



**The effect of Coronavirus disease 2019 on the provision of library services at the  
University of KwaZulu-Natal Pietermaritzburg Campus: a library staff perspective**

By

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## Declaration

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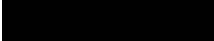
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Date: 25/06/2024

Supervisor: Prof. Zawedde Nsibirwa

Signed  .....

Date: 1 July 2024

## **Dedication**

This dissertation is specifically dedicated to my wonderful mother, Mokgadi Jerminah Seanego, whom I love so dearly. My adorable nieces, Tokollo and Chegofatso, I know you both love school and keep the legacy going. For motivational purposes, to my favourite boy, Keratilwe.

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## **Abstract**

This study investigated the effect of the Coronavirus disease 2019 (COVID-19) on the provision of services at the University of KwaZulu-Natal (UKZN) Pietermaritzburg (PMB) campus libraries according to the perspective of the libraries' staff members. The study is of significance to both UKZN Library staff and other academic librarians in terms of highlighting the challenges faced in the provision of library services during the COVID-19 pandemic. It is anticipated that the study outcomes and the lessons learned will be of benefit to academic libraries and researchers can use the outcomes to inform future projects of this nature. The study adopted the "Five Laws of Library Science" proposed by SR Ranganathan in 1931 as its theoretical framework. The Laws are considered a foundation for the world of library and information science and their applicability in this, the digital era, persists.

The study adopted a qualitative research approach, using a semi-structured interview schedule through Microsoft (MS) Teams meetings and telephone calls (which were recorded) to collect data. Of the 14 library staff who were sampled to participate in the study, only seven participated in the interviews, yielding a response rate of 50%. The results and discussion were organised thematically based on key variables derived from the theoretical framework and research questions.

Findings indicated that moving services online was the most significant change encountered at the UKZN PMB campus libraries. Although the extent to which COVID-19 affected the provision of library services was difficult to determine, its effect was both positive and negative. The positive effect was the aggressive purchase of e-books and marketing of the "My Library Account" where students could request items online and remotely. The negative effect was that students who were computer illiterate missed training and were thus unable to take advantage of information being delivered online. One of the mechanisms made available in the library for the continual provision of library services included the creation of a generic email so users could request resources at any time.

Based on the findings, the study recommends that the UKZN PMB campus libraries should undertake more user studies to explore how users feel about online services generally and what suggestions they have for the library to improve such services. Where possible, students who had experience of the services provided during the pandemic should be targeted. It is also

recommended that the library should create more self-help videos on how to access and use library resources in terms of off-campus access and troubleshooting.

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## **List of abbreviations and acronyms**

CCO	Copyright Clearing Office
CDC	Centers for Disease Control and Prevention
COVID-19	Coronavirus Disease 2019
CUHK	Chinese University of Hong Kong
e-books	Electronic books
e-resources	Electronic resources
HKRRLS	Hong Kong Reprographic Rights Licensing Society
ICT	Information Communication Technology
KZN	KwaZulu-Natal
LIASA	Library and Information Association of South Africa
MS	Microsoft
NWU	North-West University
OER	Open Educational Resources
PMB	Pietermaritzburg
SARS-CoV-2	Severe Acute Respiratory Syndrome Coronavirus 2
SSC Manila HS	St. Scholastica's College Manila High School
UK	United Kingdom
UKZN	University of KwaZulu-Natal
UKZNL	University of KwaZulu-Natal Library
VRS	Virtual Reference Services
WHO	World Health Organization

# **CHAPTER ONE: INTRODUCTION**

## **1.1 Introduction**

Dong, Du, and Gardner (2020:533) noted that in December 2019, a local outbreak of pneumonia of an initially mysterious cause was detected in Wuhan (Hubei, China), and was quickly found to be created by a novel coronavirus, namely, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). This novel Coronavirus disease 2019 (COVID-19) outbreak, caused by SARS-CoV-2 spread to every province of mainland China and 27 other countries and regions, with more than 70,000 confirmed cases as of 17 February 2020 (Dong, Du and Gardner 2020:533). According to the Centers for Disease Control and Prevention (CDC) COVID-19 Response Team (2020:1), across the globe, there were approximately 170,000 confirmed cases of COVID-19 caused by SARS-CoV-2 that were reported, involving an estimated 7,000 deaths in approximately 150 countries in February 2020. On 11 March 2020, the World Health Organization (WHO) announced the COVID-19 outbreak a pandemic, and in the absence of a vaccine at that time, one of the most crucial strategies for decelerating the pandemic was social distancing, whereby physical disengagement was generally critical to stay away from the contamination (Bavel, Baicker and Boggio 2020:469).

## **1.2 Background to the study**

In South Africa, the Head of the National Disaster Management Centre, Dr Mmaphaka Tau, after assessing the potential magnitude and severity of the COVID-19 pandemic, published a Government Gazette on 15 March 2020 to classify the pandemic as a national disaster (Government Gazette 2020:1). Dr Nkosazana Dlamini Zuma, who was the Minister of Cooperative Governance and Traditional Affairs as designated under Section 3 of the Disaster Management Act of 2002 (ACT NO 57 of 2002) then publicly declared COVID-19 a national disaster and the country had to go into lockdown (Government Gazette 2020:1). South Africa adopted the imposition of lockdown under different prevention levels from five to one, with five being the hardest lockdown. These levels were a series of pandemic prevention measures such as social distancing, wearing masks, and crowd controls. Tong, Cao, You, Han, Liu, Xiao, He, Liu, Peng, Xue and Gong (2022:102252) noted that under alert level five, every person was confined to their place of residence unless strictly to perform an essential service, obtain an essential good or service, collect a social grant, pension or seek emergency, life-saving, or

chronic medical attention. All commuter transport services, including passenger rail, bus, taxi, e-hailing, and maritime and air passenger transport, were prohibited.

In light of these developments, university libraries had to close physical access to their collections and facilities and had to depend on online service delivery (Nawaz, Gomes and Saldeen 2020:1952). University libraries were, however, positioned to supply excellent online information resources and services to continue the learning, teaching and research support for their users. The circulation of print materials stopped as users could not access the library, regular renewal and overdue policies were relaxed, and due dates were prolonged (Nawaz, Gomes and Saldeen 2020:1952). Alert level four constituted that every person was confined to their place of residence from 21H00 until 04H00 daily. Schools and higher education institutions were closed for contact classes, and academic libraries remained closed. All other gatherings were also still prohibited during this alert level (Tong et al. 2022:102252). Banerjee, Kharroubi and Garralda (2020:874) stated that under alert level three, students and staff could return to school or tertiary education institutions, family visiting was prohibited, and restaurants were allowed to operate with eat-in meals on a reduced capacity basis following strict health regulations. Professor Nana Poku who was the Vice-Chancellor and Principal of the University of KwaZulu-Natal (UKZN) issued a communiqué dated 24 June 2020 to allow UKZN staff and certain categories of students to return under lockdown level three. The first students who returned to campus did so on 29 June 2020. Staff members who were asked to return to campus were required to undertake health screening each day they came onto campus. Online teaching and learning continued; therefore, no physical lectures took place and the libraries remained closed (Poku 2020:1). Mr Nkosinathi Emmanuel Mthethwa, the Minister of Arts and Culture, published a Government Gazette (43507) on 6 July 2020 allowing libraries, archives, and museums to resume services subject to compliance with strict health measures to prevent the spread of COVID-19 (Government Gazette 2020). According to Banerjee, Kharroubi and Garralda (2020:874), while alert level two regulations allowed restaurants to remain open, with a curfew between 10 pm and 4 am, the restrictions on guests and social gatherings remained in place. Interprovincial travel and visits to family and friends in small groups were permitted. All retail establishments could open, and all government sectors were operational. All mining activities could operate at 100% capacity. Construction and all other forms of manufacturing were permitted as were domestic work and cleaning services. Dr Nkosazana Dlamini Zuma released a Coronavirus statement to amend alert level one regulations, which stated that every person was obliged to observe curfew time from 00H00

until 04H00 daily unless a person had a permit (Government Gazette 2020:6). Funeral attendance was limited to 100 persons. All people attending gatherings, including faith-based ones, had to limit exposure to COVID-19 by adhering to all protocols and regulations. According to the Government Gazette (2020:6), those gatherings were restricted to 250 people indoors and 500 people outdoors. The government urged everyone to be extremely cautious and take the necessary precautions to protect themselves and others from possible COVID-19 infections. The government further implored people to observe and adhere to all the non-pharmaceutical interventions to mitigate against the possibility of a resurgence. Poku (2021:1) noted that given the large student population that the UKZN had to accommodate in lecture halls or classrooms and the limitations still in place, lectures had to continue online. This meant all students continued to be supported through remote or online teaching, learning, and assessment for the remainder of the second semester in 2021. However, those students registered for programmes that required in-person contact provision, such as laboratory or clinical work, were required to attend in person as prescribed by the relevant academic schools or departments (Poku 2021:1).

### 1.2.1 Brief background of the University of KwaZulu-Natal libraries

The UKZN operates academic libraries for its various programmes on five campuses located in the province's two major cities, Durban and Pietermaritzburg (PMB) (University of KwaZulu-Natal 2015). Four of the campuses are in Durban and one is in PMB. The campuses in Durban are Edgewood, Howard College, Nelson R. Mandela School of Medicine, and Westville (University of KwaZulu-Natal 2015). Each of these campuses has several libraries. The UKZN PMB campus is located in the suburb of Scottsville. According to the UKZN PMB library website (<https://library.ukzn.ac.za/pietermaritzburg-libraries/>), the campus has three key libraries:

The first is the Cecil Renaud Library (Main library), which is a four-story facility that provides space for the substantial book collection. The reference, periodicals, and theses collections as well as other items are in various formats including a growing collection of electronic resources (e-resources). Various rare and endangered books are kept in the Africana Display Case, Cathedral Collection, Fine Art Display Cases, Nataliana Display Case, and Maple Display Case. The Cecil Renaud Library serves the needs of staff and students in the schools of Education; Training and Development; Applied Human Sciences; Social Sciences; Arts;

Religion, Philosophy and Classics; Accounting, Economics and Finance; Chemistry and Physics; Mathematics, Statistics, and Computer Science; Management, IT and Governance; and Law (UKZN PMB library website 2022).

The second is the Life Sciences Library, which serves the staff and students of the three schools within the College of Agriculture, Engineering and Science, namely, the School of Agricultural, Earth and Environmental Sciences; the School of Life Sciences; and the School of Engineering (Agricultural Engineering).

The third library is the Law Library, which comprises a selection of books on local and foreign law, law reports, statutes, and journals in both print and electronic formats and serves the needs of the staff and students at the School of Law (UKZN PMB library website 2022).

This study focused on these three key PMB campus libraries. Special collection libraries (such as the Alan Paton Centre) were excluded.

### **1.3 Research problem**

Academic libraries achieving their purpose became more challenging due to the physical closure of the education sector during the COVID-19 pandemic in South Africa and other countries around the world. Libraries faced hard choices in providing services in light of the restrictions which included partial or complete closure (Rafiq, Batool, Ali and Ullah 2021). The UKZN PMB campus libraries, like their counterparts across the country, followed the government lockdown procedures and disengaged to avoid spreading the disease. Nawaz, Gomes and Saldeen (2020) predicted that a third peak would hit in June 2021, and the safety measures and social distancing in place at the time continued. Jassat, Mudara, Ozougwu, Tempia, Blumberg, Davies, Pillay, Carter, Morewane, Wolmarans, Gottberg, Bhiman, Walaza and Cohen (2021) confirmed that as of June 2021, South Africa entered the third wave and it was unclear then, how long COVID-19 would continue for.

Rafiq et al. (2021:1) conducted an exploratory investigation on university libraries' response to the COVID-19 pandemic. Their research focused on the practices and service patterns during the pandemic when university classes were suspended and online classes were initiated (Rafiq et al. 2021:1). The study found that the university portal and other social media tools were less

used communication tools during the pandemic. Librarians worked from home and there was a sense of being overburdened since there was connectivity (and thus online work) 24 hours a day but no official working policy that addressed the new working patterns. Librarians in the university felt that the digital divide, lack of digital literacy skills, and slow internet speed were the major barriers in their transition from physical to online mode and less use of the library's online resources and Web portals (Rafiq et al. 2021:1).

Kim (2017:209) examined student preferences for study space and found that the library is the preferred place for an academic activity that is not immediately connected with a class session. The most preferred study space in the university library was a study room, implying that students might have preferred to be allowed to talk while studying in the library (Kim 2017:209).

Rafiq et al. (2021:1) noted that the reactive growth of online classes provided academic libraries with both challenges and opportunities with the former comprising social, financial, and technical challenges. The extensive challenge was the move from physical to online delivery of information services (Rafiq et al. 2021:1). According to Sinyangwe, Nomsa and Kapombe (2020:4), the instant and unforeseen outbreak of the virus forced library professionals to devise methods of working in a swift time frame, such as moving to online platforms wherever possible to supply sufficient services to the patrons. However, not all library professionals and users possessed the necessary information and communication technology (ICT) skills to assist and benefit from this shift. Thus, staff members and patrons without ICT knowledge or access to the necessary equipment would not have had their information needs fully met (Sinyangwe et al. 2020:4). Hence, this study investigated the effect that the COVID-19 pandemic had on the provision of services provided by the UKZN PMB campus libraries, from the perspectives of the staff of those libraries.

#### **1.4 Aim of the study**

The research study aimed to investigate the effect of COVID-19 on the provision of library services at the UKZN PMB campus libraries from the perspective of the library staff.

#### **1.5 Objectives of the study**

In light of the above aim, the objectives of the research study were:

1. To identify how the provision of library services had changed during the COVID-19 pandemic.
2. To identify the institutional mechanisms put in place for the continual provision of library services during COVID-19.
3. To determine the level of training and skills that library staff had in providing online library services.
4. To determine the challenges faced with the continual provision of library services during COVID-19.

## **1.6 Key research questions**

The research questions emerging from the objectives above were:

1. How has the provision of library services changed as a result of COVID-19?
2. What institutional mechanisms were used for the continual provision of library services during COVID-19?
3. What level of training and skills did library staff have for the provision of mainly online library services?
4. What challenges did library staff face regarding the continual provision of library services during COVID-19?

## **1.7 Significance of the study**

The significance of this research study in terms of the provision of library services during the COVID-19 pandemic is well summarised by Ouda-Onyango and Minishi-Majanja (2020). They state that the need to provide information services to patrons would continue to increase as libraries remain competitive, supply further services to users remotely, and ensure that their institutional mission and vision are realised.

The study should be of significance to UKZN Library (UKZNL) staff members and other academic library staff to assist them in determining the challenges faced with the continual provision of library services due to COVID-19. Therefore, enabling academic libraries to identify institutional mechanisms for the continuation of library services provision post-COVID-19. The solutions and strategies suggested in the study may help prevent having to reinvent the wheel in the future, and other researchers interested in similar research may also benefit from the research outcomes.

The study intends to also add to the body of knowledge by extending the existing knowledge regarding the effect of COVID-19 on the provision of library services in the literature pertaining to academic library services. Ma (2020) conducted a study of academic library services during COVID-19 titled “The experience of the Chinese University of Hong Kong (CUHK) library”. The study noted that online teaching instead of face-to-face teaching was initiated in the CUHK on 17 February 2020, and lecturers and students did not have to return to the university campus. Mehta and Wang (2020) investigated the experiences of a university library in response to the COVID-19 pandemic from early March 2020. The study, titled “COVID-19 and digital library services - a case study of a university library”, found that the library was among the few buildings open on campus during that special period, being declared essential and open to lecturers and library employees only. It was also one of the few academic libraries in the state (Massachusetts) that remained open during the pandemic. Although the pandemic is over it is still important to investigate its effect as it changed the provision of services in academic libraries.

