



**UNIVERSITY OF  
ZULULAND**  
*RESTRUCTURED FOR RELEVANCE*

**Assessing the Impact of Library Services on Teachers in Schools  
Using the Okhahlamba Teacher Development Centre in KwaZulu-  
Natal**

by

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## ABSTRACT

District Teachers' Development Centres serve as hubs for delivering professional teacher development programmes and ICT support for teachers for information, knowledge and skills. As such, the Teacher Development Centres have a role to play in the careers of educators, particularly in this information age led by the use of information and communication technologies (ICTs).

The study aimed to assess the impact of information services on teachers' teaching practices in schools using the Okhahlamba Teacher Development Centre in KwaZulu-Natal, South Africa. The research objectives of the study were to determine the information needs and information-seeking behaviour of the 21st-century teachers in schools supported by the Okhahlamba Teacher Development Centre, establish the information services and resources available and accessible by teachers at the Okhahlamba Teacher Development Centre, ascertain the competencies of teachers in using information services and resources at the Okhahlamba Teacher Development Centre and find out the challenges teachers face in using information services of the Okhahlamba Teacher Development Centre.

The study employed a post-positivism research paradigm. Both qualitative and quantitative research approaches were used in this study. The research designs used were a survey and a case study research designs. The target population was 306 teachers and one librarian. The sampling methods were purposive sampling method for the librarian and systematic sampling method for the teachers. Semi-structured interview schedules and self-administered questionnaires were used as data collection instruments for the librarian and teachers respectively in this study. Qualitative data were analysed using thematic analysis, and quantitative data were analysed using descriptive analysis. The study used the Cognitivism Learning (CL) Theory and Technology Acceptance Model (TAM) as theoretical support.

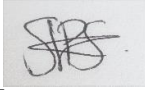
The findings revealed that the teachers' needs are information for their schoolwork or teaching, personal reading, study and discussion space, job applications and internet access. The findings also revealed that the teachers search for information in the library and prefer to access information on the internet. The findings on information and knowledge services and facilities available and accessible for teachers revealed that there are computer services, search services, photocopying services, and training services. The findings also revealed the competencies teachers must be able to access the information services and resources; teachers can use computers and are also able to access information on the internet. Regarding the challenges teachers face when accessing information services and resources revealed are the absence of mobile library services that used to serve them in their schools, shortage of books, shortage of relevant information materials relevant to their curriculum as well as their development; they need stable internet access and more computers as they are teaching in the 4<sup>th</sup> industrial revolution; they need to be notified by the librarian about availability of new resources and all library materials available, accessible and relevant to their work, for their developmental skills, for them to create study rooms for kids in their schools, make internet accessible at the libraries in schools.

**Keywords:** Information and knowledge services, Library services, teaching and learning, Teacher development centres, the fourth industrial revolution, teaching and learning.

## DECLARATION

I, Siyathokoza Princess Sybil Ntumba, **Student number: 202181662**, declare that **Assessing the impact of Library Services on teachers in schools using the Okhahlamba Teacher Development Centre in KwaZulu-Natal** is my work and that all the sources that I have used or quoted have been indicated and acknowledged through complete references.

Date: 13/12/2022

Signature:  \_\_\_\_\_

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## **DEDICATION**

I dedicate this work to my late grandmother Mrs Sanah Ntombi Mbongwa, who believed I could do anything; my late sister Noxolo Sanelisiwe Ntumba who believed in everything I do; my parents, Elsie Sibongile and Thokozani Lymon Ntumba for their undying love and support, my siblings Fisiwe, Thembelihle and Nandi for always being there as well as my friend Paneng Mohlakoana who always encourages me to do better and supports everything I do.

## List of acronyms and abbreviations

CES	Chief Education Specialist
CL	Cognitivism Learning theory
CMC	Circuit Management Centre
DBE	Department of Basic Education
DCES	Deputy Chief Education Specialist
DEHT	Department of Higher Education and Training
DOE	Department of Education
DTDC	District Teacher Development Centre
ELITS	Education Library Information and Technology Service
ERC	Education Resource Centre
FET	Further Education and Training
GET	General Education and Training
ICT	Information and Communication Technology
ISPFTED	Integrated Strategic Planning Framework for Teacher Education and Development in South Africa
IT	Information Technology
ITL	Innovative Teaching and Learning
KZN	KwaZulu-Natal
PEOU	Perceived ease of use
PU	Perceived usefulness
SACE	South African Council of Educators
TAM	Technology Acceptance Model
TDC	Teacher Development Centre
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNISA	University of South Africa
UNIZULU	University of Zululand
WIFI	Wireless Fidelity
4IR	Fourth Industrial Revolution

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## **CHAPTER ONE: INTRODUCTION AND BACKGROUND TO THE STUDY**

### **1.1 Introduction and Background**

Teacher development has been part of the central focus of South African education reform and development initiatives (Ajibade, and Bertram, 2020:2). In July 2009, a teacher development summit was held to address the challenges facing teacher education in the country. DTDCs (District Teacher Development Centre) are, therefore, a conscious effort to boost educational support and address the challenges facing teachers, especially those working in rural areas where learners' educational attainment is low and teachers do not have easy access to resources and professional development opportunities (DBE, 2011; Van der Berg, 2011). Teachers' Development Centres help teachers develop their instructional skills in ICT and subject areas where they may fall short. DTDCs have been established as part of school improvement efforts and provide access to resources, sites for curriculum delivery, continuous professional development training, and a meeting place for professional learning communities (DBE and DHET, 2011). An education system cannot be better than its teachers; thus, teacher development is a key focus of many systems (Ajibade, and Bertram, 2020:2). In South Africa, many policies have been implemented to support and align teacher development practices. ISPFTED (Integrated Strategic Planning Framework for Teacher Education and Development in South Africa) (2011–2025) (known as the Plan) was developed, which paved the way for the establishment of district teacher development centres (DTDCs).

21st-Century teaching means teaching as you have always taught but with today's tools and technology. It means utilizing everything important in today's world so that students can live and prosper in today's economy, as well as having the ability to guide students and prepare them for the future (Cox, 2021). Teachers in the 21st Century make use of different teaching technologies and methods. They use mobile devices such as Laptops, Ipads, Ipods, and Tablets. They also use sources which are White Interactive boards, Broadcasting screens, Iboxes, Projectors, Libraries with digitised content, Active IFLEX classrooms, WIFI, Television, Radio, Internet. Videos, Audio, eBooks, eText, Electronic grade books, Digital Portfolios and Learning games. They also utilise social media networks like Facebook, Skype, FaceTime, WhatsApp, and

Zoom. Internet connection is their number one source, making it easy and fast to access information and use some networks.

Library Services are Services provided by the library to the users. This can include instruction on accessing and using library materials (Tella, Quadri, Bamidele, and Ajiboye, 2021). The Library services/facilities include Circulation Service, Reference Service, Online reservation of books, Recommendation of library material, Current Awareness Service, Inter Library Loan Service, Photocopying/Printing Service, Orientation and Information Sessions, Selective Dissemination of Information, Audio Visual Service and Multimedia Section (Tella, Quadri, Bamidele, and Ajiboye, 2021). These services are provided by the Librarians working in the libraries. Librarians are always there to assist with library services. Libraries in the Teacher Development Centres offer library services for a cluster of schools through block loans, mobile library services, processing library materials, setting up classroom libraries, celebrating library and literacy days. They provide quality library resources that support the curriculum and promote a vibrant reading culture in schools.

The library's opening and closing times accommodate the community it serves. Libraries remain universally accessible to anyone and are uniquely positioned in communities nationwide (Lawson, 2016). Libraries provide services which are: loaning of books and other media, provision of books and other materials for use in the library, information services using print and electronic media, readers' advisory services including reservation services, community information services, user education including support for literacy programmes, programming and events (Lawson, 2016). They have educational sources supporting teaching and learning, such as Books, Videos, Encyclopaedias, Newspapers, Information CDs, Educational toys, educational charts, and globes. Mobile libraries also support cluster schools around their districts (DBE: 2014). Also available are computers with internet access where the users can access electronic materials, discussion rooms, and tablets. The librarians also help the users with the application forms such as Central Applications Office forms and Bursary forms. The libraries are big enough to accommodate many users and have more room for group discussions.

Given the abundance of available educational technology, it is essential that teachers feel comfortable and confident about their ability to use them effectively. Many current

teachers grew up without access to technologies like personal computers and the internet, but students today are raised in an environment saturated by computer technology. These “digital natives” can intimidate teachers with little technological experience. When teachers feel they do not have the necessary competencies when using technology, they may feel less in control of the class, use less technology, and be unlikely to explore new possibilities that utilize technology when designing their classes (Hughes, 2005; Rakes and Casey, 2002). 21<sup>ST</sup> Century is all about technology. The 21<sup>st</sup> Century teachers need to be trained on how to access and use the technologies in their teaching. They must have technical skills to be able to teach with technology. According to (DBE and DHET, 2011), Teachers' Development Centres help teachers develop their instructional skills in ICT and subject areas where they may fall short. DTDCs have been established as part of school improvement efforts and provide access to resources, sites for curriculum delivery, continuous professional development training, and a meeting place for professional learning communities. According to Greenhill, (2010), teachers of the 21<sup>st</sup> Century need to have Learning and Innovation Skills: Critical Thinking and Problem Solving, for example, effectively analysing and evaluating evidence, arguments, claims and beliefs; solving different kinds of non-familiar problems in both conventional and innovative ways. Communication, for example, effectively articulating thoughts and ideas using oral and written communication skills in various forms and contexts. Collaboration, for example, demonstrating the ability to work effectively and respectfully with diverse teams. Creativity and Innovation, for example, use a wide range of idea creation techniques to create new and worthwhile ideas. Information, Media and Technology Skills that 21<sup>st</sup> Century teachers must have are: Information Literacy, e.g., access and evaluate information critically and competently; manage the flow of information from various sources. Media Literacy, for example, understanding how and why media messages are constructed; creating media products by understanding and utilizing the most appropriate media creation tools, characteristics and conventions. ICT (Information, Communications, and Technology) Literacy, for example., the use of technology to research, organise, evaluate and communicate information (Greenhill, 2010).

The users' needs must always be met in the Education and Information centres to complete their research projects, pursue their studies or just read for leisure. It is also important to know your users and their needs and behaviour towards information

seeking to meet or provide their information needs. Teachers are people who help students to acquire knowledge, competence or virtue (Wikipedia ,2021). They are trained to educate children. Teachers are one of the most influential and powerful forces for equity, access and quality in education and are key to sustainable global development. Teachers play a significant role in the upliftment and transformation of our society. They bear the weight and responsibility of teaching and, apart from parents, are the main source of knowledge and values for children. It is also important to remember that users are different and require different attention. They may differ in age, race, cultural background and beliefs. Teachers need information to oversee other activities concerning their personal life and the society at large, including life skills like family life, education, health issues, good nutrition, healthy living, HIV/AIDS, drugs, immunization and interpersonal skills. The teachers need information on environmental activities, political, social, religious, health, educational, personal improvement, community services, agriculture, or retirement. Apart from having their students as their primary concern, the teachers cannot neglect their needs and aspirations in the abovementioned areas. These will make teachers more fulfilled and contribute meaningfully to the development of society. Health information in the area of nutrition will equally help them to live long. Knowledge of diseases, their causes, and their curative measures will be important to them. This becomes an advantage to the teachers and will help their personal lives.

Teachers' information needs are Information on the teaching subjects and methods of teaching, school curriculum, use of teaching materials, new trends in education, use of new technological facilities, learner's character and behaviour modification. These needs also include adolescent developmental stages, their attitudes, anxiety, fulfilment, how to teach students with special abilities and disabilities, and seminars and workshops to enhance professional development as well as managerial skills and competencies. Learners also need 21st-century school education to be capable of teaching students how to deal with unpredictability and change. Learners need access to technological facilities in their schools and the skills to use the technology. They need to use electronic devices as well as digital devices. Learners also need to have access to the internet in their schools to be able to access information fast. Schools need computer laboratories, Wi-Fi, laptops, tablets, and libraries with technological

facilities. The resourced schools have the advantage of better equipping their learners for 4IR, while rural and township schools are at a disadvantage.

## **1.2 Contextual setting**

The Department of Education in South Africa has a policy on how Education Centres should be managed. This section outlines the Department of Education policy on Education Centres in South Africa as well as the history of the Okhahlamba Teachers Development Centre. It also highlights the services offered at the centre, the staff and the structure as a whole.

