges assessed. Subjects from IDL-KNUST rated their institutions as highest across all the five challenges. For instance, in IDL-KNUST, inadequate library facilities were identified as most challenging, followed by low computer knowledge, lack of information retrieval skills and insufficient user education. Subjects from IEDE-UEW rated their institutions higher on inadequate library facilities, low computer knowledge and insufficient user education.

These findings show that in three of the institutions – IDL-KNUST, IEDE-UEW and CODE-UCC, the challenges of library resources exist at all the individual, institutional and structural levels. When it comes to ICDE-UG, it appears that the successes of the University of Ghana Library System (UGLS) in terms of improved resources, have sort of addressed structural and institutional challenges to some extent. This is reflected in the fact that subjects from the ICDE-UG rated their institutions relatively lower on inadequacy of library facilities and limited ICT facilities. However, individual level challenges still persist. The subjected rated their challenges of insufficient user education, low computer knowledge and lack of information retrieval skills high.

These institutional differences in the challenges of library service delivery point to various gaps that the institutions need to address in order to improve the quality of library service delivery for their distance education students and tutors. The findings align with those reported by Qayyum and Zawacki-Richter (2018) and Roberts (2018). Some scholars have argued that institutional challenges both undermine information search process for the distance education students and tutors (Fressen, 2018; Owusu-Mensah et al. 2015), also fundamentally undermine their information literacy and the quality of education they receive (Natesan & Aerts, 2016; Benard & Dulle, 2014).

The multilevel nature of the challenges requires that concerted efforts and approaches should be put in place that draw resources from both structural and institutional stakeholders. Agyekum and Filson (2012) and Choshaly and Mirabolghasemi (2018) for instance have intimated that collaborations between institutions of higher learnings and government increase the chances of accessing funding for infrastructural development.. For this to be accomplished, there be the need to draw on structural funding and resources from government as well as institutional resources and funding to addressing the challenges.

CHAPTER SIX

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

In this study, the quality of library service delivery was investigated among library users of four distance learning institutes and centres in four public universities in Ghana. They are; Institute of Distance Learning (IDL)-KNUST, Institute of Continuing and Distance Education (ICDE) University of Ghana, Accra, College of Distance Education (CODE), University of Cape Coast, Cape Coast, and Institute for Educational Development and Extension (IEDE), University of Education (UEW). In this chapter, the summary of the findings, conclusion and recommendations for quality library service delivery and recommendations for future research are presented.

6.2 Summary of Findings

In this section, the summary findings from the study are provided in line with the objectives of the study. The study was guided by five (5) objectives. The summary of the findings is therefore presented according to the objectives. The findings for objectives 1 – 4 are summarized and presented in this section. The objective 5, which focuses on recommendations for quality service delivery is discussed under section 6.3.

6.2.1 Frequency and purposes of use of library services

The first objective investigated the frequency of library use and the purposes of use of library services by distance education students and tutors within the four institutions. The findings showed that, generally, the frequency of library use was below average. In the total sample, 152(45.4%)

indicated visiting the library frequently. This is less than half of the total sample. In terms of institutional differences, frequency of library use was highest among subjects in ICDE-UG (64.4%), followed by IEDE-UEW 22(41.5%), then CODE-UCC 26(41.1%) and then 28(28.3%) from IDL-KNUST.

When the purpose of the subjects' library use was examined, the findings showed that in the total sample, the subjects mainly go to the library to borrow books (243, 79.9%), followed by reading personal notes (173, 57.9%), then preparing for examination (146, 47.2%), working on assignment (143, 47.0%), and then reading for leisure (66, 22.8%). Some institutional differences were identified in the reasons why subjects visited their libraries.

Within each of the four institutions, borrowing books and reading personal notes emerged the most frequent purpose for library visit. In IDL-KNUST, the other most frequent activities were preparing for examination (146, 47.2%), working on assignment (143, 47.0%), and then reading for leisure (66, 22.8%).

In ICDE-UG, the other activities included preparing for examination (58,49.2%), working on assignment (56,47.5%) and then reading for leisure (27,22.9%). In CODE-UCC, the other purposes for visiting the library were reading for leisure (12,57.1%), working on assignment (18,51.4%), and then preparing for examination (18,45.0%). In IEDE-UEW, after borrowing books, the other dominant purposes were working on assignments (30,56.6%) and reading personal notes (30,56.6%), and then reading for leisure (14,26.4%).