## **1.8 Theoretical framework**

SR Ranganathan, in 1931, put forward the “Five Laws of Library Science” that have become a foundation for the world of librarianship and have influenced library and information practice since then. One of the intentions of the Laws was to underpin and strengthen the library’s role in the learning community. The Laws were developed in an era of hardcopy, that is, the “book”. However, their adaptability and longevity are evident in their being applicable to this digital era. In this regard, the study redefined the Five Laws of Library Science in accordance with the evolution of technology in the digital era as well as the COVID-19 pandemic. This assisted in ensuring that the Laws were an appropriate theoretical framework for the study as well as being central to the academic library and the services it provides.

Chapter two discusses the theoretical framework and its relationship to the study in more detail.

## **1.9 Research methodology**

The study adopted a qualitative research approach using a semi-structured interview schedule through Microsoft (MS) Teams meetings and telephone calls (which were recorded) to collect data from library staff at the UKZN PMB campus libraries which is the population of the study. A purposive sampling approach was used to identify key staff members dealing with the

provision of library services. A sample of 14 respondents was selected. The purposive sample comprised one circulation staff from each of the three libraries, seven subject librarians who were all information services librarians, one circulation head, one information service head, and two library managers in the main library. The choice of using MS Teams and telephonic interviews to collect data was to align the study with the University's online teaching and learning system which was in operation during the global pandemic and remains in operation. To ensure the trustworthiness of the research instrument, the interview schedule was submitted to the supervisor who read through it, corrected it, and determined its appropriateness. It was then pretested on seven library staff at the North-West University (NWU) in Potchefstroom. The data analysis method employed in this study was content analysis. Content analysis is used to analyse open questions by identifying emerging themes in the responses of the participants and coding them.

The research methodology is discussed in more detail in Chapter three.

## **1.10 Definition of terms**

It is necessary to define the key terms used in the study to enhance the readers' understanding of their meaning and avoid confusion. This section provides the definitions of terms that were used in the context of the study. The terms defined below are "academic library", "Coronavirus disease 2019", "library", "library service" and "university". These definitions are the ones that are adopted for this current study.

### **1.10.1 Academic library**

An academic library "is a library that serves diverse populations and groups of users with very different needs. It has influenced a wide range of areas including library outreach to academic departments, the provision of textbooks and its implication on academic publishing, the appropriateness of electronic books (e-books), and the creation of strong collections that may serve a purpose beyond access to materials" (Bladek 2021:102349).

### **1.10.2 Coronavirus disease 2019**

COVID-19 "is a highly infectious respiratory disease caused by a new coronavirus known as SARS-CoV-2 (severe acute respiratory syndrome-coronavirus-2). SARS-CoV-2 is different

from usual coronaviruses responsible for mild sickness such as common cold among human beings” (Baloch, Baloch, Zheng and Pei 2020:271).

### 1.10.3 Library

“Library is a service organisation where individuals, organisations, and societies can access substantial quantities of information” (Ahmed, Umar and Dewa 2020:79).

### 1.10.4 Library service

Ahmed, Umar and Dewa (2020:79) define library service as “the performance of all activities of a library relating to the collection and organisation of library materials and to making the materials and information of a library available to the patrons”. Library services include reference and information services, answering users’ questions, circulation services, current awareness services such as marketing, selective dissemination of information, indexing and abstracting services, inter-library cooperation and networking, readership promotion and user education, internet services, Web-based services such as email, video conferencing, social media, and cloud-based library service.

### 1.10.5 University

According to the Merriam-Webster dictionary (2022), a university is “an institution of higher learning that provides facilities for teaching, research and that which is authorized to grant academic degrees”.

## **1.11 Delimitations of the study**

The UKZN has five campuses, each having its own libraries. The study focused on PMB campus libraries only since it is where the researcher was based. Thus, other campus libraries as well as special libraries or collections were excluded because of the nature of the study and the requirements of a short dissertation. The study also focused on key library staff only, that is, those staff who were directly involved in the day-to-day activities of providing library services therefore excluding other library staff, students, and academic staff.

## **1.12 Structure of the study**

Chapter one provided the introduction to the study, the study background, the research problem, the aim and the objectives of the study, the research questions, the significance of the

study, the theoretical framework that guides the study, a summary of the research methodology, the delimitations of the study, the structure of the study and, lastly, the chapter summary.

Chapter two reviews the international and national literature on the effect of COVID-19 on the provision of library services in academic libraries. The literature is discussed in light of the research questions guiding the study. The chapter begins with the effect that COVID-19 had on the provision of library services and ends with a discussion of the theoretical framework adopted.

Chapter three covers the research methodology. The location, the population, and the sample of the study are outlined and discussed. The chapter also explains the selected research method, data collection, sampling method, research instrument, data analysis, and the ethical issues concerning the study.

Chapter four presents and discusses the study findings in terms of the research questions underpinning the study.

Chapter five, the final chapter, contains the conclusions of the study based on the findings, recommendations, and suggestions for future research.

### **1.13 Chapter summary**

This chapter provided an introduction to the study, its background, the research problem, and the aim, objectives, and research questions. This was followed by an outline of the significance of the study, the theoretical framework that guided the study, a summary of the research methodology, and the delimitations of the study. Finally, the structure of the study, by chapter, was presented.

Chapter two, which comprises the literature review and theoretical framework guiding the study, follows.

# **CHAPTER TWO: THEORETICAL FRAMEWORK AND LITERATURE REVIEW**

## **2.1 Introduction**

This chapter presents the theoretical framework chosen for the study and the review of the literature relevant to the study. To begin with, different definitions of the term theory are outlined. This is followed by how the selected theory underpins the study. The literature on the provision of academic library services in the context of the COVID-19 pandemic is focused on using the research questions posed in Chapter one as a basis for the review. The chapter ends with a summary of the chapter.

## **2.2 Defining theory**

A theory highlights and explains something that one would otherwise not understand or might find to be puzzling (Gilbert 2008:25). Alternatively, a theory describes a “specific realm of knowledge and explains how it works” (Swanson and Chermack 2013:6). The *Cambridge Advanced Learner’s Dictionary* (2008:1507) defines a theory as a formal statement of the rules on which a subject of study is based or of ideas suggested to explain a fact or event or, more generally, an opinion or explanation. More specifically, theories attempt to answer why and how questions by relating the subject of interest, for example, riots, to other phenomena such as heat and crowding. Theories are not fixed; they are probable explanations we formulate and reformulate to make sense of a body of evidence (Idoniboye-Obu 2017:34).

## **2.3 Ranganathan’s Five Laws of Library Science**

With the changes in the digital information world and the COVID-19 pandemic, it is appropriate and worthy to reconsider Ranganathan’s Five Laws of Library Science. Ranganathan presented the Laws for the first time in 1928 at a conference at Meenakshi College, India (Kwanya, Stilwell and Underwood 2010). According to Kwanya, Stilwell and Underwood (2010), the Laws remain the only clear definition of the functions and responsibilities of libraries and continue to guide librarians in planning and providing effective library services. Ranganathan later refined and published the laws in a book in 1931 where they were formulated as follows:

1. Books are for use.
2. Every reader his book.
3. Every book its reader.
4. Save the time of the reader.
5. A library is a growing organism.

### 2.3.1 Books are for use

A major principle of education is that access to information is a basic human right, and therefore, library resources should be for use. Ranganathan's First Law is crucial in terms of granting educational opportunities to everyone in the world regardless of race, class, gender or economic standing. According to Anderson, Doney, Hendrix, Martinez, Stoddart and Wright (2019), this law underpins the increased development and use of library resources to improve the lives of hundreds of millions of people around the world who would benefit socially and economically from increased access to information.

Publishers of information resources are especially proficient at exploiting the absence of choice in the allegedly capitalistic market encompassing education. Further, in any market that lends itself to socioeconomic inequity, poorer students will struggle even more to receive an education during periods such as the COVID-19 pandemic. In fact, students are extremely sensitive to cost and often decide not to buy costly information resources. Indeed, Anderston et al's. (2019) survey results indicated that most students indicate choosing not to buy materials on at least one occasion because of cost - a choice that students anticipate will negatively affect their course outcomes. Therefore, in the context of the COVID-19 pandemic, for example, libraries should plan for the continuation of library services by attempting to make education accessible to all by doing away with cost barriers for course materials. Libraries can further support the increased use of open educational resources (OER) by creating, backing, or expanding OER initiatives. Libraries may effectually reassign resources to assist OER initiatives given the close match between the library mission and open education, both of which strive to assist equal access to information.

### 2.3.2 Every reader his book

If the first principle of library science as related to library information resources suggests that there should be access to education for all, even during the COVID-19 pandemic, then the

second principle should require libraries to make the necessary e-resources available for this education. To achieve this in the framework of Ranganathan's Second Law, academic libraries first must recognise who their users (or potential users) are and ascertain whether collection development and library collections policies truly meet those users' needs (Anderston et al. 2019). As alluded to above, students have, over the years, consistently expressed concern over their ability or inability to purchase recommended and required course materials, as well as how these purchase decisions may affect their grades (Senack 2014).

Higher education institutions and academic libraries have started to recognise the significant cost and access issues faced by students when trying to acquire their recommended and required materials (such as books). Academic librarians also recognise that cost is a vital consideration for users, with 89% of respondents to a survey stating that cost is either "important or very important" when they choose materials for their courses (Seaman and Seaman 2017). When it comes to cost, Seaman and Seaman (2017) estimated that in 2017-2018 on average, required course materials and technology supplies cost students \$484.00 and \$612.00 respectively, and this might have been higher during the COVID-19 pandemic. Textbook costs not only affect students' finances but may also impact whether and how students choose to purchase course materials either in print or online.

Results from a survey of lecturers in higher education indicated that 64% of respondents believed that less than 90% of their students purchased the course textbooks rather than making use of online materials (Seaman and Seaman 2017:12). When attempting to buy materials for their courses, students mostly report the urge to buy materials from sources other than university bookstores, rent textbooks, acquire copies already used, share textbooks with other students, use a library copy of the textbook (if available), use older editions of course materials, and delay buying or not buy the material at all (Senack 2014). In the past, some academic libraries have argued that textbook purchases are a student's responsibility and have generated policies that prevent their purchase with library funds or their request via interlibrary loan (Gibbs and Bowdoin 2014). However, recently, many academic libraries have worked to address cost and access issues by generating course reserves programmes. These programmes frequently work directly with lecturers to make at least one copy of a course textbook available in the library; some libraries even use their own collection development funds to purchase required textbooks from campus bookstores and put them in the reserve section of the library

(DeMartini, Marshall and Chew 2018). This, however, might not have been a solution during the COVID-19 pandemic given the restrictions on physical access to libraries.

Just as Ranganathan (1931) proposed that libraries should purchase the costly and often inaccessible reference works that would be used frequently by their users, academic libraries' support of reserves reflects a renewal of the Second Law and provides a pathway for its connection to online information resources. Expanding the Law to reflect "Every student their electronic information resource" requires academic libraries to challenge the concept of textbooks for the "chosen few" (Ranganathan 1931), for example, those who can afford them, those who can purchase them before they are sold out, and those who can access them in a format that meets their needs. The above law can be supported by academic librarians emphasising their roles as providers of materials in support of teaching and learning, and also being available to assist during the course material selection process (Okamoto 2013). Surveys have indicated that lectures and instructors require more information on electronic information resources and that they have various concerns related to the findability, availability, quality, and usefulness of such resources (Belikov and Bodily 2016).

According to Ranganathan's Second Law, all library users should be served equally; have access to collections that meet their needs; and have as few restrictions as possible regarding access to the collections (for example, geographical and layout restrictions) (Connaway and Radford 2021). If academic libraries still find the law "Every reader his book" fitting to employ, then they are under obligation to consider online course material as an additional facet of library collections. If these resources are needed by students, then there must be the option to question the cost and access barriers so that every user is able to gain access to the electronic information resources that they would need to meet the requirements of their courses. Libraries can challenge students' cost and access barriers for electronic information resources by continuing to support and promote library online services adoption (as well as continuing to support course reserves).

### 2.3.3 Every book its reader

The third of the Five Laws of Library Science, "Every book its reader," focuses on the intersection of discoverability, equitable access, and the variety of information formats available. Ranganathan concentrated this law on the physical object of the book, intending for

library materials to be relevant to all members of a community. This is the idea that patrons can “see” themselves within a library’s collection in that they are able to find what is of interest to them irrespective of how obscure the interest is. This also links in with Ranganathan’s support of the “open access system “ whereby the library patrons themselves can physically search for any information resource of interest. According to Ranganathan (1931), the patron is able to move freely among the books and then take or pick whichever of the books they desire. Thus, by the application of Ranganathan’s Third Law, the library collection becomes a far more accurate reflection of the community that it serves meeting its needs, interests and culture and the patron is left to explore the collection without any restrictions. Thus, every book does have a reader or user. Similarly, the idea of e-resources is not only a call for open access but also a reminder that such resources are intended to serve the needs of multiple communities even during and post-COVID-19.

The ability to remix and reimage content enables e-resources to emphasise cultural, disadvantaged, and disabled learning style preferences. In some contexts, Ranganathan’s Third Law has been interpreted as meaning that every format requires its own user not only for “every book” but also for any information medium, or any technology that one might choose to categorise under that rubric as well. Anderson et al. (2019) argued that the Third Law considers e-resources as moveable across gadgets, interfaces, and formats enabling them to meet users’ needs wherever they may be. Thus, for instance, while using e-resources, a user may find a text open for reading but it is meant to be accessed via a specific learning management platform (like Blackboard), a viewer or editing tool (like Adobe), and certain software (like Adobe Flash). This calls into question the openness and accessibility of the content. In making e-resources available to users, issues of technological infrastructure, format accessibility, and user preference must be addressed to truly consider e-resources open and accessible to underserved and diverse populations.

In the same way that libraries make their materials available to their users as in “Every book its reader” so should “Every e-resource its user” be a guiding principle in terms of meeting the information and other diverse needs of library users including users of academic libraries. It is evident that as librarians continue to search, create, collect, and share learning objects the list of what to consider concerning technology remains long. Ranganathan was a staunch defender of the “open access system” discussed above and in light of this e-resources and libraries must remain open as objects for learning for both students and academic staff to realise their full

potential. Libraries can (and must) advocate for the multiplicity of e-resource formats to accommodate learning preferences and technology access (Anderson et al. 2019).

#### 2.3.4 Save the time of the reader

Ranganathan's Fourth Law of library science states that materials should be easily discoverable and accessible. This is one of the biggest challenges facing the widespread adoption of online delivery of library services in universities. Time is one of the reasons why access to and use of e-resources is becoming increasingly important. Hilton, Fischer, Wiley, and Williams (2016:2) in their study asked academic staff about the barriers they faced when considering implementing open textbooks in their classrooms. Respondents identified time as a significant barrier. However, when academic staff are faced with the decision to sacrifice some of their valuable time to reduce the cost of education for students, students have to decide whether they should attend their classes without textbooks because they cannot afford the cost of the resources. Academic libraries aim to facilitate both student and academic staff success, and one of the most demanding challenges currently, is the cost, in both time and money, that is necessary to provide students with textbooks and learning materials as online content. Students are confronted with numerous barriers to success when they do not have access to e-resources.

According to Anderson et al. (2019), it would make a significant difference if students had access to e-resources for all their courses. They would not waste their time in a class they were ill-prepared for or spend longer in school as a result of the need to spread out their course load in order to afford printed textbooks. Delimont, Turtle, Bennett, Adhikari and Lindshield (2016) have suggested that it may be that increasing student access to learning materials is related to their increased academic success. This would have been particularly important during the COVID-19 pandemic when students (and academic staff) only had access to what electronic learning materials were available. Both academic staff and students have stated that the student experience is better and more successful because of e-resources' ease of access and availability (Delimont et al. 2016). When students have access to e-resources the moment they need them, they are more academically successful, meaning that online provision of library services, with their free and convenient access, is the perfect solution.