### **1.2.1 Department of Education policy on Education Centres in South Africa**

All Education Resource Centres should be managed by centre managers at the Deputy Chief Education Specialist (DCES) level who work closely with support staff, namely librarians, laboratory technicians, IT specialists, administration clerks, cleaners and groundsmen. The Education Centres that have mobile library services will have an additional staff of a driver and a library assistant, and those that process library material for schools will also have additional library assistants as determined by the organogram. The directorate responsible for them is Education Library Information and Technology Service (ELITS) at Head Office for support and co-ordination of programmes that promote the integration of resources for effective teaching and learning. At a district level, Education Resource Centre managers report to the Chief Education Specialist for the Curriculum Support Services sub-directorate. The Curriculum Support Services sub-directorate reports to the District Manager for administrative purposes and effective implementation of programmes and projects.

The KZN Education Province is one of the nine provinces of South Africa; it has 38 District Teacher Development Centres (DTDCs), which are spread across 12 districts (KZN DoE, 2014). Through partnerships, 16 DTDCs are supported by Vodacom and 16 by UNISA. The remaining 6 are not supported through any partnership. DTDCs are hubs for delivering professional teacher development programmes and ICT support for teachers. Various Directorates render these programmes and Sub-directorates, particularly by Curriculum GET and FET, as well as SACE-approved private providers. Moreover, centres also cater for out-of-school youth programmes and ICT skills aimed at improving community life. Furthermore, the centres serve as hubs for access to Curriculum and ICT resources to support teaching and learning. Teachers'

Development Centres consist of Library services, Computer facilities, Workshop facilities, Science laboratories, Television rooms, Career information services, Matric Intervention Programmes, and Holiday Programmes. The centres serve primary and secondary school educators, subject advisors, circuit managers, Department of Education (DoE) officials, learners from different schools and the community.

There are partnerships with companies and institutions, such as Vodacom, Microsoft, Mindset, UNISA, and CISCO, to provide equipment and training for ICT education (KZN DoE, 2014). Activities offered at the centres include the moderation of school-based assessments, content workshops, curriculum coverage/orientation workshops, computer literacy training and cluster meetings. The Teachers' Development Centres consist of Centre Managers, ICT Specialists, Librarians, Library Assistants, Science Laboratory Assistants, Administration Clerks, and General Assistants.

### **1.2.2 The Okhahlamba Teacher Development Centre**

The Okhahlamba Teacher Development Centre is an education centre in a small town called Bergville in KwaZulu-Natal under the Circuit Management Office of Bergville. The centre was officially opened on the 26<sup>th</sup> of February 2004. It was named Okhahlamba Education Centre, which was recently changed to the Okhahlamba Teacher Development Centre. It caters to 129 schools around Bergville under Uthukela District, falling under Bergville Circuit Management Office. They are divided into the Emangwaneni ward, Emazizini ward, Bhethani ward and Winterton ward. The total number of teachers in these schools is 1479. It is also open to the community. It is central to most of the schools in Bergville. The centre consists of a Library and a computer centre for accessing the Information.

There is also Science Laboratory in the Centre, which those who need more information can access. It also has a conference hall and other venues for teachers to use when they meet for different purposes. The library is big enough to accommodate many users and has more room for group discussions. The Computer centre has computers, laptops, tablets, and a broadcasting screen. There is also a Television room and a Discussion room in the centre. The centre also has Wi-Fi, making accessing information very easy. The Centre consists of a Centre Manager, Library Assistant, ICT Specialist, and General Assistants. The Okhahlamba Teacher Development Centre is in partnership with companies and institutions such as

Vodacom, Mindset, and MTN to provide equipment and training for ICT education. Activities offered at the Okhahlamba Teacher Development Centre include the moderation of school-based assessments, content workshops, curriculum coverage/orientation workshops, computer literacy training and cluster meetings. Ten schools responded to this study. Anonymity was maintained, and schools were labelled from A to J.

### **1.3 Literature review overview**

The literature review plays a crucial role in this study by providing a background and explanation of how the subject has been studied previously. The literature review has been significant in establishing the existing gaps, thus contributing to the present study. According to Schryen, Wagner, and Benlian, (2015:1), literature reviews play a significant role in knowledge development. Winchester, and Salji, (2016:308) posited that a literature review is essential for developing research ideas, consolidating what is already known about the specific subject and identifying any gaps in knowledge and how the study could contribute to further research understanding. Hart, (2018:1) further argued that the literature review is important because it enables the researcher to understand the topic, what has already been done on it, how it has been investigated and the related key issues. A literature review also aids the researcher in building on the existing body of knowledge and consequently identifies areas that need to be explored further. This section provides a key analysis of the literature related to assessing the impact of Library Services on teachers in those schools using the Okhahlamba Teacher Development Centre in KwaZulu-Natal. The research objectives and research questions of the study guide this section. The literature review addresses the information needs and information-seeking behaviour of the teachers in the 21<sup>st</sup> Century, information services and resources in the library of the Teacher Development Centres, teachers' competencies in using information services and resources at the Teacher Development Centres and challenges encountered by teachers when using information services in the Teachers' Development Centres. The literature review is elaborated under chapter 2.

### **1.4. Theoretical framework**

The study used the Cognitivism Learning (CL) theory and Technology Acceptance Model (TAM) as theoretical support. Jean Piaget coined the CL theory in 1936.

Cognitivism Learning theory is a learning theory that focuses on the processes involved in learning rather than on the observed behaviour. In Cognitivism Learning Theory, the primary emphasis is placed on how knowledge is acquired, processed, stored, retrieved, and activated by the learner during the different phases of the learning process (Yilmaz, 2011:204). Cognitivism Learning theory focuses on how people learn. Through Cognitivism Learning Theory, the researcher determined the information needs and information-seeking behaviour of teachers in schools supported by the Okhahlamba Teacher Development Centre

The TAM was also used in this study. TAM was developed in the 1980s by researcher Fred Davis; the TAM responded to concerns of teachers and others about some people's unfavourable attitudes toward technology and the failure of many new systems to work as intended. The Technology Acceptance Model (TAM) is a theory that attempts to predict the likelihood of an individual or organisation successfully adopting a new system of technology (Dziak, 2020:1). Through TAM, the researcher determined the impact of information services on teaching practices of teachers in schools using the Okhahlamba Teacher Development Centre in KwaZulu-Natal, South Africa.

### **1.5 Problem statement**

Teachers' Development Centres are critical for continued education and training for teachers to enhance and advance their teaching skills. (Department of Basic Education (DBE, 2015) The DTDCs also aims to be a place where Professional learning communities could meet to enhance their professional learning to improve their classroom practice. The centres should have resources and materials available to support teacher learning (Thwala, 2019:38). The Teacher Development Centres serve primary and secondary school educators, subject advisors, circuit managers, Department of Education (DoE) officials, learners from different schools and the community at large (Ajibade, and Bertram,2020:2) The Teacher Development Centres have been built with various services spaces embedded in them such as library services, computer and lab services and top-notch equipment and resources in these services. The purpose of these centres is to de-centralise teacher development activities and make them more accessible to all teachers, not only those who work in urban schools. There are many rural schools in KwaZulu-Natal; thus, it is important to understand how these DTDCs are serving teachers who work in these rural schools

(Thwala, 2019:42). Activities offered at the Teacher Development centres include the moderation of school-based assessments, content workshops, curriculum coverage/ orientation workshops, computer literacy training and cluster meetings (Ajibade, and Bertram, 2020:2). In addition, collaborative learning allows teachers chances to progress and be developed well in their teaching (Bantwini, 2018). Few teachers and learners currently use the Teacher Development Centres library services. The Department of Basic Education states that the function of the Teacher Development Centres is to help teachers develop their instructional skills in ICT and subject areas where they may fall short (DBE, 2015). Teachers utilising Teacher Development Centres are better equipped and supported and benefit from opportunities of the Fourth Industrial Revolution.

It is a known factor that many schools in South Africa lack resources to support teaching and learning. However, some schools are not part of the programme supported by the Teacher Development Centres. This leads to less productivity in their schools for both the teachers and learners. According to the UNESCO (2013) Innovative Teaching and Learning (ITL) Research project conducted in several countries, ICT has great potential for supporting innovative pedagogies, but it is not a magic ingredient. The findings suggest that when considering ICT, it is important to focus not on flash but on the student learning and 21st-century skills that ICT can enable (UNESCO, 2013). If the information needs of the teachers are not met in alignment with the 21<sup>st</sup> Century, teaching using multiple methods may fail without learning the skills and knowledge from the Teachers' Development Centres. That will affect effective teaching and learning. Learners would be stuck in the old ways of teaching, yet development worldwide and other countries are adopting teaching using several methods where technology is the centre of the teaching methods. In that way, the cohort of the future learners they produce will benefit from improved skills and results in South Africa.

Teachers may teach using outdated methods not supported by 21<sup>st</sup>-century resources. They may not benefit from the workshops and training offered in the Centres. Education in South Africa will not improve. Their skills and knowledge will not be sharpened. The learners in their schools will lag behind. Their schools will always produce results behind other schools that utilise the Centres. Educational innovations emerge in various areas and many forms. According to the US Office of Education

(2010), “There are innovations in how education systems are organised and managed, exemplified by charter schools or school accountability systems. There are innovations in instructional techniques or delivery systems, such as using new technologies in the classroom. Information needs of the teachers towards the Fourth Industrial Revolution needed to be met for the teachers to be developed to deliver the expected standard of their work despite where the schools are situated.

### **1.6 Aim of the study**

The study aimed to assess the impact of information services on teachers' teaching practices in schools using the Okhahlamba Teacher Development Centre in KwaZulu-Natal, South Africa.

### **1.7 Research Objectives**

The research objectives of the study were:

- To determine the information needs and information-seeking behaviour of the 21<sup>st</sup>-century teachers in schools supported by the Okhahlamba Teacher Development Centre.
- To establish the information services and resources available and accessible by teachers at the Okhahlamba Teacher Development Centre.
- To ascertain teachers' competencies in using information services and resources at the Okhahlamba Teacher Development Centre.
- To find out the challenges teachers face in using the information services of the Okhahlamba Teacher Development Centre.

### **1.8 Research questions**

The following were the research questions of the study:

- What are the teachers' information needs and information-seeking behaviour in schools supported by the Okhahlamba Teacher Development Centre?
- What information services and resources are available and accessible by teachers in schools supported by the Okhahlamba Teacher Development Centre?
- What competencies do teachers have to use information services and resources available in the library of the Okhahlamba Teacher Development Centre?

- Are there challenges teachers face in using the information services of the Okhahlamba Teacher Development Centre?

### **1.9 Significance of the study**

This study will benefit all Teachers' Development Centres by assessing the impact of Library Services on teachers in schools using Teachers' Development Centres in KwaZulu-Natal. This study will also show the importance, status, and challenges of the Teachers' Development Centres around KwaZulu-Natal. This study intends to present recommendations for curriculum review in teaching and learning and recommendations to Centre Managers regarding what needs to be updated in the Centres. This study will provide the Department of Education Districts with information in terms of decision-making on how to support the Teachers' Development Centres. It will also add to the existing literature.

### **1.10 Delimitations of the study**

This study only targeted the teachers in Uthukela District under Bergville Circuit management schools served at the Okhahlamba Teacher Development Centre in KwaZulu-Natal. The librarian managing the information services in the Okhahlamba Teacher Development Centre was also targeted.

### **1.11 Research Methodology Overview**

According to Ngulube, (2015:5), research methodology is central to the research process because it is the lens through which a researcher looks when making decisions on acquiring knowledge about social phenomena and getting answers to the research questions.

For this study, the post-positivism paradigm was adopted. According to Maree, (2016: 59), post-positivism believes that reality has many aspects; it is subjective and mentally constructed by human beings. Maree, (2016:59) points out that post-positivism is frequently used in describing an approach to research where large amounts of qualitative data are categorised to produce quantitative data to be analysed using statistical methods. Prathapan, (2014:14) states that when using a post-positivism paradigm, a researcher has the freedom to conduct research as opposed to other paradigms like positivism, whereby a researcher has to follow some strict guidelines when conducting research. The study employed both qualitative and

quantitative approaches. The target population was 306 teachers and 1 Librarian for the study. Systematic sampling was used to select teachers, while purposive sampling was used to select the librarian. The research designs used are the survey research design and the case study research design. Data collection instruments were questionnaires to collect data from the teachers and interview schedules to collect data from the librarian. Quantitative data were analysed using descriptive data analysis, and qualitative data were analysed using thematic data analysis. Chapter three discusses the research methodology in detail.