6.2.2 Quality of library service delivery

In the second objective, the perceptions of distance education students and tutors of the quality of library resources and service delivery within their institutions were investigated. The subjects rated their perception of their library resources and services of their institutions based on reliability of library service, responsiveness of staff, empathy, assurance, accessibility and tangibility of library infrastructure. The findings showed that ICDE-UG was ranked highest when it comes to perception of quality of library service delivery. This was followed by IDL-KNUST, CODE-UCC and then IEDE-UEW.

Specifically, in terms of reliability of library services, subjects from ICDE-UG rated their institutions, followed by IEDE-UEW, then IDL – KNUST and lastly CODE-UCC. When it comes to responsiveness of library staff, ICDE-UG was ranked highest, followed by IDL – KNUST, followed by the CODE-UCC and then IEDE-UEW. In terms of empathy of library staff, again, ICDE-UG was rated highest, followed by IDL – KNUST, CODE-UCC with and then IEDE-UEW.

In terms of accessibility of library services, ICDE-UG was rated highest, followed by IDL – KNUST, followed by IEDE-UEW and then CODE-UCC. When it comes to tangibility of library infrastructure and resources, ICDE-UG was again ranked highest, followed by IEDE-UEW, then IDL – KNUST and lastly CODE-UCC. However, when it comes to assurance of library services, IEDE-UEW was rated highest, followed by IDL – KNUST, CODE-UCC and then ICDE-UG.

6.2.3 Library user satisfaction

In the third objective, the satisfaction levels of the distance education students and tutors within the four institutions were assessed. The subjects were asked to indicate their level of satisfaction with internet services, library staff, lending services, access to information resources, library environment, orientation and trainings, and their information literacy. The findings showed that generally, satisfaction of library services was moderate, with satisfaction levels ranging between 30 – 65%. In total, satisfaction with library environment was highest, followed by satisfaction with library staff and access to information resources. The subjects were least satisfied with training and orientation, information literacy, internet services and lending services.

When the four institutions were compared, there were subtle differences. In ICDE-UG, the subjects were very satisfied with library environment, access to information and library staff, but very dissatisfied with information literacy and training and orientation. In IEDE-UEW, the subjects were very satisfied with library environment, moderately satisfied with access to information, but very dissatisfied with training and orientation and internet services. In CODE-UCC, the subjects were very most satisfied with library environment and library staff, but least satisfied with information library and training and orientation. In IDL-KNUST, the subjects were most satisfied with library environment and access to information but very dissatisfied with training and orientation.

6.2.4 Challenges of library service delivery

In the fourth objective, the challenges facing the distance education students and tutors in accessing quality library services within the four institutions were assessed. The findings show that there were severe challenges across the four institutions. In the total samples, the subjects identified inadequacy of library facilities as most challenging, followed by low computer knowledge, insufficient user education, and lack of information retrieval skills.

Limited ICT facilities was most challenging in CODE-UCC and IDL-KNUST. Subjects from ICDE-UG rated their library service delivery as least challenging on across all the five challenges assessed. Subjects from IDL-KNUST rated their institutions as highest across all the five challenges. For instance, in IDL-KNUST, inadequate library facilities were identified as most challenging, followed by low computer knowledge, lack of information retrieval skills and insufficient user education. Subjects from IEDE-UEW rated their institutions higher on inadequate library facilities, low computer knowledge and insufficient user education.

6.3 Conclusion

Based on the findings, it can be concluded that the frequency of library use among the distance education students and tutors is low. Across all the four institutions, less than half of the subjects indicated visiting their libraries often, except subjects from ICDE-UG where majority of them indicated visiting the library often. Across three institutions (i.e. IDL-KNUST, CODE-UCC and IEDE-UEW) borrowing books and reading personal notes is the most dominant reasons why subjects visited their libraries. In ICDE-UG, reading personal notes was most dominant, while

borrowing books was the least reason for visiting the library. Subjects in CODE-UCC, dominated in terms of reading for leisure.