When considering the adoption of e-resources, electronic management librarians should not only determine where these resources are but also determine their appropriateness for a course

or lesson they are required to support, the amount of revision or reworking that is needed, as well as their overall quality; doing so is a particularly time-consuming task (Colson, Scott, and Donaldson 2017). When Ranganathan (1931) wrote his Fourth Law, his focus, was on open stacks rather than closed stacks. He emphasised that letting people search for their own books saves both the library staff and users' time. However, with open access today, there is a proliferation of e-resources that can be overwhelming and difficult for students and academic staff alike, to navigate. Belikov and Bodily (2016) noted that the unkempt expanse of the internet is very different from the neat layout of a library making finding the most appropriate educational resources for a class difficult. In their study, academics reported the need for more time to evaluate e-resources as many of these resources had not been through a formal evaluation process. They also pointed to insufficient institutional support for spending more of their time doing so, particularly with regard to approving a new textbook. For example, one engineering lecturer stated that “they would like to spend time finding, exploring, and embracing some of these things once they have tenure” (Belikov and Bodily 2016).

Delimont et al. (2016) reported that the primary reason an academic staff member prefers traditional library material is that they have used it for many years, refining it over time, and it was not difficult to provide services manually. This is perhaps the biggest challenge to overcome because there is little incentive that either the library or the university can provide that can compare to several years of effort and knowledge being poured into a manual way of providing services. This is a good reason to target efforts for electronic library resources use by newer academic staff. If they begin their academic careers with the necessary online skills, they will never have to forsake years of effort for the cause of saving students money. Anderson et al. (2019) suggested that if there is not an established e-resource for the services being provided or if what exists is too broad or narrow in scope, academic librarians must create their own material. Because universities rarely provide extra time or a reduced teaching load to support librarians in creating library materials, providing these would be a major incentive for online provision of services adoption.

Just as Ranganathan argued in 1931, libraries today should be saving the time of the user via the introduction of consumer-focused systems and process upgrades for adopting online services. One of the most obvious ways that libraries can obtain funds for online services is to incentivise their use. A few colleges and universities offer programmes that provide financial and curricular support for the time spent developing and evaluating e-resources. A research

guide, workshop, or helpful e-mail can be effective in reminding academic staff that their courses can be offered at a lower cost (Anderson et al. 2019). Many academic librarians have said that support from the institution in terms of the assessment and adoption of e-resources could increase the probability of adopting online services (Belikov and Bodily 2016). With limited time being a factor, it makes sense to be conscious of institutional priorities first. Academic libraries can support the identification and adoption of online provision of services by way of endorsing the most significant resources and repositories. They can also work to make the evaluations of e-resources more accessible, thereby improving their credibility (Anderson et al. 2019).

### 2.3.5 A library is a growing organism

Ranganathan identified two ways by which an organism grows: firstly, in terms of size, and secondly, in terms of variation or evolution (Anderston et al. 2019). This simply means that in a healthy library, collections, facilities, and personnel will all grow. Librarians need to include growth projections when making their long-range plans, particularly with regard to technological developments and trends. While the space constraints described by Ranganathan are still applicable today, these constraints have been lessened to some extent by libraries shifting to digital file storage, including integrated library systems and digital collections of e-books, periodicals, and streaming media. As far as evolution is involved, Ranganathan pointed to the shift from chained books during medieval times, to libraries with circulating collections in the early 20th century. While Ranganathan's Fifth Law discusses the library organisation as growing and flexible, physical books, periodicals, and card catalogues provide a form of stability that might not be found in today's electronic (digital) collections. For instance, these collections can be instantly modified based on licensing agreements and new or lapsing subscriptions. Thus while digital resources may remedy the space issues mentioned by Ranganathan, they also introduce the aspect of impermanence.

Ranganathan's Fifth Law also recommends that librarians plan for the growth of the library in terms of changing and growing staff (Anderston et al. 2019). By engaging in e-resources affordability initiatives, academic libraries could increase their impact and involvement on campus. Many libraries are recognising the need for specialised e-resources management librarians to assist users with access to and use of e-resources. However, this is problematic for librarians working in institutions where the personnel budget is not a "growing organism". The

growth and evolution of the resources themselves may require even more consideration from librarians. In framing the Fifth Law, Ranganathan (1931) said that “an organism which ceases to grow will petrify and perish.” While there are numerous obstacles that librarians working with e-resources need to overcome, they can assist with the discoverability, adoption, and use of e-resources by updating and retaining repositories. Academic libraries can also engage with e-resources by hiring specialised librarians, reworking function descriptions, and being involved with affordability initiatives on their campuses.

Ranganathan’s Five Laws of Library Science is appropriate for the current study since the COVID-19 pandemic required physical disengagement and a need for digital or online library services for library services to continue. The researcher has adapted a table from Somers (2015) showing the relationship between the Five Laws and the research questions reflecting the key areas or themes of the study. In addition, what the laws would mean in today’s digital environment is addressed.

Table 1: Ranganathan's Five Laws in the digital environment

<b>Research questions</b>	<b>Ranganathan's laws</b>	<b>Theme addressed</b>
How has the provision of library services changed as a result of COVID-19?	A library is a growing organism.	There should be access to library services anytime and anywhere, even during the COVID-19 pandemic, through digital platforms.
	Every reader his book.	Library services have changed because of the COVID-19 pandemic with the integration of e-into the virtual learning environment.
What institutional mechanisms were used for the continual provision of library services during COVID-19?	Books are for use.	Availability of e-resources when they are needed. Compliance with COVID-19 pandemic measures such as social distancing and application of hand sanitisers.
What level of training and skills did library staff have for the provision of mainly online library services?	Save the time of the reader.	Library staff should be provided with the skills needed to search entire sets of e-resources to get access to the best source as efficiently as possible.
What challenges did library staff face regarding the continual provision of library services during COVID-19?	Books are for use.	Libraries staff may face challenges in utilising available e-resources to ensure continual library services because of a lack of the needed skills.
	Every book its reader.	Plan for elimination of obstacles that prevent users from making effective use of e-resources.

### 2.3.6 Summary of the relationship between the research questions and Ranganathan's Five Laws of Library Science

*Research question 1:* How has the provision of library services changed as a result of COVID-19? This research question aligns with both Law Two (Every reader his book) and Law Five (A library is a growing organism).

*Research question 2:* What institutional mechanisms were used for the continual provision of library services during COVID-19? This research question aligns with Law One (Books are for use)

*Research question 3:* What level of training and skills did library staff have for the provision of mainly online library services? This research question aligns with Law Four (Save the time of the reader).

*Research question 4:* What challenges did library staff face regarding the continual provision of library services during COVID-19? This research question is impacted by Law One (Books are for use) and Law Three (Every book its reader).

## **2.4 History of the University of KwaZulu-Natal (UKZN)**

The UKZN was formed on 1st January 2004 as a result of the merger between the University of Durban-Westville and the University of Natal. The new university brought together the rich histories of both the former universities. In 1910 the University of Natal was founded as the Natal University College while the University of Durban-Westville came into being as the University College for Indians on Salisbury Island in Durban Bay in the 1960s. In 1949, Natal University College was granted university status, while in 1971 the University of Durban-Westville achieved the same status (Idoniboye-Obu 2017:15). At present the UKZN operates academic libraries for its various programmes on its five campuses located in two major cities, namely, Durban and PMB, both in the province of KwaZulu-Natal (KZN). Four of the campuses are in Durban and one is in PMB. The campuses in Durban are Edgewood, Howard College, Nelson R. Mandela School of Medicine, and Westville. The remaining campus is the PMB campus (UKZN, 2015). Each of these campuses has several libraries (see below).

### 2.4.1 UKZN's vision and mission statement

The vision of the UKZN is to be the premier university of African scholarship and the mission is to be "A truly South African university that is academically excellent, innovative in research,

critically engaged with society and demographically representative, redressing the disadvantages, inequities and imbalances of the past” (UKZN 2015:1).

#### *2.4.1.1 UKZN Library (UKZNL) vision and mission statement*

The UKZNL vision and mission statements cited below indicate the direction towards which the library aims to progress. “The mission of the UKZNL is to support teaching, learning, research and community engagement by providing a high quality, relevant, expanding and innovative library and information service” while its vision is: “To be a strategic partner in positioning the UKZN as the premier university of African scholarship” (UKZN 2015:1).

Besides the vision and mission statements of UKZNL, there are strategic goals. Of the goals, one is related to library services provision: “To provide effective teaching and learning strategies for users” (UKZN 2015:1).

The UKZN has 13 libraries spread across its five campuses. All the main campus libraries provide the core services of circulation, interlibrary loan services, short loan services, photocopying, post-graduate research commons, as well as public computers for accessing the catalogue. Given that the focus of this study was on the three PMB campus libraries, these libraries are described below from the history of UKZN (UKZN 2015).

#### *2.4.2 PMB campus libraries*

As with the libraries on the four other campuses, the main purpose of the PMB campus libraries is to fulfil the vision and mission of the university. They need to enhance learning and research by providing access to resources where students and academics can access high-quality information easily. Each of the three PMB campus libraries is described below.

##### *2.4.2.1. Cecil Renaud Library (Main Library)*

The main library on the PMB campus is called the Cecil Renaud Library. The library was named in 1990 after the philanthropist who donated funds for the addition of the second floor to the library building. It is a four-storey building including a lower ground floor. The library, centrally located on the campus, serves the needs of both staff and students. The entrance to/exit from the library is on the ground floor, along with the circulation desk, short loans/academic reserves, a reference section, inter-library loans, a seminar room, subject librarian offices, and

public computers. On the lower ground floor are the postgraduate research commons, the multimedia training classroom, discussion rooms, photocopy machines, and study space. The first-floor houses print journals, newspapers and study space. The second floor is where the open shelves book collection is kept, as well as a study area for students.

#### *2.4.2.2 Life Sciences Library*

The Life Sciences Library, a branch library, is located on the 3rd Floor of the John Bews Building, in the College of Agriculture. The library predominantly serves both staff and students of three schools within the College, namely, Earth and Environmental Sciences, Life Sciences, and Engineering. Like other libraries of the UKZN, this library also has collections of books, journals, maps, and theses that are vital to both staff and students of the PMB campus and the broader agricultural research community within the province.

#### *2.4.2.3 Law Library*

The third library on the PMB campus, also a branch library, is the Law Library, called the Frank Burchell Library. Located in the Law building, the library serves the specific needs of the staff and students at the School of Law in the College of Law and Management Studies, as well as the legal fraternity of greater PMB. In terms of collections, the library comprises a selection of books on local and foreign law, law reports, statutes, and journals in both print and electronic formats. More specifically, the collections reflect the courses taught and research interests of the School of Law.

## **2.5 COVID-19 and libraries in developing countries**

During the COVID-19 pandemic, which has profoundly affected all forms of physical and social human interactions, the traditional face-to-face reference delivery model was negatively impacted by lockdowns, isolations, self-quarantines, and physical and social distancing. Abubakar (2021:1) notes that amidst this scenario, it is critical that reference librarians and information seekers have familiarised themselves with the knowledge and understanding of the most common forms of real-time communication available in the library. Abubakar (2021:1) points out that reference services were transformed, and the prospects and relevance of libraries would depend on the role of online library services.

In light of this, over the past 20 years, academic libraries in developed countries have continued to prioritise the implementation and use of online library services to meet users' information needs. A survey of academic libraries in the USA carried out in 2010 and 2012 revealed that 75% of academic libraries maintain online library services, using chat, instant messaging and email (Yang and Dalal 2015). In developing countries, however, the implementation, and use of online library services, particularly synchronous, have not received the much-desired recognition. For this reason, this review could only find a few studies in this particular area in such countries. For example, a study by Sekyere (2019) shows that less than 40% of 79 academic libraries in 10 West African countries provide any form of online library services, including phone, email, chat, or instant messaging.

Given the above circumstances, academic libraries in developing countries need to implement and integrate the use of online library services to meet the high expectations of their users. In failing to embrace this ever-growing service delivery model, librarians in these countries have limited their chances to optimally address users' information needs. However, there are a plethora of challenges hindering the success of online library services globally. These challenges include among others, the cost of internet, staffing, funding, limited internet access, poor internet service, inadequate technological infrastructure, and low digital skills (Kiana and Mabeifam 2020). Nevertheless, full implementation and the use of online library services, with the participation and cooperation of all stakeholders, is essential to increase the chances of academic libraries in developing countries achieving their full potential in terms of service delivery. Furthermore, the implementation and the use of online library services would have contributed immeasurably to curtailing the effect of the COVID-19 pandemic on library and information service delivery in those countries.

A study by Mawhinney (2020) shows that the implementation and use of online library services in academic libraries are growing rapidly in developed countries. Whereas in developing countries, as alluded to above, the majority of academic libraries do not provide real-time online library services (Anna and Srirahayu 2020). Anna and Srirahayu (2020) in an evaluative study on virtual reference services (VRS) and information services at university libraries in Indonesia, found that, among the 382 universities sampled, only four academic libraries used chat technology for VRS, and one library used WhatsApp. This represents 1.05% and 0.26% of the libraries respectively. In a similar scenario, Sekyere (2019) found that of the 79 academic

libraries in 10 West African countries investigated, none used innovative technology such as chat or text messages to provide a VRS.

## **2.6 Academic library services and the COVID-19 pandemic**

Academic libraries are complex organisations with multiple purposes; they supply books and space for students to study and provide services for facilitating research activities, such as bibliographies, reference services, and information literacy classes to support teaching and learning (Lone 2022). According to Das and Das (2020), the entire world was affected by the COVID-19 pandemic, and online learning was a “rescuer” (for education in general) in those trying times. The COVID-19 pandemic changed and affected how academic libraries provide services.

The findings of the survey by Green (2022) indicated that some pandemic trends in academic libraries will continue for a few years, such as the acceleration of the trend to eliminate physical materials in favour of electronic ones, and remote work options. For example, e-resources staffing would change by almost one-fifth of the respondents (Green 2022). The results were based on a 2021 survey conducted among 402 academic library employees who were asked about post-pandemic collection development and management practices, remote work arrangements, cataloguing, e-resources, and metadata involving resource description and discovery activities (Green 2022). While many of the participants expected no changes in the levels of staff for cataloguing, e-resources and metadata, approximately 20% of respondents anticipated growth in e-resources staffing (Green 2022).

A study by Medawar and Tabet (2020) measured changes in the use of library resources during COVID-19-related closures at three different institutions in the USA, namely, Louisiana State University, Northeastern Illinois University, and Valparaiso University. Their study showed that most academic libraries moved to virtual services, and users got support through online reference platforms such as LibAnswer, Lib-Chat, and LibraryAware. Virtual support was also extended for research and writing consultations as it was the only way to assist the users (Medawar and Tabet 2020). The libraries used to offer approximately 90 events per month, and as a replacement, most of these events and programmes were moved to the MS Teams digital platform (Medawar and Tabet 2020).

Ma (2020) noted that some Hong Kong academic libraries have a rich collection of e-resources, including 900 databases, 156,000 e-journals and over 4.8 million e-books covering all subjects. Therefore, during the COVID-19 period, students could continue to access the libraries' subscribed e-resources remotely. For print-only materials or library holdings to be used in courses, teaching staff could apply for a digital course pack while the Copyright Clearing Office (CCO) liaised with the Hong Kong Reprographic Rights Licensing Society (HKRRLS) to obtain permission to use copyrighted materials for instructional purposes (Ma 2020).

These Hong Kong libraries also provided a temporary print-to-e-copy service so that staff and students could submit a request to purchase the e-copy of an existing library print book directly from Alma, an integrated library management system. In addition, the loan of reference collections consisting of items that must remain in the library so that library users can rely upon their accessibility was made available (via the above-mentioned temporary print-to-e-copy service) to users. These reference collections consist of books such as encyclopaedias, dictionaries, handbooks, almanacks, statistical sources, and specialised materials such as atlases (Ma 2020). Ma (2020) further noted that during the closure period of the libraries, a book retrieval service with self-checkout was available for Hong Kong students and staff. A self-checkout machine performed different round-the-clock services, such as borrowing, return, payment, and pickup of reserved library materials.

Thus, academic libraries in developing countries can leverage the power of various information management technology tools to provide online library services. To ensure a successful implementation and use of information management in the library's online services, consideration of the price of the information management product, ease of use, privacy, platforms, Web browser integration, file transfers, document sharing, policy, training, and spam protection are pertinent factors that need to be considered.