### **1.12 Ethical considerations**

Maintaining ethics in research is important. According to Kumar, (2019:476), ethics are the moral values that distinguish right from wrong and are desirable for good professional practice. Ethics are defined as a moral or professional code of conduct which sets the standard for a researcher's attitude and behaviour (Du Plooy-Cilliers 2014:263).

The researcher ensured that any information disclosed or shared by the participants was treated with the utmost confidentiality and that it did not cause harm to any of the participants or their families. On the same note, Graventer and Forzano (2016:605) state that research ethics is the responsibility of researchers, to be honest and respectful to all individuals affected by their research studies or their reports of the studies. Researchers are usually governed by ethical guidelines that assist them in making proper decisions and choosing proper actions.

Ethical standards and considerations were upheld throughout the entire process of this research. The researcher was also aware of the code of ethics stipulated in the Policy and Procedures on research ethics of the University of Zululand and complied with those ethical guidelines. The participants in the research were told the purpose of the research and that their involvement was voluntary.

### **1.13 Definitions of Terms**

The following terms are defined to contextualise the study:

#### **1.13.1 Information Services**

According to Stojanovski and Papic (2012:85), information services provide the information sought by the user and should anticipate as well as meet the needs of the

user while also encouraging user awareness of the potential of information resources to fulfil individual information needs.

### **1.13.2 Library Service**

Library services refer to the facilities provided to use the resource and disseminate information (LISBDNETWORK,2018).

### **1.13.3 Mobile Device**

A portable, handheld communications device connected to a wireless network that allows users to make voice calls, send text messages and run applications. In this, mobile devices include smartphones, tablets, iPods and iPads (Barnhart, and Pierce, 2012)

### **1.13.4 Mobile Technologies**

These refer to all portable computing devices that allow Internet connection and communication anywhere and anytime. Furthermore, it includes mobile application software that supports access to and dissemination of information (Nowlan, 2013)

### **1.13.5 Information need**

This is a gap in a person's knowledge that gives rise to a search for an answer (Reitz, 2004:357).

### **1.13.6 Information-seeking behaviour**

Information-seeking behaviour refers to how humans perceive their need for, the pursuit of, and the use of information (Case and Given, 2016).

### **1.13.7 Information Needs**

This refers to the feeling of information uncertainty that leads people to look for the information they need. Ikoja-Odongo and Mostert (2006:147) asserted that an information need is a requirement that drives people who seek information.

### **1.13.8 Artificial intelligence**

Artificial intelligence is a technology where knowledge is captured, shared, carefully developed and transformed into the right format in organisations.

Artificial intelligence can also be defined as machines' simulation of human intelligence processes, especially computer systems. These processes include learning (the

acquisition of information and rules for using the information), reasoning (using rules to reach approximate or definite conclusions) and self-correction. Applications of Artificial Intelligence include expert systems, speech recognition and machine vision (Nilsson, 2010: 7).

Techopedia (2017) explains Artificial Intelligence as a computer science branch aiming to create intelligent machines. It has become an essential part of the technology industry. Research associated with artificial intelligence is highly technical and specialized.

### **1.13.9 Fourth Industrial Revolution**

The Fourth Industrial Revolution (4IR) is a term coined in 2016 by Klaus Schwab, Founder and Executive Chairman of the World Economic Forum (WEF). It is characterized by the convergence and complementarity of emerging technology domains, including nanotechnology, biotechnology, new materials and advanced digital production (ADP) technologies. The latter includes 3D printing, human-machine interfaces (HMIs) and artificial intelligence, and is already transforming the global industrial landscape. (Lavopa and Derela, 2021)

## **1.14 Structure of Dissertation**

This study has six chapters as follows:

### **Chapter 1: Introduction and background**

The first chapter covered the introduction and background, contextual and conceptual settings, problem statement, aims, research objectives and questions, and the study's contribution.

### **Chapter 2: Literature Review and Theoretical Framework**

The second chapter, through a review of the literature, gives a broad overview of existing knowledge related to the study and presents the theoretical framework which underpins the study.

### **Chapter 3: Research Methodology**

The third chapter is the research methodology of the study and explains how the study was carried out.

## **Chapter 4: Presentation and analysis**

This chapter presents data and gives data analysis.

## **Chapter 5: Discussion of findings**

This chapter discusses the findings of the study.

## **Chapter 6: Summary, conclusions and recommendations**

The sixth chapter presents the summary, conclusions and recommendations of this study.

### **1.15 Chapter Summary**

The purpose of this chapter was to introduce important aspects of the research being undertaken. It provided clear insight into the background of this study and the reasons for undertaking such a study. This chapter also highlighted the problem statement, research objectives, and questions. The scope of the study was also indicated, setting the study's boundaries. A brief outline of the research methodology was included. Issues of ethical considerations were also covered in detail. Significant words and terms used in this study were defined in this chapter to ensure that readers understand the researcher's use of these words and terms.

The next chapter presents a literature review and theoretical framework.

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

### **2.1 Introduction**

This chapter aims to provide a key analysis of the literature related to the topic under the study as well as the study's theoretical framework. According to Schryen, Wagner, and Benlian, (2015:1), literature reviews play a significant role in knowledge development. Hargreaves, and Forasacco, (2015:3) highlight that a literature review is a critical discussion, analysis, synthesis and evaluation of knowledge on a particular topic. Annum, (2016:1) adds that a literature review creates awareness among researchers on what is already known or what has been covered by other researchers about the topic being studied. Moreover, Wright, (2016:3) highlights that this chapter gives the reader important background information about the issues that are relevant to the research. A literature review also aids the researcher in building on the existing body of knowledge and consequently identifies areas that will need to be explored further. Lincoln University (2016:1) indicates that it is important to undertake a literature review as it provides justification for the research being undertaken.

This chapter, therefore, provides a comprehensive discussion on the impact of library services on teachers in schools using the Okhahlamba Teacher Development Centre in KwaZulu-Natal guided by this study's research objectives. The literature review highlights the information needs and information-seeking behaviour of teachers in the 21<sup>st</sup> Century, information services and resources in the library of the Teachers' Development Centres, the teachers' competencies in using information services and resources at Teachers' Development Centres and challenges faced in utilising information services in Teacher Development Centres.

### **2.2 Literature review**

According to Schryen, Wagner, and Benlian, (2015:1), literature reviews play a significant role in knowledge development. Winchester and Salji (2016:308) posited that a literature review is essential for developing research ideas, consolidating what is already known about the specific subject and identifying any gaps in knowledge and how the study could contribute to further research understanding. Hart, (2018:1) further argued that the literature review is important because it enables the researcher to understand the topic, what has already been done on it, how it has been investigated

and the related key issues. According to Aveyard, (2014:4), a literature review is important because it seeks to summarise the available literature on any topic. Ridley, (2012:6) noted that a literature review's importance encompasses researchers' contributions within the field. According to Owolabi, (2017:47), a literature review is important for a researcher to identify the variables involved, the measurements applied, the research methodology used, and the expected findings in the studies reviewed. A literature review also aids the researcher in building on the existing body of knowledge and consequently identifies areas that need to be explored further. This section aims to provide a key analysis of the literature related to assessing the impact of Library Services on teachers in schools using the Okhahlamba Teacher Development Centre in KwaZulu-Natal, guided by the research objectives and research questions of the study. The literature review discusses the information needs and information-seeking behaviour of the teachers in the 21<sup>st</sup> Century, information services and resources in the library of the Teacher Development Centres, teachers' competencies in using information services and resources at the Teacher Development Centre and challenges faced in utilising information services in Teacher Development Centres.

### **2.2.1 Information needs and information-seeking behaviour of teachers in the 21<sup>st</sup> Century**

The so-called 21st-century skills consist of technical, information, communication, collaboration, critical thinking, creative, and problem-solving skills (van Laar, van Deursen, van Dijk, and de Haan, 2020). Reid, (2007) reported that in a national survey of public school teachers in the United States, teachers with fewer years of experience (3 or less) prioritized their learning needs as being about methods of teaching, student discipline strategies, and how to teach students with special needs, whereas teachers with more experience (19 or more years) prioritized their professional development needs as learning about how to integrate technology in instruction.

The use of information sources preferred by teachers is similar to those found in the study conducted by Shipman, Bannon, and Nunes-Bufford, (2015:120). This found that in-service teachers used traditional information sources such as newspapers, magazines, textbooks, encyclopaedias, online databases, personal contacts, and reliance on colleagues.

Teachers depend on information to carry out their teaching tasks and everyday life activities; this results in information needs that present a desire to find information (Bitso, 2013:346).

An education system cannot be better than its teachers; thus, teacher development is a key focus of many systems (Ajibade, and Bertram, 2020:2). Ummunnakwe (2015:5) observed some teachers' information needs as follows:

Information on the teaching subjects and methods- teachers need information on the different subjects they teach; the school curriculum- they need information on their schools' curriculum; the use of teaching materials- teachers need to be clear on how to use teaching materials; new trends in education- they need to be always up-to-date with trends in education; the use of new technological facilities- teachers need to be trained in the use of new technological facilities. For learner character and behaviour modification, teachers need the information to understand different learners' characters and behaviours. Regarding adolescent developmental stages, attitudes, anxiety, and fulfilment, teachers need the information to deal with learners in different stages. Teachers must be knowledgeable about dealing with students with special abilities and disabilities and enhance their professional development by attending seminars and workshops. They also need information on managing their schools and managerial skills and competencies.

Information-seeking behaviour refers to how humans perceive their need for, the pursuit of, and the use of information (Case and Given, 2016). Teachers seek information by consulting the principal and fellow teachers, going to the library, asking learners questions, watching television or listening to the radio, browsing the internet, reading newspapers, consulting books on specific topics, and consulting experts on areas of need. Nkebukwa, (2019) examined the information-seeking behaviour of academic staff in the emerging electronic information era of two institutions in Tanzania. The main purpose of the study was to assess their information-seeking behaviour. Data was collected from 250 respondents through both print and online questionnaires. The study found that most respondents relied on e-resources to support their teaching activities. Half of the respondents also preferred print resources for information seeking. The study also revealed that the information-seeking behaviour was effective by various factors such as; lack of computer labs, unstable

power supply, inadequate ICT infrastructure, e-databases, and lack of information searching techniques.

Shafique, and Mahmood, (2013:26) reviewed research studies investigating information-seeking behaviour and information needs of educational administrators and other stakeholders in the education sector in Pakistan. They found that the information needs of educational administrators are to perform routine tasks such as planning and budgeting.

Contextual factors, the nature of information needs, the information seeker's attributes, and the information sources' characteristics influence a decision to look for information. According to Leckie, Pettigrew, and Sylvain,(1996), the success of information-seeking could be determined by evidence of the use of the information to carry out an action or a task to make an informed decision or achieve a goal.

The curriculum in schools, as well as teaching systems and strategies, are changing over time, and now Technology is leading in making learning and teaching possible through devices and systems. New ways of teaching and learning through technology are introduced daily.

## **2.2.2 Information services and resources in the library at the Teacher**

### **Development Centres**

Teacher Development Centres create an ideal opportunity for teachers' professional learning with the presence of space, computer and science laboratories and libraries. Teachers use these resources and use the centres mainly for professional development activities such as workshops and meetings. Their computer centres have laptops, tablets, projectors, and I-Boxes. Teachers' development centres have Wi-Fi for internet access. Teacher Development Centres have recently received broadcasting screens. Librarians are also available to assist all the time.

The use of information sources preferred by teachers is similar to those found in the study conducted by Shipman, Bannon, and Nunes-Bufford, (2015:120). The study found that in-service teachers used traditional information sources such as newspapers, magazines, textbooks, encyclopaedias, online databases, personal contacts, and reliance on colleagues. These findings are observed in several other information-behaviour research studies. When reviewing research studies conducted

to investigate information needs and the information-seeking behaviour of educational administrators and other stakeholders in Pakistan, Shafique, and Mahmood, (2013:26) found that the importance of attending workshops, meetings, conferences, and seminars also served as a platform to enlighten professionals about new developments and ideas in their work environment

According to Bitso, and Fourie, (2011:186), the main sources of information utilised by teachers were the syllabus documents, books and colleagues. The study also found that newspapers and television were considered sources of information.