The subjects also perceived the quality of library resources and service delivery as average. In comparing the four institutions, subjects from ICDE-UG rated their library resources and services highest on reliability, responsiveness, empathy, accessibility and tangibility. Subjects from IEDE-UEW rated their institution highest in terms of assurance of library services. Across all the five domains, subjects from IDL-KNUST rated their institution the second highest. Subjects from CODE-UCC and IEDE-UEW rated their institutions low on many of the indicators of quality library services. Similar patterns were identified in library user satisfaction.

Subjects from ICDE-UG rated highest on all the indicators of user satisfaction, followed by IEDE-UEW, then IDL-KNUST and CODE-UCC. Challenges of library resources and service delivery were found to be most severe in IDL-KNUST, followed by CODE-UCC and IEDE-UEW. ICDE-UG was rated the least in terms of challenges of library resources and service delivery. The findings suggest that there are gaps in library resource and service delivery for distance education students and tutors, but ICDE-UG is doing better compared to the other three institutions.

6.4 Recommendations for Improving Quality of Library Service for Distance Education

The last objective of the study sought to make recommendations for improving the quality of library services for distance education students and tutors. Based on the findings of the study, the

following recommendations are made for improving library service delivery for distance education.

6.4.1 Continuous competency training

The findings showed that the subjects' satisfaction with training and orientation was low. This was reflected in their challenges, where the subjects identified insufficient user education as part of their major challenges. It is recommended that a continuous competency approach should be adopted in library user education for distance education students and learners. This is very critical for distance learners in IDL-KNUST, where subjects rated themselves highest when it comes to lack of information retrieval skills and insufficient user education. The continuous competency approach will ensure that orientation and training for distance education students and learners are not approached as a one-off program but rather integrated into their entire program.

6.4.2 Introduction of Information literacy Course

As part of increasing the competency of accessing information for distance education students and tutors, it is also recommended that information literacy course should be introduced into the distance education system. The continuous competency training for instance can be well integrated within information literacy course to ensure that distance education learners have access to constant training on how to search retrieve and engage with information sources. The information literacy course can be introduced as part of the institutionally-required courses that students in the institutions take.

6.4.3 Expansion of electronic resources and databases

Inadequate library facilities emerged among the top challenges across all the institutions. Distance education is structured such that students do not access physical library resources often. For this reason, it is recommended that the institutions expand on their electronic resources and databases. This is more so for IDL-KNUST, CODE-UCC and IEDE-UEW, whose subjects rated them high on inadequacy of library facilities. Expanding their electronic resources would ensure that distance education students and tutors would have their library needs meet regardless of where they are.

6.4.4 Increasing off-campus access for distance learners

Highly related to expanding electronic resources and databases is increasing off-campus access for distance education students and tutors. The distance education programs are structured in such a way that the entire program is taken off-campus. This means that all online and electronic resources would have to be access outside the campuses of these institutions. Therefore, off-campus access should be increased and made easy for the distance education learners. This would ensure that they are able to access all the library services online. For example, borrowing books emerged among the topmost reasons for visiting the library. Online borrowing for distance education students and learning would therefore improve their access to library services tremendously.

6.4.5 Use of customer care model in library service delivery

Lastly, it is recommended that customer care model is adopted in library service delivery in meeting the library needs of distance education students and tutors. The findings from the study showed that the subjects' perception of library resources and delivery was low, especially in

CODE-UCC, IEDE-UEW and IDL-KNUST. ICDE-UG seemed to have performed better as subjects rated the institution high on the five domains of perceptions of quality library service delivery and user satisfaction. It is therefore recommended for the three institutions that customer care model is adopted as their core library delivery philosophy. Staff of the libraries should be trained to make client satisfaction their topmost priorities in meeting library needs of distance education students and tutors. This would help to improve their perception of quality of and satisfaction with library service delivery within the respective institutions.

6.5 Suggestions for Future Studies

Further research needs to be carried out to improve library resources and service delivery for distance education students and tutors. Future studies should build on this study by:

- Conducting qualitative studies among library staff to explore the dynamics and challenges they face in meeting the library needs of distance education students and tutors, and how they think the challenges can best be addressed.
- Compare distance education students and regular students in these universities to understand the differences in access, perceptions of quality-of-service delivery and challenges encountered in accessing library resources and services.

These suggested future studies would provide deeper understanding of the strengths and gaps in library service delivery in distance education in Ghana, in order to competently meet the library needs of increasing numbers of distance education learners in Ghana.