## **2.7 Institutional mechanisms used during COVID-19**

In South Africa, as alluded to earlier, specific measures to prevent the spread of the virus were implemented, such as identifying who would be going back to work as per government notices and those who would not be doing so, particularly vulnerable staff members (Ntaka and Blignaut 2020). The Library and Information Association of South Africa (LIASA) president in 2021, Nazeem Hardy, hosted a webinar on handling library and staff issues during the

COVID-19 period. His suggestions as well as other mechanisms put forward are outlined below.

### 2.7.1 Disposable gloves and disinfection

Hardy (2020) noted that library staff must wear disposable gloves when handling all returned items and when handling chemical cleaning agents. Therefore, those returned items had to be separated from regular library items and be left for 24 hours before being returned to the catalogue system (Hardy 2020). The president further suggested that there should also be the provision of hand sanitiser for visitors, disinfection of public computer equipment and regular cleaning of the library, especially table-tops and shelves (Hardy 2020).

### 2.7.2 Electronic information resources

E-resources are a considerable portion of the library collections so the library should spend a significant part of its budget on subscriptions to these resources. The primary e-resources are in the form of proprietary databases, journals, e-books, and streaming videos, and films in addition to some open resources. They are readily available to end-users over the Web through multiple search platforms provided by the library (Mehta and Wang 2020).

### 2.7.3 Social distancing

To reduce transmission of the disease, persons who were suspected of being infected with COVID-19 needed to adopt social distancing and stay at home to maintain a physical distance from family, friends, and strangers (Ali and Gatiti 2020). Quarantine is one of the oldest and most effective tools for controlling communicable disease outbreaks and was effectively used during the pandemic in China (Ali and Gatiti 2020).

### 2.7.4 Use of an electronic library system

An electronic library system can be easily customisable and adaptable to the needs of educational institutions to provide fast, reliable, and secure services. It cannot be denied that the integration of ICTs in library services is essential and can have numerous benefits in academic libraries that include the following as outlined by Mageto (2021):

- The electronic library services provide online and offline storage of documents and services that simplify and enhance the learning process.

- The provision of unlimited access to library resources that include e-books, e-journals and videos from anywhere at a convenient place and at any time.
- The academic institution's libraries benefit from scalable infrastructure, role-based secure access, high performance and reliability to ensure seamless access to library resources.
- The system provides management with unlimited access to search the library catalogue, schedules, books and resources from anywhere, at any time, and in a convenient location.
- The system improves the performance of libraries with dynamic reports, charts and graphs to review and track the progress for better decision-making.
- The electronic library system is developed for easy entry of data that makes library services and operations free from errors.

## **2.8 Training and skills of library staff in the provision of online library services**

According to Ifijeh and Yusuf (2020), online library services are part of educational processes that take place through the medium of the internet, and they fall under the category of e-learning, among other terms. Online provision of library services provides resources for carrying out distance education, in particular, during periods such as the COVID-19 pandemic. Ifijeh and Yusuf (2020) outlined the advantages of online library services to include the following:

- Convenience

There is a possibility of 24/7 access from any online computer; it accommodates busy schedules, no commuting, and no searching for parking.

- Improved administration

Providing services online can accommodate more students, increase student satisfaction, and result in higher retention with fewer repeats. In addition, there is the ability to document and record online interactions.

Martzoukou (2021) wrote a paper based on his personal experiences and subjective opinion as a library and information science educator with considerable expertise in online distance learning in the United Kingdom (UK). In the paper, Martzoukou (2021) reflects critically on the impact of the pandemic from an educational point of view and on key changes experienced.

The paper centres on the argument that, as a result of the pandemic, academic librarians could suffice as strategic partners in higher education, directing and enhancing students' digital competencies development.

Martzoukou (2021) argues that the complete shift to online learning due to COVID-19 restrictions opened the door to multiple challenges in academic libraries, which are complex and ongoing. To ensure that all students have equal opportunities, librarians must introduce remote tools and practices into their online teaching. Furthermore, it is necessary to deal with online pedagogy concerning the ways of preparing students for the new online learning in terms of information literacy and digital competencies. As academic libraries adapt themselves to the future, they are redefining their role in assisting learners in the virtual environment to become both rich in information and sufficiently digitally competent. There is the prospect of becoming a "connecting link" that will result in a strategic vision in which equity is paramount among the educational values subscribed to (Martzoukou 2021).

## **2.9 Challenges library staff faced regarding the continual provision of library services due to COVID-19**

The COVID-19 pandemic has resulted in online learning and blended or hybrid library services provision being the new normal. Many universities and their academic libraries have been hit hard by the pandemic, especially those that were, and are not, well-established in terms of an online presence. However, despite the challenges, the pandemic has also prompted a change in direction, leading to a re-evaluation by academic libraries of what is most important. A new mission for academic librarians involved in the teaching of information skills and literacy is emerging, addressing issues of access and connectivity to resources, online education design, and the development of students' digital literacy competencies (Martzoukou 2021). Challenges identified in the literature include the following:

### **2.9.1 Time constraints**

Narca (2021), using a descriptive research design, investigated the experiences of St. Scholastica's College Manila High School (SSC Manila HS) librarians in implementing library online services during the COVID-19 pandemic. Findings revealed that the roles and responsibilities of the SSC Manila HS librarians were technologists, online learning support professionals, instructional partners, and game-based learning developers. The findings also

revealed that librarians experienced challenges such as having transaction and time constraints in delivering library services online. Furthermore, the opportunities for having a proactive team culture and providing appropriate and innovative services to their clientele were also limited (Narca 2021).

### 2.9.2 Technical competencies

In light of the above findings, Narca (2021) recommended better library online services for academic libraries and librarians. To achieve this, first, the library staff's technical competencies and skills had to be continuously honed. Second, the library's online services had to be evaluated annually by the students and faculty members. Third, the library staff had to explore more technological applications (apps) and learning management systems. Further research studies were recommended in relation to delivering library services online, in the context of other types of libraries, and that would examine academic library staff's experiences. This would assist in developing a deeper understanding of their roles and responsibilities. Lastly, further research studies were recommended to determine the challenges and opportunities faced by librarians during the COVID-19 pandemic (Narca 2021).

### 2.9.3 Improper processes and procedures

Mageto (2021) defined an electronic library system as a system that uses ICTs in providing services and sets of documents through electronic means using digital technologies that allow for the retrieval, archiving, preservation and dissemination of those documents and services online. This is achieved by the cost-effective and secure use of ICTs in providing and managing library services that include but are not limited to registration, reservation, lending, returning, ordering and payments for lost books, payments of stocks, and payments of fines for overdue books (Mageto 2021). These digital platforms also come with some challenges in libraries, such that there should be plans for procedures and processes in advance in using, for example, virtual meetings whenever possible. The means for conducting these meetings and conversations would depend on everyone's circumstances. Staff should be prepared emotionally for business "unusual", lines of communication should be open, and the details of library employee assistance programmes should be prominently displayed and brought to the staff's attention (Ntaka and Bignaut 2020).

## **2.10 Chapter summary**

This chapter firstly presented the theoretical framework and why it was chosen for this study. This was followed by a review of the literature relevant to the study. A brief history of the UKZN and a description of the UKZN PMB campus libraries were provided as well as the vision and mission of the UKZNL. The focus of the review was on the provision of academic library services and COVID-19 and was guided by the research questions posed in Chapter one.

Chapter three follows which outlines and discusses the research methodology adopted for the study.

## **CHAPTER THREE: METHODOLOGY AND METHODS**

### **3.1 Introduction**

This chapter is called the research methodology chapter because it spells out how the research was conducted. In this chapter, the researcher outlines and discusses all the crucial components of the research process, focusing on the methods and procedures used in carrying out the study. The research paradigm, the research design, the population of the study, the sample and sampling technique, the research instrument used, and the trustworthiness of the instrument are covered. Doing so assists in ensuring that the whole research project is objective and reliable. The data collection and data analysis procedures are also outlined and discussed. The chapter ends with an overview of the ethical issues observed in conducting the study.

### **3.2 Research paradigm**

Kivunja and Kuyini (2017:26) note that in the context of scientific revolutions, the American philosopher Thomas Kuhn in 1962 first used the word paradigm to mean a philosophical way of thinking. In educational research, the term paradigm is used to describe a researcher's "worldview" (Kivunja and Kuyini 2017:26). This worldview is the perspective, thinking, or school of thought, or set of shared beliefs, that informs the meaning or interpretation of research data. The authors further note that a research paradigm inherently reflects the researcher's beliefs about the world they live in and want to live in. It constitutes the abstract beliefs and principles that form the foundation of a researcher's perspective on the world influencing how they perceive and engage with it. Maree (2010:47) defines a paradigm as "a set of assumptions or beliefs about fundamental aspects of reality which give rise to a particular worldview."

#### **3.2.1 Positivism**

The positivism paradigm defines a research worldview grounded in what is known in research as the scientific method of investigation (Kivunja and Kuyini 2017:30). According to this paradigm, observation, experimentation, and reason based on experience ought to be the basis for understanding human behaviour and, therefore, the only legitimate means for extending knowledge and human understanding (Kivunja and Kuyini 2017:30). The authors postulate that the paradigm in its pure form, the scientific method, involves a process of experimentation that is used to explore observations and answer questions.

### 3.2.2 Interpretivism

Cohen, Manion and Morrison (2017) note that the interpretivists take the view that the model of human beings carries with it the notion of choice, free will, and individualism. Human beings are active agents capable of monitoring their own behaviour; they can use their speech to comment on their performances and plan ahead. This approach tries to “get into the head of the subjects being studied” so to speak, and to understand and interpret what the subject is thinking or the meaning made of the context (Kivunja and Kuyini 2017:33). Every effort is made to try to understand the viewpoint of the subject being observed, rather than the viewpoint of the observer.

### 3.2.3 Paradigm selected for this study

The current study adopted the interpretivism paradigm. The rationale was that the interpretivism paradigm addresses knowledge by stressing the importance of insiders’ viewpoints in understanding social reality (Kankam 2019). In this case, it is of utmost importance to understand the in-depth viewpoint of library staff as to how the COVID-19 pandemic impacted them and how the provision of services in their libraries was affected by it.

## 3.3 Research design

Akhtar, Shah, Rafiq and Khan (2016) noted that the research design can be considered the backbone of a research endeavour acting as the force that binds all components of a research project. Essentially it outlines the blueprint for the proposed research. Research design is the “plan, structure, strategy, and investigation to obtain ensured search questions and control variance” (Akhtar et al. 2016). According to Nel (2015:74), research design shapes and guides decisions on all aspects of a research study. This study’s research design contains the research method, paradigm, population and sampling, data collection method, and data analysis that were adopted to gather information on the effect that COVID-19 had on the provision of academic library services on the UKZN PMB campus from the point of view of library staff.

### 3.3.1 Categories of research design

Several research categories are identified by different authors such as Kumar (2012) and Nouri (N.d.). These two authors identified exploratory, descriptive, and causal as the three major

categories of research design. Below is a description of the three research design categories followed by the category selected for this study.

#### *3.3.1.1 Causal research*

According to Nouri (N.d.:14), a causal study is when the researcher wants to explain or define the cause of one or more problems. Nyide (2014) refers to this category as correlational research and states that it is mostly used to discover a relationship between variables (covariance), which suggests a possible base for causality.

#### *3.3.1.2 Descriptive research*

McNeill and Chapman (2005:7) explained that a descriptive study aims to answer questions like “How many?” and “What is happening?” According to Kumar (2012:283), descriptive research is a study in which “the main focus is on description rather than examining relationships or associations”. Kumar (2012:10) added that the goal of the descriptive study is to offer a profile or to describe relevant aspects of the phenomena of interest to the researcher from an individual, organisational, industry-oriented, or other perspective. “It tries to describe a situation, problem, phenomenon, service or programme, or provides information about the living conditions of a community or describes attitudes towards an issue” (Nouri N.d.:14).

#### *3.3.1.3 Exploratory research*

Kumar (2012:385) describes exploratory research as a study undertaken to explore an area where little is known or to investigate the possibilities of undertaking a particular research study. According to Nouri (N.d.:12), exploratory research is undertaken when little is known about the situation being studied or when information about similar problems or issues that were resolved in the past is not available. It is used to understand the nature of the problem in a case where very few studies were previously conducted on the problem. According to Kowalczyk (N.d.), exploratory research is the initial research into a hypothetical or theoretical idea.

#### *3.3.1.4 Research design category selected for this study*

From the descriptions above it is clear that this study was exploratory. The researcher wanted to explore the effect that COVID-19 has had on providing library services according to the library staff’s experiences. In a way, based on the research questions (for example, research question 1, which states: How has the provision of library services changed due to COVID-19?). The researcher thus identified a problem area and sought, through an exploratory research

design, to understand more about it. In this regard, the study can also be viewed as a starting point or a foundation for further studies. Swedberg (2020) noted that an exploratory study attempts to discover something new and interesting by working a way through a research topic.

### **3.4 Research methods**

Sohil (2018) notes that there are three methods that a research study can focus on, namely, quantitative, qualitative, and mixed-methods approaches. Research methods are the various techniques, strategies and processes utilised in research by a researcher (Goundar 2024). These methods encompass a range of planned approaches that are objective and unbiased. They encompass frameworks, experimental designs, quantitative methodologies and statistical analyses. According to Goundar (2024), research methods aid researchers in selecting samples, gathering data, and deriving solutions based on collected evidence, rather than solely relying on reasoning alone. They prioritise explanations that can be validated through experimentation (Goundar 2024).

#### **3.4.1 Quantitative research method**

According to Ranjit (2014:211), a “quantitative approach is the traditional, positivist, experimental or empiricist approach”. Braun, Clarke, and Gray (2017) state that a quantitative approach is the systematic empirical investigation of observable phenomena via statistical, mathematical, or computational techniques. It is used to quantify opinions, attitudes, behaviours, and other defined variables and generalise results from a sample to a larger population; it is also measurable data used to formulate facts and uncover patterns in research (Sohil 2018). If a researcher is “playing” with the numbers, they need to have a good knowledge of, for example, standard deviations, calculations, and correlations. In the quantitative method, data collection can be done in various ways, such as online or paper-based surveys, mobile surveys, face-to-face interviews, online pools, and telephone interviews, among others (Sohil 2018).

#### **3.4.2 Qualitative research method**

Braun, Clarke, and Gray (2017) explain that a qualitative approach is described by terms such as constructivism, naturalism, interpretivism, and post-positivism. A qualitative approach is primarily exploratory research; it is used to understand underlying reasons, opinions, and motivations (Ndimbovu 2021:38). Qualitative research offers insights into issues and it can

provide ideas for future quantitative research projects (Braun, Clarke and Gray 2017). Essentially it involves observing and collecting non-numeric data. This research method encompasses approaches to data collection such as case studies, interviews, focus groups, and observations (Sohil 2018).

### 3.4.3 Mixed-methods research

A mixed-methods approach according to Ndimbovu (2021:38), involves collecting, analysing, and integrating or mixing qualitative and quantitative approaches in a single study. “It combines methods associated with both quantitative and qualitative research and aims for the quantitative and qualitative methods to supplement each other” (Sunitha 2017:46). Sunitha (2017) notes that the advantage of the mixed-methods approach is that it strengthens the credibility of the research.

### 3.4.4 Research method selected for this study

The current study adopted a qualitative research approach since it allows the research problem to be covered in depth as well as in detail; in addition, data is more powerful as it is made up of human experience rather than numerical data associated with quantitative research (Sohil 2018). Teherani, Martimianakis, Stenfors-Hayes, Wadhwa and Varpio (2015) argue that a qualitative research approach is an extensive inquiry into how people experience aspects of their lives, how individuals and groups behave, and how organisations function. The challenges faced with the continual provision of library services due to COVID-19, the solutions and strategies suggested for the continual provision of library services in the UKZN PMB campus libraries, and the need for in-depth understanding pointed to the qualitative method being deemed the most appropriate for this study.