### **2.2.3 Teachers' competencies in using information services and resources at the Teachers' Development Centres**

The Digital Education Action Plan 2021–2027, recently published by the European Commission (2020), emphasises that skills possessed by teachers and the sense of competence they experience are a prerequisite for transmitting the core competencies of the 21<sup>st</sup> century. Digital competence should be a core skill for all educators and staff training and should be embedded in all areas of teacher professional development, including initial teacher education. Educators are highly knowledgeable and skilled professionals who need the confidence and skills to use technology effectively and creatively to engage and motivate their learners, support the acquisition of digital skills, and ensure that digital tools and platforms are accessible to all learners. Teachers and trainers should have access to ongoing professional learning and development opportunities tailored to their needs and discipline. Digital teaching methods and innovation in digital education should be embedded throughout all initial teacher education programmes and promoted in the education and training of youth workers. (European Commission, 2020)

Teacher Development Centres offer training to teachers on using all the different kinds of resources in the centres. Teachers receive training on how to utilise the resources available in the centres. Teachers participate in workshops on new resources in the centres, and training programs are available on new technologies and trends in education.

Hamilton, (2013) notes that library projects in some countries such as Nepal, Kenya and Serbia have received awards for their work in community information, development and civic participation.

Library Services include information access from all different sources using different resources, photocopying, printing, internet access, and rooms where they can discuss or form book clubs.

Teacher Development Centres help teachers develop their instructional skills in ICT and subject areas where they may fall short. Teachers are trained in technological skills. Teachers attend workshops and training in new learning and teaching technological facilities.

Teachers need the skills to navigate the world of information overload to perform their roles and task efficiently. Oosthuizen, (1997:233) contends that If teachers know how, why and where to find information and use it, these skills will enhance their teaching for new curriculum and filter through the pupils and the community.

Teacher Development Centre in KwaZulu-Natal offers training on technological facilities to assist teachers. This is because a lack of basic IT and computer skills has been attributed to certain user groups using various ICT forms. This includes increased internet use, mobile devices and online education databases. Lack of competencies and computer illiteracy are challenges, especially in the digital era.

#### **2.2.4 Challenges in utilising Information Services in Teachers' Development Centres**

Barriers that are usually encountered by information-seekers, including teachers, are Outdated reading materials, lack of awareness of the availability of material, lack of time, lack of knowledge about information-retrieving techniques, non-supportive behaviour of teacher development centre staff, unavailability of internet facility in the centres and shortage of computers.

Digital education and skills should also consider the environmental and climate impacts of developing and using digital equipment and services (European Commission, 2020). Some teachers cannot access information due to a lack of digital skills and education.

Challenges faced by the teachers while using the library include books being kept on closed-access shelves which makes accessing the reading materials difficult (Muhamad, Ghalib, Saeed, and Sumera, 2021:24). The authors also noted the lack of computers, internet connectivity, furniture, and photocopying machines in the

libraries. Teachers have no access to the required reading materials because libraries have outdated materials, unqualified library staff, a lack of cooperation with users, and an inadequate supply of electricity in the libraries.

Green, (2013) adds that library budgets are often cut, particularly in emerging countries, where the library funds are diverted to other services deemed more important. Burnet (2013:16) indicates that the problem lies with the Library Science curricula. The author points out that the curriculum needs to be developed to go beyond the conventional by integrating courses from other disciplines to produce librarians who can work beyond what is required of them for the betterment of communities.

A study conducted in the Phumelela District of KwaZulu-Natal showed that Teachers' Development Centres do not have proper liquid funding to operate. Insufficient funds hinder effective service delivery. Some Teachers' Development Centres in KwaZulu-Natal cannot offer photocopying services because they rely on funds from District offices.

Staff shortage is also challenging in the Teachers' Development Centres, making it difficult to render sufficient and effective services. According to Mamafha, Ngulube and Ndwandwe (2014:05), in a study investigating the utilisation of information and communication technologies at the Ekurhuleni Metropolitan Municipality, it was found that despite libraries being equipped with various ICT equipment/infrastructure, restrictive library policies are a barrier and challenge to many users.

Lack of basic IT and computer skills has been attributed to certain users of various ICT tools, such as the internet, mobile devices, and online education databases. Lack of competencies and computer illiteracy are challenges in the digital era. Related to this observation are poor information technology infrastructures, such as narrow bandwidth and a lack of awareness about relevant information sources.

### **2.3 Theoretical framework**

The theoretical framework or conceptual framework is essential in any research work. According to Ngulube, Mathipa, and Gumbo, (2015:44), theoretical and conceptual frameworks are two terms frequently used by researchers in their studies without elucidating their differences or justifying the reason for using the terms. Ledwaba,

(2018:31) asserts that a “theoretical model forms the backbone of the study, considering its relationship to previous related applications”. According to Osanloo, and Grant (2016:13), a theoretical framework includes a selected theory or theories that underpin the researcher’s thinking regarding how he or she understands the blueprint of a particular topic (Brenna, 2018). It also permits the researcher to explain the concepts used in the research from a theoretical point of view (Mohammed, 2019:17). Apart from providing a plan for the study, the usefulness of a theoretical framework is to guide the design of the research instrument, data collection, analysis, and interpretation of the research findings (Ngulube, Mathipa, and Gumbo, 2015:43).

Case, (2012:167); Koh, (2013:33) define a theory as a set of statements or principles that explain the relationship between a cause and effect amongst a group of observed facts, often established over time and place. The significance of a theory is to help researchers better understand how and why other scholars have approached or carried out their investigations the way they did. A theory also explains relationships among phenomena by providing a structure to the research design (Ngulube, Mathipa, and Gumbo, 2015:45).

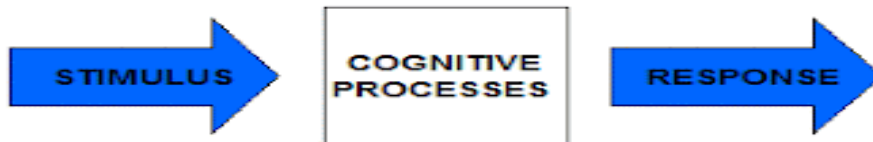
Two theories underpinned this study. The Cognitivism Learning Theory (CL) by Jean Piaget and the Technological Acceptance Model (TAM) by Fred Davis. The CL theory was developed in 1936 by Jean Piaget as a reaction to Behaviourism (Rhalmi, 2012). TAM was developed in the 1980s by Fred Davis and responds to concerns of business owners and others about some people’s unfavourable attitudes toward technology and the failure of many new systems to work as intended. The Technology Acceptance Model (TAM) is a theory that attempts to predict the likelihood of an individual or organisation successfully adopting a new system of technology (Dziak, 2020:1).

### **2.3.1 Cognitivism Learning theory**

# Cognitive Theory

## LEARNING

- Based on mental processes by which learners take in, interpret, store and retrieve information



**Figure 2. 1: Cognitivism Learning Theory**

**Source: Piaget (1936)**

Cognitivism Learning Theory is a learning theory that focuses on learning processes rather than observed behaviour. The primary emphasis is on how knowledge is acquired, processed, stored, retrieved, and activated by the learner during the different phases of the learning process (Yilmaz, 2011:204). Cognitivism is a theory of learning that focuses on processes of the mind (Morales, 2021:1). The author observes that the way we learn is determined by how our mind takes in, stores, processes, and accesses information. When we learn new things, our brains can transfer the information we have learned and apply the information to new situations or problems. This description highlights the main goal of most learning theories. The cognitive learning theory helps develop better programs for learners by focusing on how the brain processes new information acquisition and use. Developing a strong knowledge of cognitivism can help anyone attempting to teach new information or concepts (Morales, 2021:1).

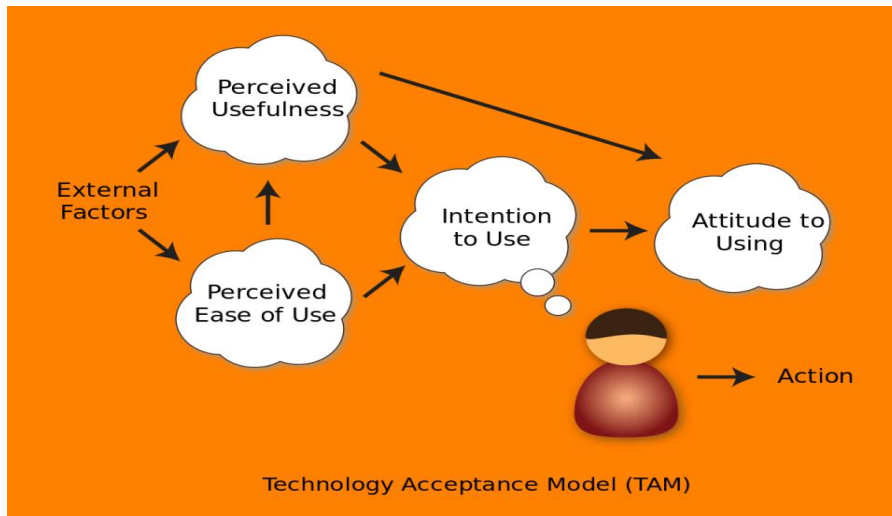
Cognitivism is a psychological framework that arose in response to behaviourism in the 1950s. Cognitive theories stress the acquisition of knowledge and internal mental structures and, as such, are closer to the rationalist end of the epistemology continuum (Bower, and Hilgard, 1981). Learning is equated with discrete changes between states of knowledge rather than changes in the probability of response. Cognitive theories focus on the conceptualization of students' learning processes and address the issues of how information is received, organised, stored, and retrieved by the mind.

Learning is concerned not so much with what learners do but with what they know and how they acquire it (Jonassen, 1991b).

Cognitivism, like behaviourism, emphasizes how environmental conditions facilitate learning. Instructional explanations, demonstrations, illustrative examples and matched non-examples are all instrumental in guiding student learning. According to cognitive theories, learning transfer is a function of how information is stored in memory (Schunk, 1991).

Because of the emphasis on mental structures, cognitive theories are usually considered more appropriate for explaining complex forms of learning (reasoning, problem-solving, information processing) than behavioural theories (Schunk, 1991). The definition and scope of cognitivism have evolved over the years. Early cognition studies explored the active acquisition of knowledge instead of behaviourism's more passive learner approach (Woolfolk, 2015). Cognitivist learning theories are understood to have stemmed from the inadequacies of the behaviourist learning theories of strict stimulus and response training to explain how learning occurs (Michela, 2018:1). This study applies the cognitivism learning theory to explore how teachers participate in their development; for instance, the role of the centre is to assist teachers in the fourth industrial revolution by training them to use new technologies to perform their duties as teachers effectively and productively. Through the cognitive learning theory, teachers continuously develop and learn new things and access resources and services at the Teacher Development Centres to improve teaching methods. Teachers are exposed to new technological gadgets and skills; they get trained and can access and utilise them. Through the cognitivism learning theory, this researcher will determine teachers' information needs and information-seeking behaviour in schools supported by the Okhahlamba Teacher Development Centre.

### 2.3.2 Technology Acceptance Model



**Figure 2. 2: Technological Acceptance Model**

**Source: Davis (1989)**

The Technology Acceptance Model (TAM) is a theory that predicts how an individual or organisation adopts a new technology system (Dziak, 2020:1). It was developed in the 1980s by Fred Davis. TAM responds to the concerns of business owners and others about people's unfavourable attitudes toward technologies and the failure of many new systems to work as intended. TAM proposes that the features of a new technological system directly influence the motivation level of the potential users. This motivation level predicts the likelihood of users accepting and adopting the new system. TAM is an information systems theory that models how users accept and use technologies.

Fred Davis developed TAM based on the Theory of Reasoned Action (Ajzen and Fishbein, 1980). The TAM uses perceived usefulness (PU) and perceived ease of use (PEOU) as determinants of user acceptance. A key element of the TAM is behavioural intent, which leads to the desired action of using the system. This study adopts TAM to determine teachers' competencies and the challenges faced in using technological resources at the Okhahlamba Teacher Development Centre. This study targeted 21<sup>st</sup>-century teachers, who are supposed to teach using technology.

### 2.4 Chapter Summary

This chapter provided a literature review on the impact of library services in schools using Teachers' Development Centres in KwaZulu-Natal. It highlighted the information

needs and information-seeking behaviour of 21<sup>st</sup>-Century teachers, available resources in the Teachers' Development Centres library, teachers' competencies in using resources at the Teachers' Development Centres, and the challenges faced in utilising library services in Teachers' Development Centres. This chapter also discussed the theories underpinning this study and the links of the theories to the study. The next chapter presents the research methodology of the study.