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APPENDICES

APPENDIX I: QUESTIONNAIRE

UNIVERSITY OF GHANA

DEPARTMENT OF INFORMATION STUDIES

Academic Library Service Quality and User Satisfaction Study

Dear respondent,

I am a student of the Department of Information Studies undertaking a Master of Philosophy degree (MPhil). As part of the program, I am undertaking a research on the topic:

Academic Library Service Quality and User Satisfaction in Public Universities in Ghana. The study is for academic purposes, even though findings can improve policies on academic library service delivery.

This questionnaire has been carefully designed to critically examine academic library service quality and user satisfaction in public universities in Ghana, with a focus on faculty/tutors and distance education students. In view of this, I would like you to be objective in your assessment. Complete anonymity and confidentiality of answers to questions is highly assured. Please feel free to contact me on 0243586647 or via mail at chriskab66@gmail.com should you encounter any problem. Your cooperation is very much appreciated!

Thank you.

A. Demographic Information

1. Institution:

- a. Institute of Distance Learning (IDL) - KNUST []
- b. Institute of Continuing and Distance Education (ICDE) - UG []
- c. College of Distance Education (CODE) – UCC []
- d. Institute for Educational Development and Extension (IEDE) – UEW []

2. **Status:** 1. Student [] 2. Tutor []

3. **Course of study** (Please state): _____

4. **Level of study:** 1. Level 100 [] 2. Level 200 [] 3. Level 300 [] 4. Level
400 []

5. **Gender:** 1. Male [] 2. Female []

6. **Age** (Please state your age in years): _____

7. How often do you visit the library?

Very often [] often [] Once in a while [] Rarely [] Never []

8. For what purpose do you visit the library [Tick as many as applied]

To borrow book []

To work on my assignment/project []

To prepare for examination []

To read my personal notes []

To read for leisure []

Other (specify) _____

B. SERVICE QUALTY OF THE LIBRARY

Please rate the extent to which you agree to the following statements about various components of your academic library services and resources: 1 = strongly disagree (SD), 2 = disagree (D), 3 = somehow (S), 4 = agree (A), 5 = strongly disagree (SD)

Reliability

| 9. Reliability | SD | D | S | A | SA |
|---|-----------|----------|----------|----------|-----------|
| a. The library staff are very reliable | 1 | 2 | 3 | 4 | 5 |
| b. Library staff are always courteous, showing friendly behavior | 1 | 2 | 3 | 4 | 5 |
| c. Library staff are always willing and ready to help users | 1 | 2 | 3 | 4 | 5 |
| d. One can make a complaint or suggestion easily about the existing conditions in the library | 1 | 2 | 3 | 4 | 5 |
| e. The library staff attend to complaints promptly | 1 | 2 | 3 | 4 | 5 |

Responsiveness

| 10. Responsiveness | SD | D | S | A | SA |
|---|-----------|----------|----------|----------|-----------|
| a. Library staff are efficient and knowledgeable to answer users' query | 1 | 2 | 3 | 4 | 5 |

| | | | | | |
|--|---|---|---|---|---|
| b. Library staff deliver prompt and timely service to users | 1 | 2 | 3 | 4 | 5 |
| c. Library staff provide services accurately with minimum interruption | 1 | 2 | 3 | 4 | 5 |
| d. Library staff subscribes for documents from other Information Centers if not already available in the library's collection. | 1 | 2 | 3 | 4 | 5 |
| e. Library staff use technology (IT) efficiently | 1 | 2 | 3 | 4 | 5 |

Empathy

| 11. Empathy | SD | D | S | A | SA |
|---|-----------|----------|----------|----------|-----------|
| a. Library staff have sincerity in handling users' problems and making prompt solutions | 1 | 2 | 3 | 4 | 5 |
| b. Library staff give individual attention to the users | 1 | 2 | 3 | 4 | 5 |
| c. Library staff treat users fairly and without discrimination | 1 | 2 | 3 | 4 | 5 |
| d. Library staff give priority to the users' interest | 1 | 2 | 3 | 4 | 5 |