## **3.5 Population and sampling**

As noted earlier in the study, there are three UKZN PMB campus libraries, namely, one main library (the Cecil Renaud Library) and two branch libraries (the Law Library and the Life Sciences Library). A purposive sampling technique was adopted to select the sample. Purposive sampling is a form of non-probability sampling that allows researchers to depend on their value judgment when selecting members or units of the population to partake in their study. The UKZN PMB campus libraries have 17 professionally qualified library staff, which was the total population of the study. A sample of 14 respondents was extracted by purposively

selecting staff members who are key in dealing with the provision of library services. The purposive sample included a circulation staff member from each of the three libraries, seven subject librarians who were all information services librarians on campus, one circulation head, one information services head, and two library managers. The three excluded staff were the administrator and two additional circulation staff members.

### **3.6 Data collection method**

The most common qualitative data collection methods include observation, individual interviews, focus-group interviews, and the analysis of documents (Leedy and Ormrod 2014). As pointed out above, the study used a qualitative approach from the interpretivist point of view to investigate the effect of COVID-19 on academic library services provision. In doing so individual interviews, using an interview schedule, were the data collection method used.

#### **3.6.1 Interview schedule**

Bhim (2010:46) defines an interview as a short-term, secondary social interaction between two people with the explicit purpose of one person obtaining specific information from the other. The objective of the interview in this study was to gain more information about the effect that COVID-19 had on the provision of library services at the PMB campus library from the staff's point of view. The study used a semi-structured structured interview schedule to collect information from the selected library staff.

The semi-structured interview is an “exploratory interview used most often in the social sciences for qualitative research purposes or to gather clinical data. While it generally follows a guide or protocol devised prior to the interview and is focused on a core topic to provide a general structure, the semi-structured interview also allows for discovery, with space to follow topical trajectories as the conversation unfolds” (Magaldi and Berler 2020:4825). Interviews in the study were conducted using the MS Teams communication application and telephone calls and, after obtaining the necessary permission from the participants, all interviews were recorded. There was an additional section aimed at library management in the interview schedule.

Ahlin (2019:2) notes that semi-structured interviews are both structured and flexible because they include a set of questions that will be asked of all respondents. As alluded to earlier, they

also incorporate opportunities for a more detailed inquiry into topics that arise during researcher-participant discussions. The questions asked do not offer response categories; information is taken directly from the participant. This means that the interviewee can express their thoughts on the topic, and the conversation can flow and evolve beyond the existing structured question format. The method used in the study was the self-reporting method since the participants were responding according to their own experiences of how they had provided library services during the COVID-19 pandemic.

### 3.6.2 Trustworthiness of the instrument

To ensure the trustworthiness of the research instrument, the interview schedule was submitted to the supervisor to read through, correct and determine its appropriateness. It was then pretested on library staff at the NWU's Potchefstroom campus library. NWU library was chosen for pretesting in this study since it is also, like the UKZN PMB campus libraries, an academic library. After the pretest, various changes were made to the interview schedule, and these (and the pretest process) are described under 3.6.3 below.

For an instrument to be deemed trustworthy it has to meet certain criteria, and these are discussed below.

#### 3.6.2.1 *Credibility*

According to Stahl and King (2020:26), credibility asks “how congruent are the findings with reality”? Credibility is characterised as the certainty that can be attributed to the research findings. In light of this, this research study was conducted by a UKZN Master's student, currently enrolled on the PMB campus. The research took place on the same campus. According to Bitsch (2021), data collection in qualitative research requires the researcher to immerse themselves in the participants' world. Doing so helped the researcher pick up some knowledge about the study setting, which limited the misunderstandings that may emerge even though the data was collected on an online platform or telephonically. Credibility was also ensured by recording the interview sessions using MS Teams and telephone recorders.

#### 3.6.2.2 *Dependability*

Buckley and Fernandez (2023) state that dependability measures the extent to which a research study could be repeated by another researcher and reveal the same findings. Dependability

includes researchers assessing their findings and the understanding and suggestions of the study to ensure that they are supported by the information from the research participants. To contribute towards achieving dependability, the researcher provided the raw data, interview transcripts, and records collected in the field to the supervisor. Furthermore, the research report (this dissertation) contains sections detailing the research design and its implementation, the operational detail of data gathering, and an evaluation of the venture to enable comprehension of the techniques used and the adequacy of the research.

#### *3.6.2.3 Transferability*

According to Bitsch (2021), the researcher encourages the judgement of transferability by a possible user through deliberate sampling. This was achieved through utilising purposive sampling for the study. Purposive sampling assisted the researcher in focusing on key informants, who were particularly knowledgeable on the provision of library services. Transferability can be established by showing readers that the findings of the research study can be applied to other contexts, situations, times, and populations (Bitsch 2021). For instance, in the current study, the library staff who participated were intentionally selected by the researcher based on their characteristics, and their experience in library services provision, therefore the findings can be applied to similar studies.

#### *3.6.2.4 Confirmability*

According to Chung, Biddix, and Park (2020:3300), qualitative researchers view confirmability “as a concept to describe the extent to which results can be corroborated by others”. Furthermore, confirmability “is concerned with establishing that data and interpretations of the findings are not figments of the researcher’s imagination but are derived from the data” (Tobin and Begley 2015:392). The research underwent a language review process during which constructive criticism was provided. Importantly, the supervisor also assessed the research to ensure quality and to establish trustworthiness by auditing the researcher’s events, influences, and actions.

#### *3.6.3 Pretest of the interview schedule*

As noted, the researcher pretested the interview schedule before collecting research data to determine its appropriateness and how effective it would be for data collection. Seven purposely selected library staff from the NWU were selected (using the staff directory website)

for the pretest. Emails were sent to those staff members requesting their participation in the pretest. However, the initial response rate was very low, and the researcher subsequently sent emails to 10 further library staff, backed up by telephone calls. Three staff members agreed to participate, namely, the Information Resources Manager, an Electronic Resources Management Librarian, and a Faculty Librarian. Interviews were conducted via MS Teams at a date and time convenient for the participants.

#### *3.6.3.1 Changes made to the interview schedule*

After conducting interviews with two of the pretest participants, the researcher changed some questions in the interview schedule. After the third interview, the researcher did not make any changes as the interview schedule was now clearly understood. The following changes were made to make the questions clear and understandable:

- Question 7 was rephrased from “Has there been any significant changes in library services over the past three years? If so, please explain” to “Has there been any significant changes in library services over the past three years due to COVID-19?”
- Question 9, “How has the provision of library services changed due to Covid 19?” was removed.
- Question 11 was rephrased from “If you identified mechanisms for the continual provision of library services due to COVID-19 in the previous question, how efficient are they?” to “How efficient were those mentioned mechanisms?”
- Question 15, “If you did have training relating to online service provision, how did the training help to provide online services?” was removed.
- Question 17, “If you think you must have further training, how will staff training help ensure that you are knowledgeable about providing online service?” was removed.
- Question 21, “If support was available, please explain how efficient and effective service provision was at your library?” was removed.
- Question 22 was rephrased from “In your opinion, did Covid-19 impact the professional development of academic librarians?” to “How has Covid-19 impacted the professional development of academic librarians?”
- Question 30, “Please provide suggestions on how the provision of library services could have been improved during and after the Covid-19 pandemic.” to “Please provide suggestions on how the provision of library services could be improved post the Covid-19 pandemic”.

The final interview schedule used for the study can be found in Appendix 4.

#### 3.6.4 Administering the interviews

Before conducting interviews, the researcher obtained permission to proceed with the study from the UKZN Registrar (see Appendix 1) as well as the ethical clearance (see Appendix 2) for the study from the university's Research Office. Systematic administration of the interview is vital to ensure that the data collection process is a smooth one (Naidu 2009). To ensure that the target sample received the meeting invitation, the researcher sent out MS Teams online meeting links and made phone calls to ask the participants to indicate and confirm their availability. The interviews were conducted over five days, from the 22nd to the 27th of May 2023. No problems were encountered, and the interview process went smoothly.

### **3.7 Data analysis**

The data analysis method employed in this study was content analysis. Parveen and Showkat (2017) define content analysis as the analysis of written, verbal, or visual communication messages. It is the scientific study of contexts, meanings, subtexts, and intentions hidden in messages. Content analysis is essentially the systematic process of coding and identifying themes or patterns found in what is being said, written or recorded (Parveen and Showkat 2017).

### **3.8 Ethical considerations**

As alluded to above, the study adhered to the UKZN ethical clearance requirements and the ethical policy of the university. The researcher received an ethical clearance letter (see Appendix 2) from the Research Office, that is, permission to conduct the study. Among the several ethical considerations adhered to, the researcher assured the participants that their responses would be confidential, and their identities would not be disclosed. They were also assured that their participation was voluntary and that they were at liberty to withdraw from the study at any time. Participants were asked to sign a consent form indicating their willingness to take part in the study (see Appendix 3).

### **3.9 Chapter summary**

This chapter presented the methodology used in this study and advanced reasons to support the choice of the methodology and selection of the sample. The chapter covered the research paradigm and research design, the population of the study, the sample and sampling technique, the research instrument, the trustworthiness of the instrument, the data collection procedure, the analysis of the collected data and, finally, the ethical considerations of the study.

Chapter four, in which the findings of the study are presented and discussed, follows.

# **CHAPTER FOUR: DATA PRESENTATION AND DISCUSSION OF RESULTS**

## **4.1 Introduction**

The study aimed to investigate the effect of COVID-19 on the provision of library services at the UKZN PMB campus from a library staff perspective. A qualitative research approach was adopted, using a semi-structured interview as the data collection method. Three libraries on the PMB campus were selected, and the population comprised the UKZN PMB campus librarians directly involved in the provision of library services. Interviews were conducted with a total of seven participants and the collected data was analysed using the content analysis method.

The results and discussion presented below are organised thematically based on key variables derived from the theoretical framework and research questions. Thus, the results and discussion cover the demographical data, the provision of library services, institutional mechanisms, training and skills of academic library staff, challenges of academic library staff, and the issues of policy and budget (directed at the library management participants). Suggestions on how the provision of library services could be improved post the COVID-19 pandemic are also discussed.

To begin with, the response rate achieved is outlined.

## **4.2 Response rate**

A response rate for a study is the number of people participating in a survey divided by the number selected in the sample, in the form of a percentage (Babbie 2020). A low response rate reduces the sample size, weakens the power of a study and increases possible biases, hence the knowledge about the response rate is an essential measure for evaluating research quality (Sataloff and Vontela 2021:683). The response rate of the PMB library staff is presented below.

Out of the 14 library staff who were purposively selected (sampled) to participate in the study, only seven librarians did so, yielding a response rate of 50%. According to Sataloff and Vontela (2021:683), there is no consensus on acceptable minimum survey response rates. Acceptable response rates have been reported from 40% to 75% across different specialities (Sataloff and Vontela 2021:683). Of the seven library staff that participated in the study, one was in library

management, one was a head of information services, one was a head of circulation, and four were subject librarians. Of the seven librarians who did not participate, one did not answer the phone when called several times; one was attending a work conference; two had challenges with receiving an email from the researcher for informed consent signing; and three were very busy training students.

### 4.3 Presentation and discussion of results

In line with the ethical guidelines, no names are used when presenting and discussing the results and, in this regard, the seven participants are labelled L1, L2, L3, L4, L5, L6 and L7.

#### 4.3.1 Librarians' demographic data

This section presented the gender, age group, highest qualification, and length of employment of the seven participating librarians (questions 1 to 4 in the interview schedule).

##### 4.3.1.1 Gender

The majority of participants in the study were female (L3, L4, L6 and L7) numbering four (57%), followed by three (43%) who were male (L1, L2 and L5).

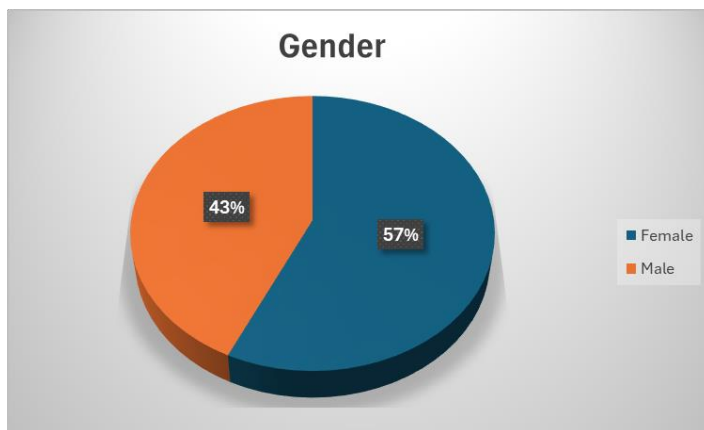


Figure 1: Gender n=7

##### 4.3.1.2 Age

No participants were under the age of 40 years. Two participants (L1 and L2) were between the ages of 41 and 50 years, and two (L4 and L5) were 60 years and above, thus each a percentage of 29%. Three (43%) participants (L3, L6 and L7) indicated they were between the ages of 51 and 60 years. From the presentation of the ages of the librarians, none could be

considered in their youth. Wojciechowska (2021) states that the age of librarians is a variable that may affect their attitudes and behaviours. Their study, involving librarians from 20 countries, analysed the impact of age on the level of individual social capital, social activity, social attitudes, civic engagement, level of trust, attitudes toward patrons, and professional preferences. The findings confirmed a correlation between age, attitude, and behavioural changes. Statistically, the age of librarians significantly differentiates their behaviour and social attitudes. The current study revealed that librarians above 40 years have positive attitudes and behaviours as they all seemed to be determined towards providing services and meeting the needs of the users (Wojciechowska 2021).

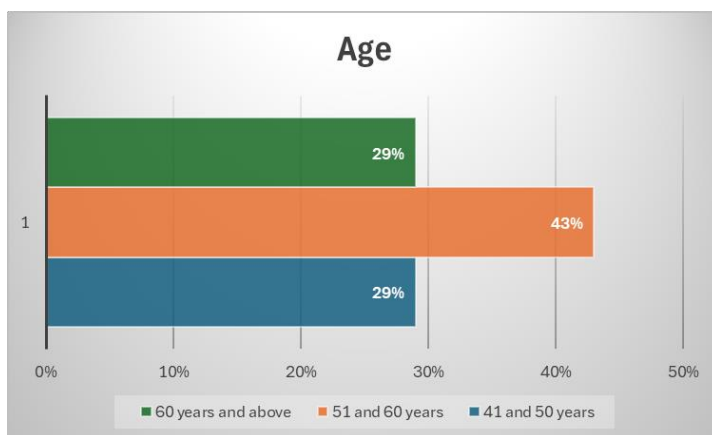


Figure 2: Age n=7

#### 4.3.1.3 Highest qualification

The majority of the participants four (57%) (L1, L2, L3 and L7) in this study had a Masters degree, two (29%) had a Doctorate (L4 and L5), and one (14%) (L6) had an Honours/Postgraduate Diploma. All participants were thus highly qualified professionals. There is an indication that professional library staff experience significantly better work motivation than their non-professional counterparts (Tella and Ibinaiye 2020).

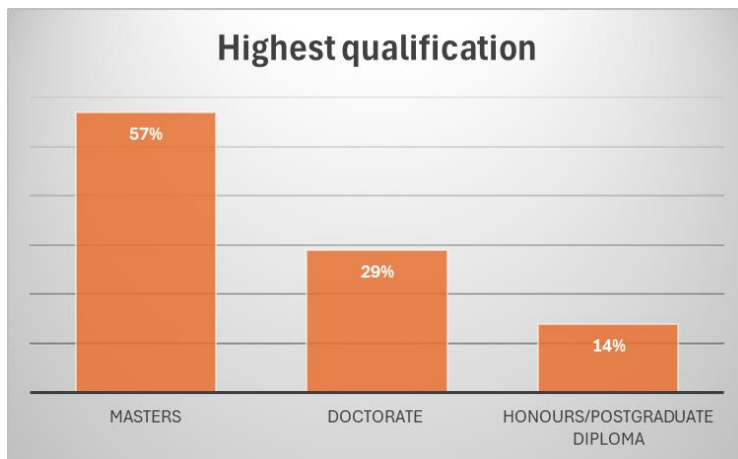


Figure 3: Highest qualification n=7

#### 4.3.1.4 Length of employment

Participants were asked general questions such as how long they had worked at the library, the section of the library they worked at, and their positions.