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Introduction**

Methodology in the field of social sciences describes how research is conducted to seek answers to a problem (Taylor and DeVault, 2016:3). According to Ngulube, (2015:6), research methodology is central to the research process because it is the lens through which a researcher gets answers to the research questions. According to Birks, and Mills, (2015:4), research methodology is a set of principles and ideas that inform the study's design. Pandey, and Pandey, (2015:9) highlight that research methodology is a way to solve a research problem systematically. Rajasekar, Philominathan, and Chinnatambi, (2013:1) add that research methodology considers the different steps a researcher takes in studying the research problem and the logic behind these steps. The research methodology explains why certain techniques are used in research and why others are not so that the research results can be evaluated by both the researcher and other external stakeholders (Almalki, 2016:290). Labaree, (2014:2) states that research methodology focuses on the principles that guide research practices and thus serves as a framework within which the researcher works. According to Birks, and Mills, (2015:4), research methodology is a set of principles and ideas that inform the study's design.

### **3.2 Research paradigms**

According to Bryman, and Bell, (2011:24), a research paradigm defines beliefs on what should be studied, how research should be done, and how findings should be presented, interpreted and presented. Creswell, (2014:35) defines research paradigms as the basic beliefs guiding action. Furthermore, Creswell, (2014:36) emphasises that research paradigms are worldviews and argues that they are a general philosophical orientation about the world and nature of research that a researcher brings to a study. Bertram, and Christiansen, (2014:22) claim that the research paradigm represents a particular worldview that guides what is adequate to research and how it should be done.

The purpose of a research paradigm is to provide a guideline for the researcher to perceive the world based on his or her assumptions and beliefs (Wahyuni, 2012:71). Bunniss, and Kelly, (2010:360) explain that paradigms are the sets of beliefs and practices shared by communities of researchers, which regulate inquiry with discipline.

The various paradigms are characterized by philosophical, epistemological, and methodological differences in their approaches to conceptualising and conducting research and their contribution towards disciplinary knowledge construction. Scholars commonly use the research paradigms positivism, post-positivism, interpretivism and pragmatism.

According to Creswell, and Creswell, (2018: 57), there are four common research paradigms in research, which are Constructivism, Transformative, positivism and post-positivism paradigm. The authors note that in the constructivism paradigm, researchers focus on the specific contexts in which people live and work to understand the participants' historical and cultural settings. Transformative research provides a voice for participants, raising their consciousness or advancing an agenda for change to improve their lives. According to Creswell, and Creswell, (2018: 54), developing numeric measures of observations and studying the behaviour of individuals becomes paramount for a post-positivist.

Bryman, (2012) enumerates positivism, post-positivism, realism, interpretivism, and pragmatism paradigms. Creswell, (2014:6) identifies four worldviews/paradigms: positivism, constructivism, transformative and pragmatism. Neuman, (2014: 96) believes that the research paradigm is an organising framework for theory and research that entails basic traditions, some key issues, models shaping good research and accurate methods for getting answers. A research paradigm is a set of beliefs about major aspects of reality which leads to a particular worldview (Maree, 2016: 52). It is further indicated by Maree, (2016: 52) that paradigms serve as the lens or organising principles by which reality is interpreted.

### **3.2.1 Interpretivism Research Paradigm**

The interpretivism paradigm portrays that the accurate way to study social order is through the subjective interpretation of participants involved and integrating the differences in their subjective viewpoints (Bhattacharjee, 2012:19). The interpretivism paradigm concerns human beings and their relationships, which leads the researcher to the collection of detailed data (Hussain, Elyas, and Nasseef, 2013:2375). The interpretivism paradigm is associated with a qualitative research approach (Ngulube, 2015). Wahyuni, (2012:71) argues that interpretivism recognises individuals with varied backgrounds, assumptions, and experiences that support the ongoing

construction of reality existing in their wider social context through social interaction. Bunniss, and Kelly, (2010:363) argued that no study is absolutely unbiased; therefore, from the beginning, it would not be the intention of the researcher to eliminate bias.

### **3.2.2 Positivism Research Paradigm**

According to Kaboub, (2008:343), positivism developed as a philosophical paradigm during the period of Auguste Comte in the 19<sup>th</sup> century with a rejection of metaphysics and his proclamation that only scientific knowledge can reveal the truth about reality. Bhattacharjee (2012:18) asserts that positivism is about the conception that science or knowledge creation should be constrained to what can be observed and measured. Bhattacharjee, (2012:18) furthermore states that positivism tends to depend on theories that can be directly tested. Aliyu, Bello, Kasim, and Martin, (2014:81) regard positivism as the research strategy and approach embedded in the ontological principle and doctrine that reality and fact are independent of the viewer and observer.

This research paradigm's ontology is realism, meaning that social reality can be observed and studied meaningfully and objectively and independently by the observer (Hussain, Elyas, and Nasseef, 2013:2378). The epistemology of a positivist is objectivist and dualist, which means that positivists believe that the experiences of humans are reflecting on independent reality, thus providing the foundation for human knowledge (Aliyu *et al.* 2014: 81). This justifies why this paradigm is associated with a quantitative approach (Ngulube, 2015). Bertram, and Christiansen, (2014) assert that the goal of a positivist researcher is to describe, control, and predict how the natural and social world works.

### **3.2.3 Post-positivism Research Paradigm**

Maree, (2016: 59) highlights that post-positivism believes that reality has many aspects, is subjective and mentally constructed by human beings. Maree (2016: 59) points out that post-positivism is frequently used in describing an approach to research where large amounts of qualitative data are normally categorised to produce quantitative data to be analysed using statistical methods. Prathapan, (2014: 14) states that when using a post-positivism paradigm, a researcher has the freedom to conduct research as opposed to other paradigms like positivism, whereby a researcher has to follow some strict guidelines when conducting research. In other

words, a researcher is placed in a key position in post-positivism. Prathapan, (2014: 45) highlights the following attributes of post-positivism:

- Research is considered to be broad rather than specialised.
- Theory and practice are parallel; there is no way there can be kept separate.
- The motivations and commitment of the researcher are significant to the originality of the research.
- The belief that research is only concerned with data collecting techniques and categorising information is currently considered inadequate.

#### **3.2.4 Justification of Post-Positivism Research Paradigm**

This study used post-positivism. Hence, it adopted the triangulation of qualitative and quantitative research approaches at data collection and analysis levels. As believed in research, if a researcher wants to analyse the studied phenomenon fully, it is good to support one approach with another to tackle a research problem easily. Prathapan, (2014: 45) suggests that through post-positivism, data can be collected using both qualitative and quantitative methods that complement each other to get an in-depth understanding of the research problem while moving closer to the truth. Interview was used as the instrument for collecting qualitative data, while the questionnaire was used for collecting quantitative data.

#### **3.3 Research Approaches**

There are three known research approaches that the researchers employ when conducting a research study: qualitative, quantitative and mixed-method research approach (Creswell, and Creswell, 2018:51). According to Creswell, (2014:5), a research approach is the plan or proposal to conduct research, and involves the intersection of philosophy, research designs, and specific methods. Creswell, (2014) further states that a researcher chooses the research approach based on what he or she wants to achieve. Three research approaches are commonly used in research, namely qualitative, quantitative, and mixed-methods research approaches (Ngulube, 2015:5; Creswell, 2018:43).

### **3.3.1 Qualitative research Approach**

Qualitative research is an approach for exploring and understanding the meaning individuals or groups ascribe to a social or human problem (Creswell, and Creswell, 2018: 51). Qualitative research is multi-method in focus, involving an interpretive, naturalistic approach to its subject matter (Bryman, and Bell, 2015). This means that qualitative researchers study things in their natural settings and attempt to make sense of or interpret phenomena in terms of the meanings people bring to them. Maree, (2016:162) adds that qualitative research is primarily exploratory and plays a critical role in explaining underlying reasons, motivations, and opinions. The qualitative research approach is deductive and confirmatory. According to Flick, (2015: 11), the qualitative research approach is conducted in a natural setting, which helps get an in-depth understanding of why individuals behave the way they do. This is achieved through interpreting and making sense of the phenomenon of interest. Qualitative research is not modelled on measurements and normally selects participants purposively (Flick, 2015: 11).

### **3.3.2 Quantitative Research Approach**

According to Creswell, and Creswell, (2018: 51), the quantitative approach tests objective theories by examining the relationship among variables. According to Creswell, (2014), a quantitative approach tests objective theories by examining the relationship among variables, which can be measured, typically on the instrument, so that numbered data can be analysed using statistical procedures. A quantitative research approach could initially be used to gather generalisable information through survey research, followed by qualitative research in the form of open-ended interviews to gain detailed data. All the research will then be triangulated to converge the data. The quantitative research approach is inductive and exploratory, deals with numbers, and interprets data using graphs, charts and tables, as done in this study. It uses a systematic and objective process to process numerical data from a specific population subgroup to generalise the findings to the entire studied population (Struwig, and Stead, 2001:4; Maree, 2016:162).

### **3.3.3 Mixed-methods research Approach**

According to Creswell, (2014:124), a mixed-methods research approach is an approach in which the researcher combines both quantitative and qualitative

approaches, integrates the two, and then draws interpretations based on the combined strengths of both sets of approaches to understand the research problem. Ngulube and Ngulube, (2015) state that the mixed-methods research approach combines the strengths of the qualitative and quantitative approaches to construct comprehensive and broad-based research. Furthermore, mixed-methods research is in the realm of multi-paradigms since it employs both positivist and interpretivist paradigms. Neuman, (2011) makes clear that using qualitative and quantitative approaches is also known as triangulation and permits the researchers to view a phenomenon from different angles.

### **3.3.4 Research Approach Employed**

For this study, both qualitative and quantitative research approaches were employed in line with the adoption of the post-positivist perspective/paradigm. The researcher used questionnaires to collect data from the teachers and an interview to collect data from the librarian. Both approaches helped the researcher gather in-depth information from the research participants and respondents, as one would not have provided sufficient information. Qualitative and quantitative approaches are not mutually exclusive but complementary in this study (Weyers, 2011:163); Wilson in Flick, (2015: 216) also notes that qualitative and quantitative research approaches are complementary rather than competitive. Each approach has strengths and weaknesses that the other does not; therefore, using them together in the present study significantly yielded good results. According to Bian (2013:5), priority can be given to either qualitative or quantitative data. Terrel, (2012:258) highlights that many major authors and researchers believe that quantitative and qualitative approaches are compatible and that no major problem area should be studied exclusively with one research approach. The researcher was able to collect both qualitative and quantitative data from research participants.

### **3.4 Research design**

According to Creswell, and Creswell, (2018:41), research designs are types of inquiry within qualitative, quantitative, and mixed-methods approaches that provide specific direction for procedures in a research study. The research design is a plan or blueprint of how one intends to conduct research. Nieuwenhuis (2010), cited in Maree and Van der Westhuizen (2010:70), explains that the research design is “the plan or strategy

that the researcher uses to implement his or her study. He further explains that this plan is based on the researcher's approach to research". Exploratory research design is used to "gain insight into a situation, phenomena, community or individuals" (Babbie, 2010:95).

The need for such a study could arise from a lack of basic information on a new area of interest. It could also be to get acquainted with a situation to formulate a problem, develop a hypothesis, or understand more about an idea/observation.

Descriptive designs are "those whose primary goal is to describe a situation or phenomenon vividly and in detail, to give a clear picture of "what is going on"? "They are used when the researcher aims to reveal what is there or link process" (Rich and Lewis, 2013). Furthermore, a descriptive research design will be employed if the researcher plans to provide a detailed description of what will be explored (Neuman, 2006).

This current study employed both survey and case study research design. According to Creswell, and Creswell, (2018:41), a survey research design provides a quantitative or numeric description of a population's trends, attitudes, or opinions by studying a sample of that population. From sample results, the researcher generalises or draws inferences about the population (Creswell, 2014). A survey research design is chosen for this study because it is convenient for research that aims to collect quantitative data and help identify individuals' important beliefs and attitudes (Creswell, 2012). Creswell, and Creswell, (2018: 43) suggest that a survey provides a quantitative description of a large population's trends, attitudes or opinions by studying a sample of that population. The survey research design was used to collect data from the teachers, and the case study research design was used to collect data from the librarian.