Assurance

| 12. Assurance | SD | D | S | A | SA |
|--|-----------|----------|----------|----------|-----------|
| a. Library information guides are clear and useful | 1 | 2 | 3 | 4 | 5 |
| b. Library provides user education programs to help users make more effective use of resources | 1 | 2 | 3 | 4 | 5 |
| c. I feel safe and secure when I am using the services in the library | 1 | 2 | 3 | 4 | 5 |
| d. The library provides a space that inspires study and learning | 1 | 2 | 3 | 4 | 5 |

Access (Accessibility)

| 13. Access (Accessibility) | SD | D | S | A | SA |
|---|-----------|----------|----------|----------|-----------|
| a. Library online catalogue is an accurate source of information | 1 | 2 | 3 | 4 | 5 |
| b. The library has comfortable and inviting location | 1 | 2 | 3 | 4 | 5 |
| c. The library has convenient library hours (opening and closing hours) | 1 | 2 | 3 | 4 | 5 |
| d. There is convenient facility to access electronic e-resources | 1 | 2 | 3 | 4 | 5 |
| e. Access to computers to support study / research is adequate | 1 | 2 | 3 | 4 | 5 |

| | | | | | |
|---|---|---|---|---|---|
| f. The library has modern equipment (photocopiers, computers, printers) in good condition | 1 | 2 | 3 | 4 | 5 |
| g. The printed library materials I need are adequately available as per my course needs | 1 | 2 | 3 | 4 | 5 |

Tangibility

| 14. Tangibility | SD | D | S | A | SA |
|---|-----------|----------|----------|----------|-----------|
| a. Internal environment of the library is calm, welcoming and conducive to studying | 1 | 2 | 3 | 4 | 5 |
| b. Library has suitable and sufficient space that encourages study and research | 1 | 2 | 3 | 4 | 5 |
| c. Library is a pleasant, comfortable and inviting location to carry out study | 1 | 2 | 3 | 4 | 5 |
| d. The library materials are in good condition (not brittle or falling apart) | 1 | 2 | 3 | 4 | 5 |
| e. Number and variety of electronic resources subscribed are adequate | 1 | 2 | 3 | 4 | 5 |
| f. The library has sufficient modern technological equipment and facilities | 1 | 2 | 3 | 4 | 5 |

C. USER SATISFACTION

Please rate the extent to which you are satisfied with the library services indicated below

1 = very dissatisfied, 2 = dissatisfied, 3 = somehow, 4 = satisfied, 5 = very satisfied

| 15. In general, how satisfied are you with the following about your library? | 1 | 2 | 3 | 4 | 5 |
|---|----------|----------|----------|----------|----------|
| a. Library staff | 1 | 2 | 3 | 4 | 5 |
| b. Reference service | 1 | 2 | 3 | 4 | 5 |
| c. Lending service | 1 | 2 | 3 | 4 | 5 |
| d. Internet/computer services | 1 | 2 | 3 | 4 | 5 |
| e. Orientations and training | 1 | 2 | 3 | 4 | 5 |
| f. Information literacy (Being taught how to use the library and searching for information) | 1 | 2 | 3 | 4 | 5 |
| g. Access to information resources in the library | 1 | 2 | 3 | 4 | 5 |
| h. Library environment | 1 | 2 | 3 | 4 | 5 |

| Challenges in Accessing Quality Library Services | Yes | No |
|---|------------|-----------|
| a. Lack of information retrieval skills | | |
| b. Insufficient user education | | |

| | | |
|--|--|--|
| c. Low level of computer knowledge | | |
| d. No ICT facilities for accessing information | | |
| e. Library facilities are inadequate | | |

END OF SURVEY – THANK YOU

APPENDIX II: INTRODUCTORY LETTER



UNIVERSITY OF GHANA
DEPARTMENT OF INFORMATION STUDIES
SCHOOL OF INFORMATION AND COMMUNICATION STUDIES

Ref. No.:

October 29, 2018

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

INTRODUCTORY LETTER

I write to introduce to you Mr. Chris K. A. Bubuama, an M. Phil student of the Department of Information Studies, University of Ghana, Legon.

He is researching on the topic “**Academic Library service quality and user satisfaction: A survey of Distance Education students in Public Universities in Ghana.**”

Please assist him with the necessary information that he will need to undertake the research.

Thank you.

Yours faithfully,

Dr. Emmanuel Adjei
Head of Department

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