Phuong and Tran (2020) applied Structural Equation Modelling (SEM) and a multi-group analysis in their research study to test four hypotheses, with data from 315 employees of lodging enterprises in Danang City, Vietnam. Empirical results showed that job satisfaction had a positive direct impact on employee loyalty and job performance; employee loyalty positively affects job performance; and the relationship between job satisfaction and employee loyalty differs by job position. In the current study, and as shown below, all the participants interviewed have been with the UKZN for more than five years; this indicates that they are satisfied with their jobs and show loyalty to the institution.

Two (29%) participants in the study indicated that they have worked at the UKZN PMB campus libraries for more than 32 years, with one, having worked in different sections, now a senior manager. The other long-serving participant was the head of the circulation section. Three (43%) participants had been in the library for almost the same number of years, being 13, 14, and 17 years. One participant (14%) had worked in the library for five years while the final participant (14%) had been in the library for a substantial 41 years. Given their years of employment, it is evident that the vast majority of the participants were satisfied with their employment since they have all been with the library for a long time. Furthermore, it is also evident that they have a vast amount of work experience.

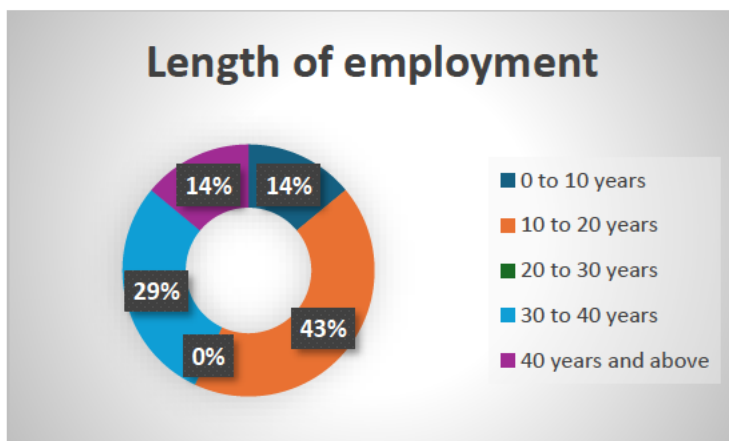


Figure 4: Length of employment n=7

#### 4.4 Provision of library services

This section presents the significant changes in library services over the past three years due to the COVID-19 pandemic and the extent to which it has affected the provision of library services.

##### 4.4.1 Significant changes in library services over the past three years due to COVID-19

In question 7, participants were asked if there have been any significant changes in library services over the past three years due to COVID-19. Kwanya, Stilwell and Underwood (2010) note that Ranganathan's laws remain the only clear definition of the functions and responsibilities of libraries and continue to guide librarians in planning and providing effective library services. Hence, in the interview, participants were asked several questions about providing library services in their respective libraries during COVID-19. This question arose because changing times create new methods. This is seen in Ranganathan's Fifth Law which states "A library is a growing organism". All participants mentioned that moving services online was the significant change they encountered. L1 stated: *We were providing training for students online. Whereas before COVID-19, we would just get students in one house and train them all at once.* The participants noted that online training was more advantageous since they got more students attending training than when training was face-to-face. L4 pointed out: *In 2020 we moved our services to online and were encouraged to buy more e-books.* Other responses concerning significant changes were:

*L2: Yes, it was printing, 2020 we were more online.*

However, one participant stated:

L3: *Uhhh... not significant I would say, we just moved to online sessions.*

#### 4.4.2 Extent to which COVID-19 has affected the provision of library services in the library

Question 8 asked participants the extent to which COVID-19 has affected the provision of library services in their library. L1 stated: *It is difficult to say to what extent, but what I could say is that it affected the library services positively and negatively.* L1 reasoned that the librarians were now able to service students on the Westville campus whereas pre-COVID-19 they were only able to focus on students on the PMB campus. L1 further noted that the negative side of COVID-19 was that typically, the UKZN takes students from rural areas, who are computer illiterate. Since librarians were training students online, most were not getting that training because they were not used to information being delivered online and did not always have the skills to do so. L4 stated: *The negative effect [on service provision] was that students could not get in the library to borrow the books and they were not able to use the library as a space for a long time.* But in terms of positivity, they aggressively purchased e-books and marketed the “My library account” whereby students could request items online and remotely. They also offered extra services like scanning chapters from books as well as articles for users. Basically, the UKZNL simply moved online, and all queries were done through email and not in person as per Ranganathan’s Fifth Law. L4 further noted that they have always done queries online, so moving entirely online was a seamless process for the UKZN PMB campus libraries. All participants mentioned that they were not affected that much in that even though they were working from home they were still offering training. They did not need to be physically present since they could still offer services through Zoom and MS Teams.

The response of L6 to the question was brief and to the point: *We moved online.* This move to a virtual service is supported by Medawar and Tabet (2020) in their study which showed that, in response to COVID-19, most academic libraries moved to the virtual realm, and users got support through online reference platforms such as LibAnswer, Lib-Chat, and LibraryAware. Virtual support was extended to research and writing consultations as well as it was the only way to assist the users needing that type of assistance. L3 stated:

*Not much [changed], like I said we just, you know our training, we offered it via Zoom.*

However, L2 said:

*Because my work is not issuing books, we’re not much affected.*

While L5 noted:

*So basically, it is difficult to say to what extent... it basically changed to new ways of working [that is, online].*

According to L7:

*The way we deliver information services completely changed even in terms of working hours.*

## **4.5 Institutional mechanisms**

In this section, participants were asked (questions 9 and 10) what mechanisms were made available in the library for the continual provision of library services during the COVID-19 pandemic and how efficient those mentioned mechanisms were. Two further questions (11 and 12) enquired about the type of knowledge and skills the librarians have in relation to the mentioned mechanisms and how they ensured the availability of e-resources when needed during the pandemic.

### **4.5.1 Mechanisms made available in the library for the continual provision of library services during the COVID-19 pandemic**

Participants were asked about the mechanisms that were made available in the library for the continual provision of services during the COVID-19 pandemic. As pointed out by Ntaka and Blignaut 2020), in the context of public libraries, specific measures were implemented to prevent the spread of the disease, such as identifying which staff members would be going back to work as per government notices and those not recommended to do so and identified as vulnerable staff members. In answering the question posed, L1 stated: *What was happening then was that they would take turns [to physically be in the library], especially the subject librarians* and that doing so allowed for the continuation of service. Staff from all the library sections took turns thus ensuring that those academic staff members and students who were allowed to come onto campus, were getting the required library services.

All participants mentioned working from home but, at the same time, having to ensure that all resources could be accessed remotely. L5 mentioned: *Staff were working from home.* L6 stated: *The issue desk was not working, and staff was working from home.* However, L4 mentioned that: *It was easier for staff and students to access resources while off campus since all their resources could be accessed remotely.* The librarians created a generic email so people could

request resources at any time. In addition, contact details on how to request items during lockdown were made available on the library webpage. L4 mentioned that: *One of the biggest things we had to learn was how to use Zoom.*

Another mechanism devised was scanning and putting books online, especially books which had been placed on reserve. Generally, however, the participants pointed out that they just carried on with most of their activities. As emphasised in the literature review, Ranganathan advocated strongly for the idea of an “open access library” within the context of his time, and the sentiment remains the same currently in that “e-resources and libraries need to remain open as learning objects for patrons to fully realise their potential”. It is also stated in Law One that “Books are for use” and thus, by extension, e-resources “are for use”.

Other responses from the participants included:

*L2: We were moving from traditional to...to online; we were like quick; we were like getting training quick.*

*L3: Oh, I am not sure, we just used Zoom and Microsoft Teams.*

*L7: Everything was switched to online.*

#### 4.5.2 Efficiency of the institutional mechanisms

The participants were asked to elaborate on the efficiency of the mechanisms mentioned. This question relates to Ranganathan’s Fourth Law, namely, “Save the time of the reader” or, in the context of this study, to save the time of the library users. According to Madhavan (2021), efficiency is a constant pursuit, producing a fast-acting gain at the expense of longer-term distress. L1 mentioned that: *Taking turns to be on campus was efficient because there were some students who were allowed and given permission to be on the campus.* Those students were using all the facilities and resources the library had. L1 further noted: *However, even the online method was also working.* All participants mentioned that the employed mechanisms were very efficient, and the statistics regarding the use of the mechanisms were continually on the increase. L2, for example, stated that the mechanisms *were efficient, even the numbers that there were, were going up.* The only problem was the connectivity issue since most students and staff were getting data from the university and the amount of data provided was limited thus impacting their use of online services. L4 noted that in the context of *loadshedding and power issues in the area ... the mechanisms were very efficient indeed.* However, L7 made a

point that COVID-19 changed the way they worked in terms of working hours: *We worked till late... it changed our working times.* They started working from morning to late at night since they were working from home and online.

#### 4.5.3 Knowledge and skills of the librarians in terms of the mechanisms employed

There is a common saying “Knowledge is power” which simply means that people “in the know” command powers that ignorant people lack (Brown 2020). Participants were asked about their knowledge and skills in terms of the mechanisms that were made available in the institution. L1 responded: *As subject librarians, we just trained ourselves, especially to do the online training.* The skills needed involved mainly using MS Teams and Zoom, applications not all the participants needed to use before the pandemic. In contrast to L1, the other participants said they received a lot of training on how to train students online.

*L5: Well, being a manager, I would just delegate it to staff on what to do, and everything was going smoothly.*

*L4: I already knew and had the most knowledge and skills, the one thing we had to do was promote the “My library account”.*

As alluded to above, L4 pointed out that at the time COVID-19 arrived, UKZN PMB campus librarians had never made use of Zoom and MS Teams before and had little to no knowledge of how to utilise them. Nonetheless, in terms of the way library resources work, the participants felt that they had the necessary knowledge and skills for the continual provision of library services.

Other participants’ responses to training were:

*L2: So, we went to... we were receiving a lot of training on how to train online.*

*L3: Oh yeah, we were trained.*

*L7: Training information was provided online... it’s something that we were doing.*

#### 4.5.4 Ensuring the availability of online resources when needed

A study by Ma (2020) noted that some Hong Kong libraries had a rich collection of e-resources, including 900 databases, 156,000 e-journals and over 4.8 million e-books covering all subjects. Therefore, students could continue accessing the library’s subscribed e-resources remotely during COVID-19. This notion is supported by Ranganathan’s First Law concerning books

being for use. Therefore, in terms of this law, library resources should continue to be used even during the COVID-19 pandemic. Question 12 asked librarians how they ensured that e-resources were made available when needed. L1 mentioned that: *We were making sure that we were putting these recorded trainings on the LibGuide so that even if a student cannot get anyone to assist, but there will be LibGuide which will guide students.* Furthermore, L7 mentioned that: *Lesson plans were created and put on the system.*

Another method employed to ensure the availability of e-resources was buying e-books. Doing so meant that those students and staff who did not have physical access to campus were getting resources. In most cases, the purchase of e-books was the dominant approach adopted. Some participants noted that resources were made available through the library website and ResearchSpace (the UKZN online institutional repository). According to L5: *It [library resources] was available through the library website.* Participants ensured that they were always online checking to determine if they could meet students' needs. For example, when students needed books, the librarians would have to scan those resources and then send them to students. Their intention was to get the resources to the users within an hour of being requested to do so. For example, when they purchased e-books, users would get them within an hour and, if necessary, copies would be made. L4 pointed out: *We already had off-campus access availability; therefore, we did not have to do much extra.* All they had to do was ensure that they had data offered by the university to enable them to check their laptops. L3 emphasised: *We had data.* Another undertaking was to ensure that some of the landlines could be answered from home to assist users who might call the library. L2 summarised the situation vis a vis ensuring the availability of e-resources by stating: *We were making sure that we're always online, we're always checking everything.* Finally, L6 mentioned not having much to do in terms of electronic sources: *The circulation section of the library does not necessarily provide e-resources.*

#### **4.6 Training and skills of academic library staff**

In this section, participants were asked to describe the type of training they received for the online provision of library services and how necessary they felt they needed to receive further training on providing such services. As Ranganathan's Fourth Law states, "Save the time of the reader" and in this regard, librarians should have the capabilities and skills to make their

collections and services as effective and efficient by providing users with tools and resources that save them time (Chhetri 2023).

#### 4.6.1 Training received for the online provision of library services

In Question 13, participants were asked to describe the type of training they received for the online provision of library services. This question was motivated by Martzoukou (2021) who noted that creating educational content and imparting suitable information literacy and digital literacy skills was essential to navigate this new online learning and must be addressed by librarians. Going forward, academic libraries could have a new mission or challenge in assisting users who want to be information-rich and, increasingly, digitally competent in the online space. (Martzoukou 2021). L1 mentioned: *As subject librarians, we were looking at webinars, different people's training, and we were getting training on how to use the online facilities like Zoom, and Microsoft Teams.* Participants were making an effort to get online training; hence, they were also looking on YouTube for training videos. L5 as management, arranged for staff to be trained to scan items onto different platforms to be accessed remotely. In terms of training offered by management, the following responses were received:

*L2: We were getting a training that was offering on how to do online.*

*L3: We just did undergrad and postgrad training as part of library instruction.*

*L5: Ok, yeah, people were trained to scan items onto different platforms.*

*L6: We are currently training blanket renewal. Which means purchasing a bulk of resources from the vendor.*

One of the subject librarians (L4) mentioned: *All our vendors did their training through Zoom.* However, the librarians continued to upskill themselves in terms of using Zoom. L4 noted that: *It was much easier for vendors to do training online than it was for them to come on campus.* L7 stated: *Subject librarians were provided with the necessary information they needed.* The university offered much training and, as alluded to above, there was lots of help offered online, which is how participants ensured that the training they received was up-to-date and the necessary services could continue to be provided during and post the COVID-19 pandemic. It is apparent, however, that while the participants did not require a lot of extra skills, training was seen as a necessity. This is further elaborated on in the section below.

#### 4.6.2 Necessity to receive further training on providing online library services

In one study, Narca (2021) elaborated on the necessity to receive further training on providing online library services, noting that the library staff's technical competencies and skills must continuously be honed. The library's online services must also be evaluated, and library staff must explore more technological applications and learning management systems. Question 14 asked participants to elaborate on the necessity to receive further training on providing online library services. L1 emphasised that: *It was necessary because really, really, without that training, we would not have connected with the students.* L2 stated that further training was necessary because the users used to go to the library, but suddenly they could not and thus training was necessary *because the library was used to users coming in and getting books.* The librarians, therefore, needed to make alternatives for users to get information. L3 mentioned that further training was necessary: *It's important, it's a means of communication.* L5 said that training was still ongoing: *You know, training is ongoing, but you know there are changes, but there's no further training [to add to what was currently being done]. People are doing the work properly.* L4 and L6 noted that as library staff they were updating their skills all the time. L4 mentioned that the university was moving to Teams, and they had to learn how to use it. L4 further emphasised the importance of training: *It is extremely necessary to have our skills continuously updated.* Apart from the communication platforms, there are programs like MS Word and Excel which librarians need to keep up to date with. In addition, there was also a constant need for library vendors to give training because the provision of services was constantly changing. Hence L7 stated:

*You know online is very dynamic, things change, and we have to change. Like now we are receiving training, and the university has organised a training that was attended by students in Gauteng and Namibia.*

#### 4.7 Challenges of academic library staff

In Section 5 of the interview schedule, the participants were asked to mention the challenges that COVID-19 had brought in terms of the provision of library services. The question was followed by one asking how they attempted to address the identified challenges; a question concerning the support available for providing library and information services during COVID-19; and lastly, a question asking how the pandemic had impacted the professional development of academic librarians.