#### **3.4.1 Survey Research Design**

According to Creswell (2018:471), survey research design provides a quantitative or numeric description of population trends, attitudes and opinions by studying a sample of that population. This study employed a survey research design to collect data from teachers using questionnaires. It allowed the researcher to collect data in a short time. Because of the research objectives, the questionnaires were designed open-ended to allow the participants to collect in-depth information from the questions asked. Three

hundred and six (306) questionnaires were distributed to teachers that were respondents of the study.

### **3.4.2 Case study research design**

A case study is a research design that entails the detailed and extensive analysis of a single case (Bryman, 2016:688). Creswell, (2013:176) asserts that a case study design includes the study of an issue explored through single or more cases within a bounded system. This study used a case study focused on the Librarian at the Okhahlamba Teacher Development Centre. The case study provided the researcher with an in-depth view of the research problem by describing and explaining the situation under study. It also allowed the researcher to obtain detailed information that would not normally be easily obtained through other research designs. Another key benefit of this design was that it was not limited to a single data source; thus, the researcher benefited from various sources of evidence. A case study narrows down a broad field of research into an easily researchable topic. Baskarada, (2013:1) highlights that a case study involves the intensive analysis of a case or individual units such as a person, an organisation, a community or a programme.

### **3.5 Target Population**

Creswell, (2012:381) defines a population as a group of individuals with the same characteristics. It is the group of elements sharing the same sentiment from which sampling elements are drawn, and the researcher generalised the findings. A target population is a group of individuals or groups of organisations with some common defining characteristics that the researcher can identify and study (Creswell, 2012:142). The target population is the list of sampling units from which the sample is selected (Creswell, 2012: 381). According to Gray, (2019:830), the target population depicts the study population as the totality of people, organisations, items, or occurrences from which a sample is drawn. The target population for this study were two different groups, that is, the teachers and the librarian. The Okhahlamba Teacher Development Centre serves 129 schools in Uthukela District in Bergville Circuit Management Office, which are divided into four wards: Emangwaneni Ward, Emazizini Ward, Bhethani Ward and Winterton Ward. Three hundred and six (306) teachers were selected from the 129 schools to be part of the study. The selected teachers have different learning areas and phases (grade R to grade 12). According to Ngulube,

(2005a:46), One of the major steps in survey designs is to define the population before collecting the sample. The targeted population comprised the teachers from schools served by the Okhahlamba Teacher Development Centre and the librarian at the Okhahlamba Teacher Development Centre Library.

### **3.6 Sampling methods**

According to Bryman, (2016:695), sampling is selecting the subset of the population that will be used in the study. Kumar, (2019:486) explained sampling as the process of selecting a few respondents (a sample) from a bigger group (the sampling population) to become the basis for approximating the prevalence of information to a researcher. A sample is a specific group of individuals from whom the study will collect data to learn about the entire population.

There are two major classes to which sampling methods belong (Rahi, 2017:3). They are probability and non-probability methods. In this study, both probability and non-probability methods will be employed. Probability sampling is a sampling approach in which each unit has an equal chance of being selected. Probability sampling is further divided into four categories: simple random sampling, systematic random sampling, stratified random sampling, cluster sampling, and Multi-Stage Sampling (Rahi, 2017:3). Non-probability sampling is the sampling approach in which the chance or probability of each selected unit is unknown or confirmed (Rahi, 2017:3).

Babbie, (2002:176) defines sampling as a systematic study and a selection in anticipation of representation of the total population or universe that one desires to study. According to Gray, (2009:148), “a typical human trait is to make generalizations from limited experience or information” hence it is essential to use sampling that resonates with the research objectives and questions to ensure valid insight. It is time-consuming and expensive to collect data from all the school teachers; hence, probability sampling was used to select a manageable number (306) from the 129 schools selected in the research. Under the probability sampling method, the researcher employed systematic sampling to select teachers by adopting Krejcie and Morgan’s (1970) sampling table. The non-probability sampling method, purposive sampling, was used to select the librarian.

### **3.6.1 Systematic sampling**

According to Etikan and Bala, (2017:2), in systematic sampling, only the first unit is selected randomly, and the remaining sample units are to be selected by a fixed period. It is not like a random sampling technique in the real sense; systematic sampling is an improvement over the simple random sampling method. The execution of the method is easy, less costly and convenient to use in a larger population.

### **3.6.2 Purposive sampling**

According to Etikan and Bala, (2017:2), the purposive sampling design is based on the researcher's judgement of who will provide the best information to achieve the study objectives. The person conducting the research needs to focus on those with the same opinion to have the required information and be willing to share it. The purposive sampling method was used to select the librarian because the purpose of the study was to find information about library services.

### **3.7 Sample size**

Kumar, (2019:486) states that sample size is the number of individuals, commonly denoted by the letter  $n$ , from whom the researcher obtains the required information. The sample size of the present study is 306 teachers and 1 librarian. Morse (2000:3) highlights that the sample size depends on several factors, such as the amount of useful information obtained from each participant, the qualitative design used, the data quality, the study's scope, and the nature of the topic. Alexander, (2013:2) adds that a study that is broad in scope requires a greater number of participants than one that is narrower in focus.

In this study, the total number of teachers from the 129 schools was 1479. The researcher selected 306 teachers as a sample size to be part of the research using Krejcie and Morgan (1970). A total number of 65 teachers were respondents in this study. Below is an image of Krejcie and Morgan's sampling table:

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size. *S* is sample size.

Source: Krejcie & Morgan, 1970

**Figure 3. 1: Krejcie and Morgan table of sampling**

### 3.8 Data collection methods

Data collection is an essential part of any study or project that requires more attention from the researcher to circumvent the collection of inaccurate data, which can lead to invalid findings. This study employed two data collection instruments: a questionnaire and an interview schedule, further discussed in the following sections. In this regard, primary data was collected directly from the participants and respondents. Kumar, (2019:215) asserts that primary data is collected through interview schedules, questionnaires, and checklists (observation). The study used these two data collection instruments to increase the study's reliability and validity, measurability and

transferability by ensuring the selection of specific research participants such that the findings are applicable in other contexts

There are two types of data collection methods. They are Quantitative data collection and Qualitative data collection. The study used appropriate data collection instruments based on the chosen research approach. According to Creswell, (2014), data collection is the process of gathering information from different sources of information by answering the study's research questions. Data collection instruments are the tools used to collect data from the source/participant of the study (Creswell, 2012:382). The common data collection instruments in research include interviews, questionnaires, documentary analysis, and observations (Creswell, 2012:382).

Neuman, (2014) explains that an interview is a verbal conversation between two people to collect relevant and valid information for the study or research. A questionnaire is a form used in a survey design that participants in a study complete and return to the researcher (Creswell, 2012: 382). Similarly, (McLeod, 2018) states that a questionnaire is a research instrument consisting of a series of questions to gather information from respondents.

### **3.8.1 Questionnaire**

A self-administered questionnaire was used to collect data from the teachers. According to Kumar (2019:483), a questionnaire is a list of questions; respondents read the question carefully, interpret what is expected and write down the answer. According to Kumar, (2019:483), a questionnaire is a good instrument for data collection. However, it has numerous advantages and disadvantages.

The advantages of a questionnaire are as follows; it offers greater anonymity as there is no face-to-face interaction between respondents and the interviewer, this instrument provides greater anonymity in situations where sensitive questions are asked, and it helps to increase the likelihood of obtaining accurate data. Questionnaires save cost and time because the researcher can reach a large number of respondents in a short time (Kumar, 2019:483).

The disadvantages of questionnaires are that they take a lot of time for the researcher to compile questions, distribute questionnaires, and collect the filled questionnaire. They are also costly in terms of materials to be used, such as computer or typewriter,

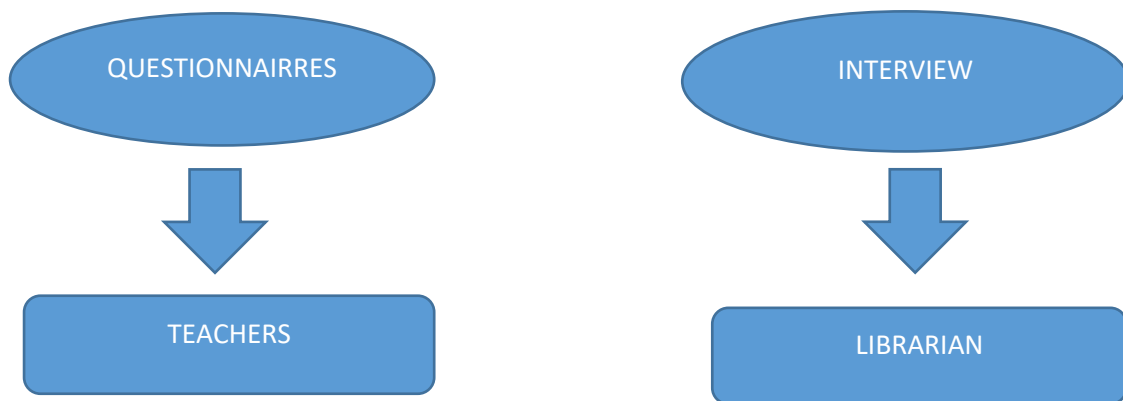
printer, pages for printing, and files to carry those questionnaires to the respondents (Marutha, 2011:89). Nevertheless, the advantages of questionnaires had no impact on the study. The questionnaires were designed in an open-ended manner to allow the respondents to provide open-ended responses to the questions based on the questions asked. Questionnaires were used to collect data from the teachers who were respondents to the research. This study used questionnaires as a data collection method because the researcher was collecting data from a large population. Questionnaires are the most popular tools for gathering data because they are low in terms of budget and time friendly, and the inflow of data is quick regardless of the number of respondents.

### **3.8.2 Interview schedule**

The use of an interview schedule in this study followed Bryman's (2016) observation. According to Bryman, (2016:692), an interview schedule is a collection of questions designed to be asked by an interviewer to the study participants, and it always uses structured interview questions. Kumar, (2019:479) highlights that an interview schedule is a list of open- or close-ended questions prepared for use by an interviewer in a face-to-face interaction or by other electronic media. Interviews have advantages and disadvantages. The advantages of interviews are: they are more appropriate for complex situations, questions can be explained, and they are useful for collecting in-depth data (Kumar, 2019: 479). The disadvantages of interviews are they can be time-consuming and expensive, the quality of the data depends upon the quality of the interaction, and the quality of the data depends upon the quality of the interviewer (Kumar, 2019:479). Semi-structured interviews are commonly used for collecting qualitative data. An interview schedule was used to collect data from the Okhahlamba Teacher Development Centre librarian.

These instruments allowed qualitative and quantitative data to be collected and analysed later using descriptive and thematic data analysis. Before the research, the researcher clarified the purpose and concepts of the study to the respondents and the participant. Figure 3.2 illustrate the data collection instruments:

## Data collection instruments



**Figure 3. 2: Data collection instruments**

Source: (Researcher's image)

### 3.9 Data analysis

Qualitative data were analysed using thematic analysis, and quantitative was analysed using descriptive analysis. The data were collected and entered into Microsoft Excel 2013 spreadsheet and were manually checked for extended accuracy. The accurateness of the data was verified. As earlier mentioned, data were collected by questionnaires from the teachers and through a face-to-face interview with the librarian. The collection tools influenced the data analysis as guided by the research design. All data collected was stored safely for future reference in different platforms: as a Google file and a hard copy.