#### 4.7.1 Challenges brought by COVID-19 in providing library services

COVID-19 caused numerous challenges for academic libraries, especially those that did not have a strong online presence. These challenges included the cost of internet access, staffing, funding, limited internet access, poor internet service, inadequate technological infrastructure, and low digital skills (Kiana and Mabeifam 2020). The participants' responses concerning the challenges experienced are reported below.

L1 mentioned: *Not being able to meet the student face-to-face was a challenge for us.* The participant also mentioned that sometimes they would try to organise training only to find out that the students were not attending the training sessions for various reasons. For example, some of the students were computer illiterate and some did not have computers. Consequently, only a few students would attend those training sessions, which was the difficult part. According to L5: *The main challenge was that students could not get their studies as per normal* [that is, the traditional way of teaching and learning]. Another concern was the health and wellness of staff. However, participants L2, L3 and L4 said that they did not experience too many challenges, but they just went online with services and could still provide information electronically.

*L2: It... eh... my understanding is that it was not much impact because we're continuing to provide information.*

*L3: Uh, I wouldn't say challenges just that we had to go online.*

The challenges mentioned were at times expressed in terms of the challenges experienced by students. L4 opined: *The main challenges were for students having to install Global Protect* [a virtual private network] ... [and] ... *Having to know about using the off-campus route* [remote connection]. Some students had connectivity and network problems as well as problems with their logins (which the library staff could not resolve). L4 considered that the most significant problem was students' access to printed resources. Some students wanted books, but none were made available during lockdown. There was also no interlibrary loan service, issues which the librarians had no control over. As a solution, they looked for free resources and, in some instances, ordered books. L4 viewed the PMB libraries as being fortunate to have so many online resources and their circulation and other systems were already online. All they had to do as library staff, was advertise these online services and train the users on how to make use of them.

L7 mentioned the issue of trust among staff members being a challenge. Working from home made it difficult to determine whether a staff member was actually working (or not). According to L7: *It's the network, loadshedding... to be honest it's also the trust. When you're on Skype and you check how long the staff has been away. You find that they have been away for hours, but they say they are working.* The UKZN PMB campus used Skype to check for how long the staff had been away from their laptops, and the results would most often show that staff members had been away for hours; however, they would argue that they had been working.

L6 provides the final response regarding challenges experienced. It is also from the perspective of the students:

*The circulation service was closed for borrowing items and users could not use the books. They [students who were allowed on campus] just came to the library for space.*

#### 4.7.2 Attempts to address the challenges identified

Question 16 concerned the attempts made by library staff to address the identified challenges brought about by the COVID-19 pandemic. L1 noted: *Although it was difficult, the university, along with its different sections, was trying, by all means, to just check the situation.* While the university provided library staff and some students with data, others did not get it, making it difficult for the librarians to assist in preventing some of the challenges experienced. However, because they were working as a team, through the Information Communication Services division on the PMB campus, they endeavoured to ensure that students got computers and data on time. It needs to be pointed out that it was not only the library staff who were making it possible to reach the students, but the collective work of the university as a whole. L5, as part of the management of the library, followed all recommendations from the government regarding personal protective equipment by arranging for sanitisers and masks, and following social distance rules: *Well, firstly, we have stuff, we have the PP... private protective things, what do they call them? And social distancing.* L4 pointed out that: *Once the library started opening, a little bit [few] of staff came back to work, and plans were made for users to start picking up items in the library.*

In addressing the challenges, library staff delivered library materials to users when they could and, as reported earlier, copied printed materials where possible. Also as mentioned, e-books were purchased, starting with academic reserve books, so students could access them at any

time. One of the benefits of e-books is that part-time students can also have access to reserve items – something that had always been difficult for them because they only had access to print items when on campus.

On the issue of challenges, Ntaka and Blignaut (2020) argued that as much as digital platforms are needed, they, however, come with some challenges in libraries, such that there should be plans for procedures and processes made in advance, for example, using virtual meetings where possible. The means of conducting these meetings and conversations are dependent on everyone's circumstances, such as loadshedding schedules, power outages and availability of an internet connection. Staff should be prepared emotionally as this was "business unusual", meaning their lines of communication should be open for proper communication among themselves in terms of allocating tasks. Participant L7 had the following to say concerning the challenges encountered regarding staff members who were not actively doing their work while at home: *I would just say I know you are not there, and you are not doing the work. What is happening? I also had to spend two hours buying bread because the queues were too long in shops.*

#### 4.7.3 Available support for providing library and information services

Anderston et al. (2019) argued that many libraries recognise the need for specialised e-resources management librarians to assist users with accessing and using e-resources. Question 17 asked about the support that was available to provide library and information services during COVID-19 in the participants' libraries. L1 pointed to support from management:

*We were working as a team, whenever we needed management to give support we got it, and when the colleges were needed, they were coming in to help as well.*

L5 stated that: *Staff was available to provide any library education required, that assistance for online books was made available, and that the library focused on buying more online materials. L5 noted that buying electronic materials was always one of the strategies of the library but with COVID-19, more emphasis was put on doing so. All participants mentioned that they were given data to support their online work and were communicating with other staff members on a WhatsApp group.*

*L3: Just data and we have a WhatsApp group.*

*L6: Yes, we received data you know.*

Participants L2 and L4 stated that they got training support from the ICS division (the IT department on campus). According to L2: *So... we were getting support from the ICS.* They also noted that the ICS division continued to function throughout the pandemic, working on campus and being available to help them. In this regard, L4 made the point that: *Not all the university staff was working remotely.* There were several departments such as the Teaching and Learning, and ICS available to offer support. The library staff could also request specialised support and would often have several Zoom meetings with ICS to help them with their leave days specifically. L7 mentioned that as subject librarians they worked different shifts. They requested and received protective materials such as sanitisers and gloves. According to L7: *We received data and then we did shifts. We requested protective gear. We had sanitisers, we had to wear gloves. Do you understand?* Thus, the support provided to participants during the pandemic was, in general, very good.

#### 4.7.4 Effect of COVID-19 on the professional development of academic librarians

When asked about the effect of COVID-19 on the professional development of academic librarians in question 18, L1 and L4 said that it was both negative and positive. L1: *It was both negative and positive.* The skills they had acquired at that time would not have been acquired in the absence of the pandemic. However, losing their traditional way of working affected them negatively because they were used to meeting students face-to-face and it was very different to meeting the students online. L5 noted that the positive impact of COVID-19 in that the library staff *began to innovate and use different ways of working.* Some participants felt that the effect was not significant on their professional development and all that was required was to learn new skills to facilitate their operating online. L2 considered herself/himself affected because they were not used to working online, there were no physical interactions, and no travelling given that meetings were done through Zoom or MS Teams. In their words: *It [professional development] was affected because there was no physical, there was no face-to-face and travelling, yeah, there was no travelling.* L3, L4, and L6 noted undergoing a steep learning curve as a result of the pandemic:

*L3: Not much it's just we had to learn new skills, you know, because we were online*

*L4: There was a steep learning curve. Librarians were forced to learn and take on board the use of new technologies.*

*L6: I think there was an opportunity to learn and change skills.*

As per the comments, the participants were forced to learn and take on board the use of new technologies. L7 noted that: *The technology environment had grown;* hence, they increased their library catalogue in terms of e-resources after COVID-19. L7 continued: *Because right now, we, as the library, we just had the catalogue that we had, but right now our catalogue is very big.* COVID-19 sped up the need to develop and learn certain skills. It also meant that doing things online resulted in the participants cooperating a lot more with colleagues on other campuses and doing things collectively rather than doing things campus-based. They also learnt more from each other (in terms of skills development) and worked together more. It cannot be denied that COVID-19 impacted the professional development of academic librarians; hence, Ranganathan stipulated in his Fifth Law that “A library is a growing organism” and this can be extended to library staff and their professional development.

#### **4.8 Policy and budget**

Section 6 of the interview schedule was directed at the library managers. It comprised seven questions (see Appendix 4) all of which concerned either policy or budget-related issues including how COVID-19 impacted policy.

There was only one participant (L5) for this section and the responses to each of the seven questions are provided below. Question 19 asked the participant what the library policy entailed regarding the electronic provision of resources. L5 responded that the library policy and its mission was to go *fully electronic*. Question 20 concerned the impact that COVID-19 had on library policy. According to L5: *COVID-19 basically got us to try and look at only the acquisition of e-resources*. The participant reiterated: *Our current goal for the library is to go fully electronic for our resources*. In question 21, the participant was asked to explain the strategies used to ensure that the library staff were made aware of the integration of online services and policies. L5 responded: *The library staff were very involved in meetings and discussions of going online and were fully aware of all decisions made*. The researcher then asked the library manager how having a policy contributed to the continuation of library services in question 22. L5 emphasised the positive contribution of the policy: *Positively, yeah, the policy was very positive*. Questions then shifted to budget issues and in question 23, the researcher asked how the online provision of library services fits within the planned budget. L5 answered: *The [online] library services were considered, and they fit within the planned*

*budget.* Question 24 enquired about the need to increase or decrease the library budget in terms of providing electronic library services. L5 made the point that: *It largely depends on what the university gives us. The thing is everything is going up every year so there has to be a slight increase.* Finally, L5 was asked (question 25) how they were planning to eliminate any obstacles encountered regarding using e-resources. The participant responded: *We were in touch with ICS to see if connectivity was correct [In terms of remote access]. They also have an e-resources section in the library that works as the IT department to ensure the smooth running of operations.* Given the response, it is evident that planning had been put in place regarding the use of e-resources.

#### **4.9 Suggestions**

Ranganathan proposed that libraries purchase the costly and often inaccessible reference works that their patrons would use frequently (Ranganathan 1931). In the context of the current study, this is supported by his Second Law: “Every reader his book” in the sense that library users should be able to obtain library materials as needed. The library has a certain obligation to its users, one of which is to provide equal opportunity to read (Haider 2022). The Second Law, thus, establishes that libraries should be available to users of all kinds, should offer collections reflecting the users’ information needs, and must work to remove as many restrictions for offering and releasing library materials as can reasonably occur within the constraints of resources (Connaway and Radford 2021). It is worth mentioning that in the past, some academic libraries have taken the stance that textbooks are part of a student's financial obligation and created policies for not buying new books from library funds or requesting them through interlibrary loan (Gibbs and Bowdoin 2014).

In the final section of the interview, participants were asked to provide suggestions on how the provision of library services could have been improved during and post the COVID-19 pandemic. Bakti, Prasetyadi, Nugroho, Trianggoro, Rosiyan and Subagyo (2020:26) determined that social networking services are a new and growing trend for receiving and sharing information and that librarians need to be familiar with the various types of social networking services and use them to promote library collections and services. For example, Facebook, YouTube, and Twitter (now X) could be used to supply applicable information about research and library activities during and after COVID-19. Even though it is easy to create social networking account services, librarians or library administrators must stress the

significance of creating connections with users to enhance the value of their social networking services. According to Anderson et al. (2019), in terms of Ranganathan's Fourth Law ("Save the time of the reader"), academic libraries aim to assist both students and academic staff to succeed, and one of the most pressing issues nowadays is the cost, in both money and time, necessary to provide students with online materials. Students face many challenges to succeed when they cannot access e-resources. L1 mentioned that during the COVID-19 period, they offered online training and could see who attended and who did not. The participant mentioned that online training made it easier for them to reach all students who were serious about their research and study. L1 noted that online training made the librarians realise that certain students were serious about their work and studies and ensured that they seized each skill that came on their research journey, but not all these students were being reached. According to the participant: *I felt that those trainings were not marketed the way they were supposed to be marketed since it seemed as though we were not getting enough students to train. I suggested marketing.* L5 suggested that the libraries should *go more online, more electronic, and more remote and we are currently doing that.* The need for training, skills development, and collaboration was evident in the following suggestions:

*L2: My understanding is that all librarians can receive training... how to... widen information to ICT.*

*L6: Librarians should equip themselves with different sets of technological skills.*

*L7: If there is no collaboration or no working together, we have to put our training online.*

L4 suggested that the library could *Make better use of social media.* It was also suggested that the libraries should continue to do training online (with Zoom). The advantage of doing so was alluded to earlier, that is, many of their part-time students in other locations and even in other countries could join those training sessions and join vendors' presentations. Only one participant (L3) had no suggestions.

#### **4.10 Chapter summary**

Chapter four presented and discussed the findings of the study into the effect of the COVID-19 pandemic on the provision of library services on the PMB campus of the UKZN from the perspective of library staff. The data for the study was collected from seven purposively selected librarians using a semi-structured interview schedule. Where appropriate the results

were discussed in light of the literature review and aligned, again where appropriate, in light of the theoretical framework employed for the study, namely, Ranganathan's Five Laws of Library Science.

The next chapter, Chapter five, which is the final chapter, presents the conclusions and recommendations of the study.

# CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

## 5.1 Introduction

The study's results and discussion were presented in Chapter four. This, the final chapter, presents a brief overview of the study and revisits the research questions on which the study was based. This is followed by the conclusions arrived at, the significant results, and the study recommendations. The chapter ends with the limitations of the study and suggestions for further research.

The study aimed to investigate the effect of COVID-19 on the provision of library services at the UKZN PMB campus from the perspective of the library staff. The study was underpinned by Ranganathan's Five Laws of Library Science, which he presented for the first time at a conference at Meenakshi College in 1928 (Kwanya, Stilwell and Underwood, 2010). The study employed a qualitative research approach to collect data, adopting the interview as the data collection method. A sample of 14 library staff were purposively selected of whom seven participated giving a response rate of 50%.

In response to the aim of the study, four research questions were posed, which provided a basis for the interview schedule:

1. How has the provision of library services changed as a result of COVID-19?
2. What institutional mechanisms were used for the continual provision of library services during COVID-19?
3. What level of training and skills did library staff have for the provision of mainly online library services?
4. What challenges did library staff face regarding the continual provision of library services during COVID-19?

As in the presentation and discussion of the results, the themes of the research questions outlined above provide the basis for the conclusions that follow.

## 5.2 Conclusions of the study

The following conclusions are arrived at based on the results of the study as well as the literature reviewed:

### 5.2.1 Provision of library services

- The most significant change in UKZN PMB campus libraries services over the past three years due to COVID-19 was moving services online. All the library staff who were interviewed mentioned this. It is, however, difficult to determine the extent to which COVID-19 has affected the provision of library services in the library. Each participant mentioned how they were affected, with two mentioning that they were both negatively and positively affected. The negative effects of COVID-19 were that students could not get into the library to borrow books and could not use the library as a space over an extended period.
- A positive effect was that due to services (including training) being online, the librarians could render services to students on the other UKZN campuses – they were not restricted to students on the PMB campus only as would have been the case before the pandemic. Another positive effect was aggressively purchasing e-books and marketing the “My Library Account”, where students could request items online and remotely. They also offered extra services like scanning chapters of books and journal articles for users. Since the UKZN PMB campus libraries have always done queries online, it was, therefore, a seamless process for them to move online and continue providing library services.

### 5.2.2 Institutional mechanisms

- Mechanisms made available in the library for the continual provision of library services during the COVID-19 pandemic in UKZN PMB campus libraries involved library staff having to take turns to be in the library, especially the subject librarians. While some of the library staff worked from home, they had to ensure that all resources could be accessed remotely. A generic email was created so users could request resources at any time. Contact details on how to request items during lockdown were made available on the library webpage as well. Another mechanism they devised (as alluded to above) was scanning and putting books online, especially academic reserved books. Doing so

was of obvious benefit to part-time students in particular who were not allowed on campus and lived at a distance.

- All the UKZN PMB campus librarians received training on how to train students online using Zoom. The librarians ensured that e-resources were always available to students by uploading all the training they offered students on the LibGuides provided by the libraries. In most cases, again as alluded to above, they bought e-books instead of print books, ensuring that even those who did not have access to campus were getting resources.
- The librarians also ensured that resources were made available through the library website and ResearchSpace. As pointed out above, when students needed books, the librarians would print, copy, and scan those resources and send them to students. An important intervention by the university was the supply of data to both students and staff so they would be able to partake in online activities. Some arrangements were made so that landlines could be answered from home to assist users who might call the library.

### 5.2.3 Knowledge and skills of the librarians for the provision of mainly online services

- The type of training the library staff received in terms of knowledge and skills for the online provision of library services included attending webinars directed at, the main, how to use online facilities like Zoom and MS Teams. In addition, the library management arranged for the staff to be trained on scanning items onto different platforms so they can be accessed remotely. The librarians also made use of YouTube videos to do self-training.
- The vendors associated with UKZN PMB campus libraries also delivered training (through Zoom) on how to use different platforms instead of face-to-face interaction. The librarians were provided with the information they needed and continued to upskill themselves in using Zoom. The university offered much training and online assistance which helped to ensure that staff were kept up-to-date and that service provision by the libraries continued. The training was necessary since the library staff was accustomed

to providing services physically and suddenly, they could not do so and had to move to the online provision of services.

#### 5.2.4 Challenges of academic library staff

- The COVID-19 pandemic caused numerous challenges for academic libraries. For the UKZN PMB campus libraries, a significant challenge was not being able to meet the students (and academic staff) face-to-face.
- A second challenge was that when training was organised, some students could not attend the online training session because they did not have computers, and some were computer illiterate. This often resulted in only a few students attending the training sessions offered. Some students had connectivity and network problems and could not install the VPN needed. Some had problems with their logins, which the library staff could not resolve.
- There was no interlibrary loan, and library staff, as a solution, searched for free resources available on the internet and, in several instances, ordered e-books.
- A concern and challenge were the health and wellness of staff since it was “business unusual” and library staff had to ensure that they took all the necessary precautions relating to avoiding contact with the virus.
- Trust among staff was also a challenge in that the UKZN PMB campus used Skype to check how long the staff had been away from their laptops, and the results would most often show that they had been away from their laptops for hours, but they would claim to have been working.
- One of the most significant problems was the lack of access to printed resources. Some students wanted books, but none were made available during lockdown. As alluded to above, this was responded to mainly by the provision of e-books and making digital copies of print resources.

The challenges, however, were not that huge, nor insurmountable. The UKZN PMB campus libraries were fortunate to already have many online resources during COVID-19 and could therefore continue with service provision. In addition, their circulation and other systems were already online. All they had to do was advertise those online services and organise training to ensure that the users knew the online facilities available and how to use them.

### **5.3 Recommendations**

The following recommendations are put forward considering the results and conclusions noted above and in terms of the study's objectives.

The first of the study objectives was to identify how the provision of library services had changed during the COVID-19 pandemic. The most significant change highlighted in UKZN PMB campus libraries services during the pandemic and over the past three years has been moving services online. The impact of the pandemic was deemed to be both negative and positive.

- It is, therefore, recommended that the UKZNL should undertake user studies to explore how users (those students and staff affected) felt about the online services that were offered during the pandemic and what suggestions they have for the library to improve the online services currently being offered.
- Another recommendation, and in light of the move to online services provision, is that the library should seriously consider digitising more of its unique materials. These would include any item in the library's special collection because of the age, historical value, craftsmanship, rarity (as in the case of autographs, letters, or diaries), and other items of varying significance that are unavailable online and can only be accessed physically in person.

A second objective was to determine the level of training and skills that library staff had in providing online library services. It was determined that the library staff received a lot of training (organised by management) for the online provision of library services. They also did self-training by participating in webinars and watching YouTube videos on how to use online facilities like Zoom.

- It is evident that the electronic provision of information and over the internet are the new means of offering information resources and services. Given the rapidly changing

advances in technology as a result of the pandemic, it is, therefore, recommended that the UKZNL should utilise advanced technologies to offer more innovative services by setting up a task team to specifically study what innovative services are being initiated in libraries elsewhere with a view to partnering with other libraries to share ideas and projects. The library should also work more closely with the UKZN Teaching and Learning Unit to understand and be able to implement initiatives with new technologies.

A third objective was to determine the challenges faced with the continual provision of library services during COVID-19. It was noted that the pandemic caused numerous challenges for academic libraries. For UKZN PMB campus libraries some challenges included not being able to meet students (and staff) face-to-face. Some students could not attend online training because they did not have computers while some were computer illiterate. Connectivity and computer networks were also an issue for both staff and students.

- While the UKZN offers computer modules for all first-year students to improve computer literacy and introduce them to the Windows operating system and other functions of a computer, in light of the findings, it is recommended that the University places more emphasis on its computer literacy training for all students and provides more self-help videos on various aspects of computer and network literacy.
- It is also recommended that the UKZNL makes available and if necessary, creates more self-help videos on how to access and use library resources online (irrespective of whether students are off-campus or not).
- Finally, a focus (whether from the UKZNL or the university as a whole, or both) needs to be on troubleshooting to ensure that both students and staff are sufficiently capacitated to deal, on their own, with the numerous problems that inevitably arise with the provision of online services in a networked environment.

#### **5.4 Limitations of the study**

The UKZN has five campuses, each having its own libraries. The study focused on PMB campus libraries only since it is where the researcher was based meaning that all the other UKZN libraries were excluded. The study also focused on key library staff only, that is, those who were directly involved in the day-to-day activities of providing library services thereby excluding other library staff, students and academic staff. The most obvious limitation of the study concerned the collection of data through telephonic interviews and the use of MS Teams.

Doing so undoubtedly influenced the response rate and only 50% of the target population participated in the study, despite several reminders being given.

### **5.5 Suggestions for future research**

- Researchers affiliated with academic libraries and who are interested in COVID-19 (and other pandemics) and their impact on library services can further investigate how far UKZN PMB campus libraries are in terms of online provision of library services, the advantages and disadvantages associated with such provision and how the latter can be responded to.
- Interested researchers can replicate the study with other UKZN campus libraries to see how they did with regard to COVID-19, perhaps using a different data collection technique and from perspectives other than those of professional library staff.
- Finally, user studies regarding online academic library services from students and academic staff's points of view can be conducted given that such services are emerging as the most important type of service both presently and in the future.

### **5.6 Chapter summary**

In this, the last chapter of the dissertation, a brief overview of the study was provided and the research questions that formed the basis of the study were revisited. This was followed by the conclusions arrived at in which the major results of the study were highlighted. Various recommendations in the light of the objectives of the study were put forward. The limitations of the study were outlined, and the chapter ended with suggestions for further research.

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## Appendices

### Appendix 1: Gatekeeper's permission



1 September 2021

Miss Chuene Shiela Seanego  
School of Social Sciences  
College of Humanities  
Pietermaritzburg Campus  
UKZN  
Email: [REDACTED]

Dear Miss Seanego

#### **RE: PERMISSION TO CONDUCT RESEARCH**

Gatekeeper's permission is hereby granted for you to conduct research at the University of KwaZulu-Natal (UKZN), towards your postgraduate degree, provided Ethical clearance has been obtained. We note the title of your research project is:

*"The effect of COVID-19 on the provision of library services at University of KwaZulu-Natal Pietermaritzburg Campus: a library staff perspective."*

It is noted that you will be constituting your sample by conducting interviews with library staff and management (Taking in account the regulations imposed during lockdown ie restrictions on gatherings, travel, social distancing etc. Zoom, Skype or telephone interviews recommended) on the Pietermaritzburg Campus.

Please ensure that the following appears on your notice/questionnaire:

- Ethical clearance number;
- Research title and details of the research, the researcher and the supervisor;
- Consent form is attached to the notice/questionnaire and to be signed by user before he/she fills in questionnaire;
- gatekeepers approval by the Registrar.

You are not authorized to contact staff and students using the 'Microsoft Outlook' address book. Identity numbers and email addresses of individuals are not a matter of public record and are protected according to Section 14 of the South African Constitution, as well as the Protection of Public Information Act. For the release of such information over to yourself for research purposes, the University of KwaZulu-Natal will need express consent from the relevant data subjects. Data collected must be treated with due confidentiality and anonymity.

Yours sincerely

[REDACTED]

**Dr KE CLELAND: REGISTRAR**

#### **Office of the Registrar**

Postal Address: Private Bag X54001, Durban, 4000, South Africa

Telephone: +27 (0)31 260 7971 Email: registrar@ukzn.ac.za Website: www.ukzn.ac.za

Founding Campuses: ■ Edgewood ■ Howard College ■ Medical School ■ Pietermaritzburg ■ Westville

**INSPIRING GREATNESS**

## Appendix 2: Ethical clearance



03 June 2022

**Chuene Shiela Seanego (219095019)**  
School Of Social Sciences  
Pietermaritzburg Campus

Dear CS Seanego,

**Protocol reference number:** HSSREC/00004239/2022

**Project title:** The effect of Coronavirus disease 2019 on the provision of library services at University of KwaZulu-Natal Pietermaritzburg Campus: a library staff perspective.

**Degree:** Masters

### Approval Notification – Expedited Application

This letter serves to notify you that your application received on 16 May 2022 in connection with the above, was reviewed by the Humanities and Social Sciences Research Ethics Committee (HSSREC) and the protocol has been granted **FULL APPROVAL**.

**Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.**

This approval is valid until 03 June 2023.

To ensure uninterrupted approval of this study beyond the approval expiry date, a progress report must be submitted to the Research Office on the appropriate form 2 - 3 months before the expiry date. A close-out report to be submitted when study is finished.

**All research conducted during the COVID-19 period must adhere to the national and UKZN guidelines.**

HSSREC is registered with the South African National Research Ethics Council (REC-040414-040).

Yours sincerely,



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**Professor Dipane Hlalele (Chair)**

/dd

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### Humanities and Social Sciences Research Ethics Committee

Postal Address: Private Bag X54001, Durban, 4000, South Africa

Telephone: +27 (0)31 260 8350/4557/3587 Email: [hssrec@ukzn.ac.za](mailto:hssrec@ukzn.ac.za) Website: <http://research.ukzn.ac.za/Research-Ethics>

Founding Campuses: ■ Edgewood ■ Howard College ■ Medical School ■ Pietermaritzburg ■ Westville

**INSPIRING GREATNESS**

### Appendix 3: Consent form

Dear Participant,

My name is Chuene Shiela Seanego (219095019). I am a Masters candidate studying at the University of KwaZulu-Natal, Pietermaritzburg Campus. The title of my research is: The effect of Coronavirus disease 2019 on the provision of library services at University of KwaZulu-Natal Pietermaritzburg Campus: a library staff perspective.

The aim of the study is to help the UKZN librarians and all academic librarians determine the challenges faced with the continual provision of library services due to COVID-19. I am interested in interviewing you so as to share your experiences and observations on the subject matter.

Please note that:

- The information that you provide will be used for scholarly research only.
- Your participation is entirely voluntary. You have a choice to participate, not to participate or stop participating in the research. You will not be penalised for taking such an action.
- Your views in this interview will be presented anonymously. Neither your name nor identity will be disclosed in any form in the study.
- The interview will take about 45 minutes.
- The record as well as other items associated with the interview will be held in a password-protected file accessible only to myself and my supervisor. After a period of 5 years, in line with the rules of the university, it will be disposed of by shredding and burning.
- If you agree to participate, please sign the declaration attached to this statement (a separate sheet will be provided for signatures)

I can be contacted at: School of Social Sciences, University of KwaZulu-Natal, Pietermaritzburg Campus, Scottsville, Pietermaritzburg. Email: [REDACTED]  
Cell: [REDACTED]

My supervisor is Dr Zawedde Nsibirwa who is located at the School of Social Sciences, Pietermaritzburg Campus. Contact details: email [nsibirwaz@ukzn.ac.za](mailto:nsibirwaz@ukzn.ac.za) Phone number: 0332605685

The Humanities and Social Sciences Research Ethics Committee contact details are as follows: HSSREC Research Office. Tel: +2731 260 4557/8350/3587, Email [HSSREC@ukzn.ac.za](mailto:HSSREC@ukzn.ac.za).

Thank you for your contribution to this research.

DECLARATION

I..... (full names of participant) hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire. I understand the intention of the research. I hereby agree to participate.

I consent to have this interview recorded.

.....  
SIGNATURE OF PARTICIPANT

.....  
DATE

## Appendix 4: Interview schedule

### **Interview schedule for data collection for the effect of Coronavirus disease 2019 on the provision of library services at the University of KwaZulu-Natal Pietermaritzburg Campus: a library staff perspective.**

Interviewer: Chuene Shiela Seanego

Date of interview: .....

I am a Master of Information Studies student at the University of KwaZulu-Natal Pietermaritzburg campus. I am asking for your help with my research, which is the effect of COVID-19 on the provision of library services at the University of KwaZulu-Natal Pietermaritzburg Campus: a library staff perspective.

The study results may help the UKZN librarians, and all academic librarians determine the challenges faced during the COVID-19 pandemic with the continual provision of library services post-COVID-19 and identify institutional mechanisms for the continual provision of library services. Other researchers interested in the same Library and Information Science research category may also benefit significantly from the research outcomes.

I, as a result of this, humbly request your participation. Your responses will be treated with the utmost confidentiality and will not be linked to any respondent or department. I realise there are many other demands on your time, but the results will benefit all those conducting similar projects.

Thank you for your time

SECTION 1: DEMOGRAPHICS

1. Gender

Female	Male	Other

2. Age group

30 years and below	31 to 40 years	41 to 50 years	51 to 60 years	60 and above

3. Highest qualification:

Matric	Degree	Honours/Postgraduate diploma	Masters	Doctorate

Other.....

4. How long have you worked with the NWU library?
5. Which section of the library do you work?
6. What is your position in the library?

SECTION 2: THE PROVISION OF LIBRARY SERVICES

7. Has there been any significant changes in library services over the past three years due to COVID-19?
8. To what extent has Covid-19 affected the provision of library services in your library?

SECTION 3: INSTITUTIONAL MECHANISMS

9. What mechanisms were made available in the library for the continual provision of library services during the COVID-19 pandemic?
10. How efficient were those mentioned mechanisms?
11. What knowledge and skills do you have in relation to the mentioned mechanisms in the previous question?

12. How were you ensuring the availability of online resources when they were needed?

#### SECTION 4: TRAINING AND SKILLS OF ACADEMIC LIBRARY STAFF

13. Please describe the type of training you and other staff members received for the online provision of library services.

14. How necessary is it for you and other staff to receive further training on providing online library services?

#### SECTION 5: CHALLENGES OF ACADEMIC LIBRARY STAFF

15. What challenges have Covid-19 brought in providing library services in your libraries?

16. How have you attempted to address the challenges identified in the previous question?

17. What support was available for providing the library and information services during Covid-19 in your library?

18. How has Covid-19 impacted the professional development of academic librarians?

#### SECTION 6: POLICY AND BUDGET (LIBRARY MANAGEMENT ONLY)

19. What does the library policy entail regarding the online provision of resources?

20. How has Covid-19 impacted the policy?

21. How are library staff made aware of the integration of online services and policies?

22. How has having a policy contributed to the continuation of library services?

23. How does the online provision of library services fit within the planned budget?

24. Please explain the need to increase or decrease the library budget in terms of providing library services?

25. How are you planning to eliminate any obstacles that might be encountered regarding the use of e-resources?

#### CONCLUSION

26. Please provide suggestions on how the provision of library services could have been improved during and after the Covid-19 pandemic.

THANK YOU SO MUCH FOR YOUR TIME

## Athol Leach (Proofreading and Editing)



[REDACTED]  
F [REDACTED] n  
Hermanus 7200

Email: [REDACTED] Cell: [REDACTED]

30 June 2024

To Whom It May Concern

This letter serves to confirm that I have edited the following MIS dissertation by **Chuene Shiela Seanego** titled:

**“The effect of Coronavirus disease 2019 on the provision of library services at the University of KwaZulu-Natal Pietermaritzburg Campus: a library staff perspective”**

The dissertation was edited in terms of grammar, spelling, punctuation and overall style. In doing so, use was made of MS Word’s “Track changes” facility thus providing the student with the opportunity to reject or accept the changes made.

Please note that while I have checked the in-text references and those appearing in the list of references for consistency in terms of format (the latter as far as possible), I have not checked the veracity of the sources themselves.

The tracked document is on file.

Sincerely

[REDACTED]

Athol Leach  
(MIS, Natal)