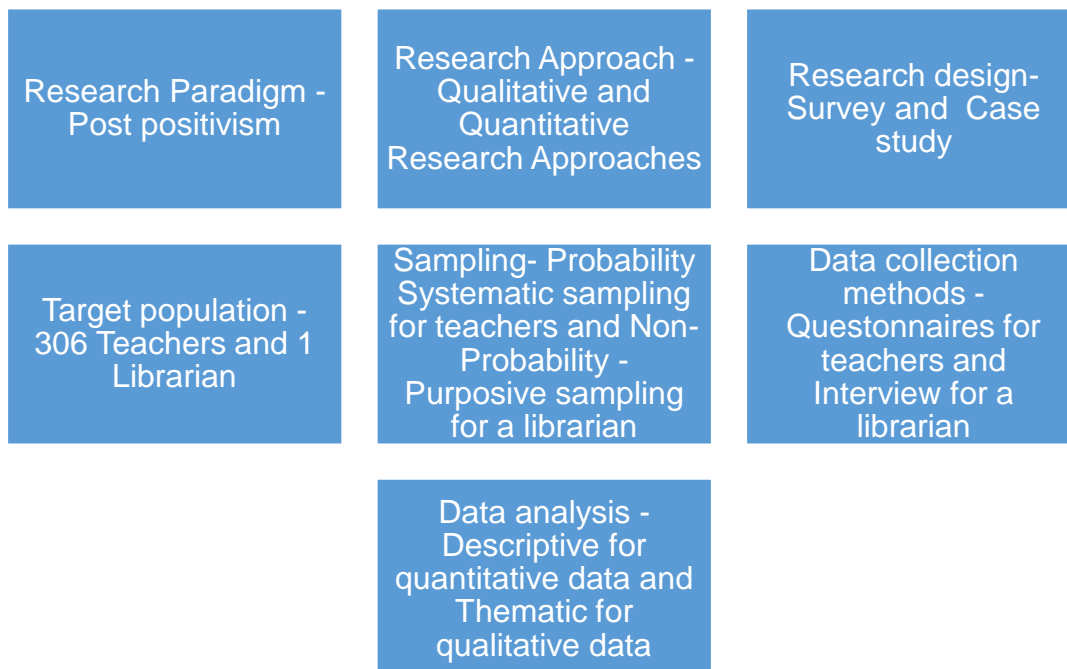
#### 3.9.1 Thematic analysis

Braun, and Clarke, (2006:6) defined thematic analysis as identifying and reporting patterns or themes within data. According to Alhojailan, (2012:40), thematic analysis is most appropriate for any qualitative research study seeking to discover interpretation and be consistent with the collected data. Furthermore, thematic analysis can detect and identify, for instance, factors or variables that influence any issues generated by participants. Manyerere, (2015:111) asserted that "thematic analysis is used to analyse classification and present themes that relate to data". Qualitative data in this study were analysed using thematic analysis

### 3.9.2 Descriptive analysis

According to Creswell, and Creswell, (2018), descriptive analysis involves data analysis for variables in a study and includes describing the results through means, standard deviations, and a range of scores. Microsoft Excel software will be used, and the findings of this study will be presented in frequencies, percentages, graphs and charts. According to Bhattacherjee, (2012:119), descriptive analysis statistically describes, aggregates, and presents the constructs of interest or associations between these constructs. Quantitative data in this study were analysed using descriptive analysis.

Figure 3.3 is a dashboard on the research methodology



**Figure 3. 3: Research Methodology Dashboard**

Source: (Researcher's image)

### 3.10 Validity, reliability, measurability and transferability

Reliability and validity issues are conventionally associated with quantitative research, and according to de Vaus (2016:1), the concepts are relatively foreign to qualitative research. Statistics Solutions (2016:1) indicates that instead of reliability and validity, qualitative studies focus on data trustworthiness which consists of credibility, transferability, dependability, and confirmability.

In general, reliability refers to the consistency of the measurement, while validity refers to if the measurement measures what it is supposed to measure. Maree, (2016: 238) indicates that the reliability of a research instrument means that if the same instrument is given to different respondents from the same population, the results should be the same. Maree, (2016) further points out that “reliability is the extent to which a measuring instrument is repeatable and consistent”.

The researcher also made use of methodological triangulation to establish credibility. Bowden, and Williams, (2013:1133) indicate that this form of triangulation involves using various qualitative methods or data collection instruments to understand the research problem better. If the conclusions drawn from each of the methods are similar, it means that validity has been established. The researcher thus made use of interviews and questionnaires.

Concerning transferability, Torracce (2012:5) highlights how the qualitative researcher demonstrates that the study’s findings apply to other contexts, such as similar situations, populations and phenomena. According to DeVault, (2016:1), purposive sampling can establish transferability because specific information is maximised to the context in which the data collection occurs. He adds that specific and diverse information is emphasised in purposive sampling. The researcher used this sampling technique to ensure transferability by selecting specific research participants, thus showing that the findings are applicable in other contexts.

The research methodologies look beyond collecting raw data to turn raw data into key findings and useful insights that ensure the objectives are achieved. Creating a relationship with the participants regarding communications and engagement was ascertained to ensure data trustworthiness and validity. The researcher made sure that the language of the questionnaires was in plain English and avoided clichés and difficult term words so that respondents clearly understood the questions to enhance validity.

### **3.11 Ethical considerations**

Ethics are defined as a moral or professional code of conduct which sets the standard for a researcher’s attitude and behaviour (Du Plooy-Cilliers *et al.*, 2014:263). According to Kumar, (2019:476), ethics are the moral values that distinguish right from wrong and are desirable for good professional practice.

Ethical considerations are important parts of research. The purpose is to conduct research appropriately without inflicting harm on the respondents. The researcher applied for ethical clearance from the University of Zululand's Ethics Review Committee and adhered to the ethical principles set out in UNIZULU's policy on research ethics. Based on the policy, the researcher safeguarded entrusted information obtained from participants. Collected information was incessantly protected from unauthorised access and use.

Ethical standards and considerations were upheld throughout the entire process of this research. The researcher was ethical at every stage of this research. Participation was voluntary, and the participants had the right to withdraw from the research at any time. In addition, the participants were free to contact the researcher at any time for questions and comments relating to the research. The researcher did not ask participants personal questions outside of the research topic. The protection of the privacy of research participants was ensured. The study applied all the appropriate considerations defined by the University of Zululand research ethical codes.

### **3.12 Chapter summary**

This chapter discussed the study's research methodology, outlining the paradigm and the approach adopted, that is, the pragmatism paradigm and the mixed-methods research approach, respectively. The focus was also on the case study as this is the research design that was also appropriate for this study, allowing the researcher to obtain detailed information from the librarian about library services at the Okhahlamba Teacher Development Centre. The target population, the sample size, and the sampling technique adopted were discussed. The data collection instruments included interviews and open-ended questionnaires to ensure data credibility and trustworthiness. How the collected data would be analysed and interpreted was also highlighted. The chapter came to a close with a description of the ethical considerations undertaken by the researcher. The next chapter presents the data and the data analysis.

## **CHAPTER FOUR: DATA PRESENTATION AND ANALYSIS**

### **4.1 Introduction**

This study aimed to assess the impact of information services on teachers' teaching practices in schools using the Okhahlamba Teacher Development Centre in KwaZulu-Natal, South Africa. The previous chapter discussed the research methodology and explained the adoption of the post-positivism paradigm. The current chapter discussed the thematic and descriptive data analysis of the data collected from the study respondents.

The findings are presented to align with the research objectives of the study, which are as follows:

- To determine the information needs and information-seeking behaviour of the 21<sup>st</sup>-century teachers in schools supported by the Okhahlamba Teacher Development Centre.
- To establish the information services and resources available and accessible by teachers at the Okhahlamba Teacher Development Centre.
- To ascertain the competencies of teachers in using information services and resources at the Okhahlamba Teacher Development Centre.
- To find out the challenges teachers face in using the information services of the Okhahlamba Teacher Development Centre.

### **4.2 Data from the Librarian**

The interview was conducted with the librarian at the Okhahlamba Teacher Development Centre. This section presents the findings from the interview.

#### **4.2.1 Personal Data**

It was important for the study to obtain personal information about the librarian to determine the relationship between the librarian's responses and the background data relevant to the study. The librarian's name was avoided, but the personal data required from the librarian included gender, age, educational qualifications, and work experience. Anonymity was maintained throughout.

#### **4.2.1.1 Gender**

The researcher held a face-to-face interview with the librarian. In terms of gender, the librarian was female, as indicated in Figure 4.1

#### **Figure 4.1: Gender of the librarian**

The findings revealed that the librarian is female and the only librarian, implying a shortage of staff that could provide information services to the teachers in the Okhahlamba Teacher Development Centre.

#### **4.2.1.2 Age of the Librarian**

The participant needed to indicate their age to determine whether the provision of information services had any bearing on their age. Age was divided into categories four categories. The results regarding the age of the librarian are indicated in Figure 4.2.

#### **Figure 4. 2: Age of the librarian**

The findings showed that the librarian was 31 to 40 years old, which could be because most library employees finished their qualifications between the ages of 22 to 24 years. The cohort of young employees is balancing the age gap, and it is also promising to the young and still energetic librarians to deal with youth information needs and services. Seeing a young librarian managing the Okhahlamba Teacher Development Centre Library could mean that the information needs of teachers would be better understood and met due to the thin age gap between the teachers and the librarian.

#### **4.2.1.3 Educational Qualifications**

The participant was asked about educational qualifications. This question was important because educational qualifications equip individuals with numerous skills and knowledge to perform their work duties successfully. The results regarding the librarian's qualifications are presented in Figure 4.3.

#### **Figure 4. 3: Librarian's Qualifications**

The findings revealed that the librarian had the National N Diploma in Public Management, Bachelor of Information Science, Postgraduate Certificate in Education and Bachelor of Information Science Honours. The study revealed that the librarian had the highest Library and Information Science qualifications. It is also revealed from these findings that holders of other qualifications are allowed to work in the LIS sector,

and the librarian holds a qualification in Public Management which is a good qualification for dealing with people since the librarian relates with different teachers from different schools. It is revealed again that the librarian also had a Postgraduate Certificate in Education, which qualifies the librarian to be a teacher. These results suggest that information services that meet teachers' information needs and information-seeking behaviour will be effectively provided because the librarian holds high and LIS-related qualifications.

#### **4.2.1.4 Work Experience**

The interviewed participant was asked to indicate the years of work experience at the Okhahlamba Teacher Development Centre library. This question was asked to determine the level of knowledge through work experience as a librarian. The interview schedule had four categories of years of work experience. The results are indicated in Figure 4.4.

#### **Figure 4. 4: Years of experience**

The results showed that the librarian fell under the third category of 11-15 years of experience.

#### **4.2.2 Teachers' information needs and information-seeking behaviour in schools supported by the Okhahlamba Teacher Development Centre**

The participant was asked to indicate how she identified the information needs and seeking behaviour of the teachers. This question was asked given that the main functions of libraries are to provide information that meets the users' needs. These include teachers as users of the library. According to the narrative from the interview conducted with the librarian, the information needs of the teachers also include the current trends such as 4IR and COVID-19. Here is what the librarian had to say:

*“Teachers need updated books to meet their information needs”.*

*“Most of the time, they need computers connected to the internet to search for information that is not available in books”.*

*“Most of the time, they need the latest information about a specific subject, and they use books and computers to conduct projects with learners”.*

*“Teachers have been looking for information on the current trends like 4IR and CODID-19 specifically”.*

*“They need information that relates to the subjects they are teaching; for instance, teachers who are teaching business studies usually need business studies books and also search information about businesses and business icons around the world”.*

*“They also need the information to further their studies”.*

*“Some teachers need information for personal reading and entertainment”.*

*“They also need information on jobs”.*

The participant was asked to explain the information-seeking behaviour of the teachers. This question was asked to understand the information-seeking behaviour of the teachers. The following narratives were provided:

*“Teachers search information for themselves in the library”.*

*“They usually search for themselves and ask the librarian for assistance if they can’t locate what they need”.*

*“Teachers are able to use computers and access the internet, which allows them to access the information they need”.*

*“Teachers access information on the internet”.*

*“Teachers are familiar with the library arrangement because the arrangement in the library is the very same arrangement that is used in their schools; they seek information sources for themselves. For example, teachers who are teaching History subject know exactly that to locate history books, the class number for history is nine hundred”.*

*“Shelf reading is done every Friday so that I am always up-to-date with the arrangement and availability of the books, which makes it easy to assist the teachers whenever they need the information or need to access it themselves”.*

*“Teachers ask me for assistance if they need any”.*

#### **4.2.3 Information services and resources available and accessible by teachers in schools supported by the Okhahlamba Teacher Development Centre**

The participant was asked about the information services and resources that were available and accessible in the library. This question aimed to determine the library resources available to meet the teachers' information needs. Response to this question was as follows:

*“The library has books, which are fiction and non-fiction books, encyclopaedias, dictionaries, study guides, textbooks, computers, educational compact discs, internet access, educational charts, educational toys, educational globes”.*

*“The library has computers and internet access”.*

#### **4.2.4 Competences teachers have to use information services and resources available in the library of the Okhahlamba Teacher Development Centre**

The participant was asked about the competencies teachers have to use the information services and resources available in the library. This question aimed to determine if the teachers can access information services and resources in the library. The response to this question from the participant was as follows:

*“The library is arranged according to the Dewey Decimal Classification, which is the classification that teachers are familiar with since it is the very same classification that is used in their schools which made it easy for the teachers to locate and access the information they need”.*

*“Most of the teachers can use computers and can browse through the internet to find the information they need”.*

*“Teachers are also trained to access information services and resources, and they receive assistance from me where they face problems in accessing information services and resources in the library”.*

*“Teachers are able to use and find information on educational globes as well educational CDs and educational toys”.*

*“Library orientation is offered to teachers so that they are familiar with everything”.*

*“Fortunately enough teachers are offered training on computer skills and highlighted that even now there is training going on for teachers to mention a few are Coding and Robotics and Basic Computer skills by Trainers Without Borders”.*

*“The IT Technician also offers basic computer skills to teachers interested”.*

#### **4.2.5 Challenges teachers face in using information services of the Okhahlamba Teacher Development Centre**

The participant was asked about the challenges teachers face when utilising the information services and resources available in the Okhahlamba Teacher Development Centre library. This question aimed to determine if there are challenges hindering teachers from accessing information services and resources in the library and whether the librarian or the library is aware of such challenges. The response to this question from the participant was as follows:

*“Shortage or irrelevance of books to access information from”.*

*“Shortage of staff; there is only me in the library to assist all the teachers from all the schools served at Okhahlamba”.*

*“Distance from their schools is also challenging because some arrive with only one hour left for the library to close”.*

*“Opening hours, not the opening of the library on weekends, is a great challenge to teachers”.*

*“Shortage of computers”.*

*“Slow internet connection”.*

*“The greatest challenge of most teachers was the end of the mobile library services, which was a mobile library that served far and disadvantaged schools”.*

*“Another big challenge is that I am not involved in selecting material for the library; the library receives material from ELITS without my input.”*

*“Sometimes space is a challenge”.*

### 4.3 Data from teachers

It was important for the study to obtain data from the teachers. This section provides data that was collected from the respondents.

#### 4.3.1 Personal Data

It was important that the respondents provide their personal data such as gender, age and qualifications. This section provides personal data that was collected from the respondents.

##### 4.3.1.1 Name of schools

The respondents were asked to indicate the names of their schools. This question was asked to know the number of teachers from schools. The findings are indicated in Table 4.1. This section provides data that was collected from the teachers.

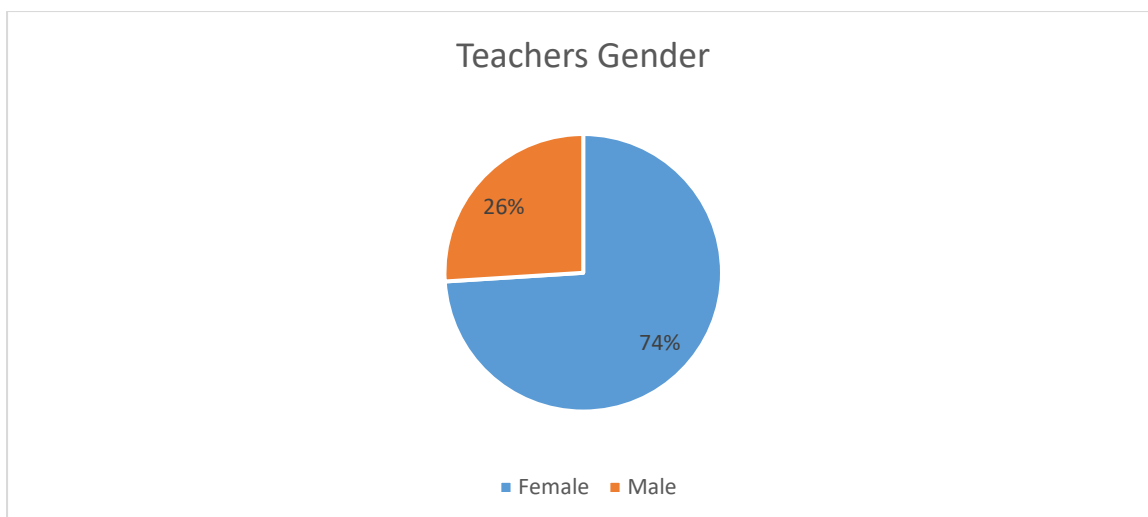
**Table 4. 1: Name of schools**

<b>Schools</b>	<b>Number of Teachers</b>
A	14
B	13
C	4
D	4
E	5
F	8
G	4
H	1
I	9
J	3
<b>Total</b>	<b>65</b>

The respondents indicated the names of their schools since they are from different schools.

##### 4.3.1.2 Gender of the teachers

The respondents were asked to indicate their gender. This question was asked to identify if there was any relationship between gender and information needs, and information-seeking behaviour. The results are shown in Figure 4.5.



**Figure 4.5: Gender of the teachers**

The findings revealed that the male respondents were 17 (26%) and the females 48 (74%).

#### 4.3.1.3 Grade Taught

The respondents were asked to indicate the grades they taught. The results regarding the grades that teachers taught are indicated in Table 4.2.

**Table 4. 2: Grade Taught**

Grade Taught	Number of Teachers
Grade R	7
Grade 1	8
Grade 2	7
Grade 3	10
Grade 4	17
Grade 5	18
Grade 6	17
Grade 7	19
Grade 8	2
Grade 9	8
Grade 10	10
Grade 11	5
Grade 12	8

Findings revealed that respondents taught different grades from Grade R to Grade 12.

#### 4.3.1.4 Subject Taught

The respondents were asked to indicate the subjects they taught. The results regarding the subject teachers taught are indicated in Table 4.3.

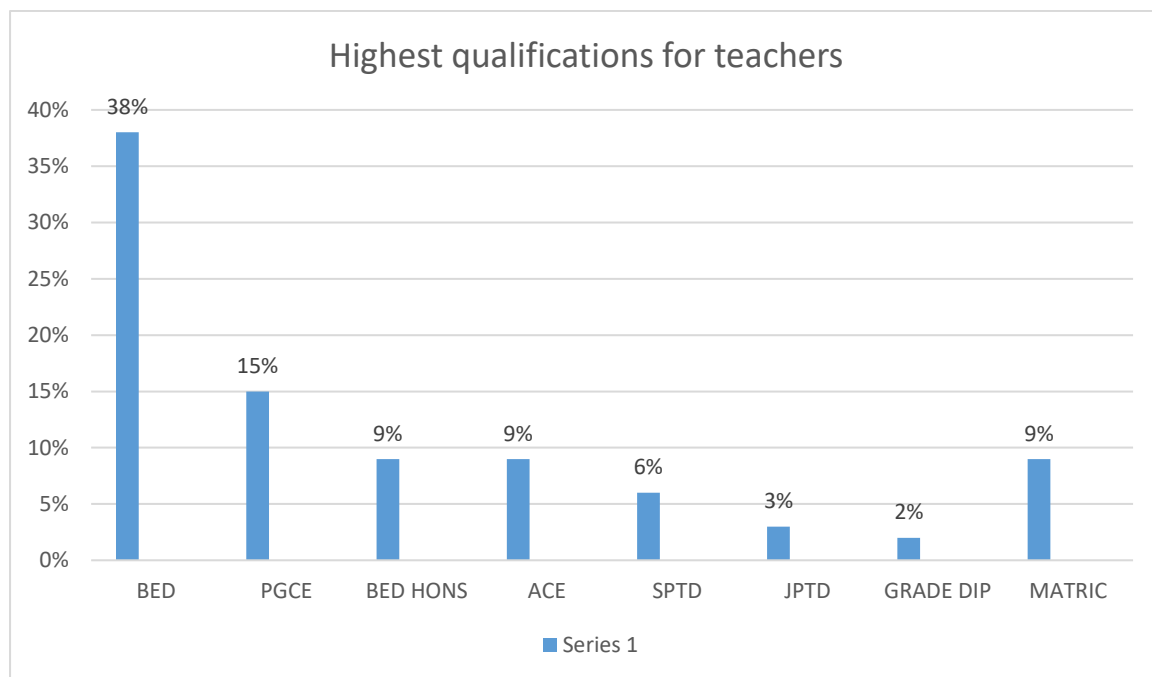
**Table 4. 3: Subject Taught**

<b>Subject Taught</b>	<b>Number of Teachers</b>
Accounting	1
Agricultural Sciences	1
Business Studies	2
Cat	1
Consumer Studies	1
Creative Arts	1
Economics	1
Ems	6
English	31
Geography	1
IsiZulu	29
Life Orientation	5
Life Sciences	2
Life Skills	20
Literacy	1
Mathematics	1
Maths Lit	1
Natural Sciences	17
Numeracy	1
Physical Sciences	1
Social Sciences	8
Technology	14

Findings revealed that respondents taught different subjects to different grades, from Grade R to Grade 12.

#### 4.3.1.5 Highest Qualification of the Teachers

The respondents were requested to provide their educational qualifications. This question was important because educational qualifications equip individuals with considerable skills and knowledge for job performance. The results are indicated in Figure 4.6.



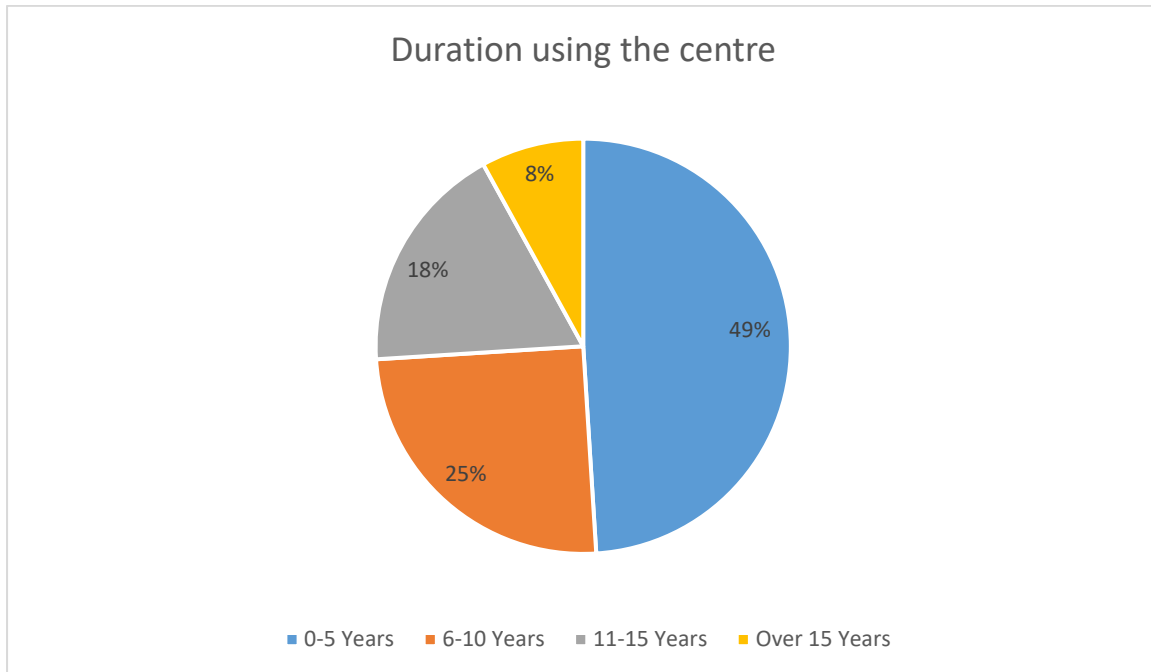
**Figure 4. 6: Teachers Highest Qualifications**

The findings revealed that most teachers (25; 38%) had Bachelor of Education Degrees, followed by Postgraduate Certificates in Education (10; 15%). Six (9%) teachers held a Bachelor of Education Honours Degree. Another 6 (9%) teachers had Advanced Certificate in Education, 5 (8%) teachers had National Primary Diploma in Education, and another 4 (6%) had a Senior Primary Teachers Diploma. Two (2; 3%) teachers possessed Junior Primary Teachers Diploma, 1 (2%) had a Diploma in Grade R Teaching, and the last 6 (9%) possessed Matric Certificates.

#### 4.3.1.6 Duration of Using the Teacher Development Centre

All 65 (100%) respondents were asked to indicate their experience using the Teacher Development Centre. This question was asked to determine their experience level at the Okhahlamba Teacher Development Centre Library. The years of experience

utilising the Okhahlamba Teacher Development Centre were divided into four categories. The results are illustrated in Figure 4.7.



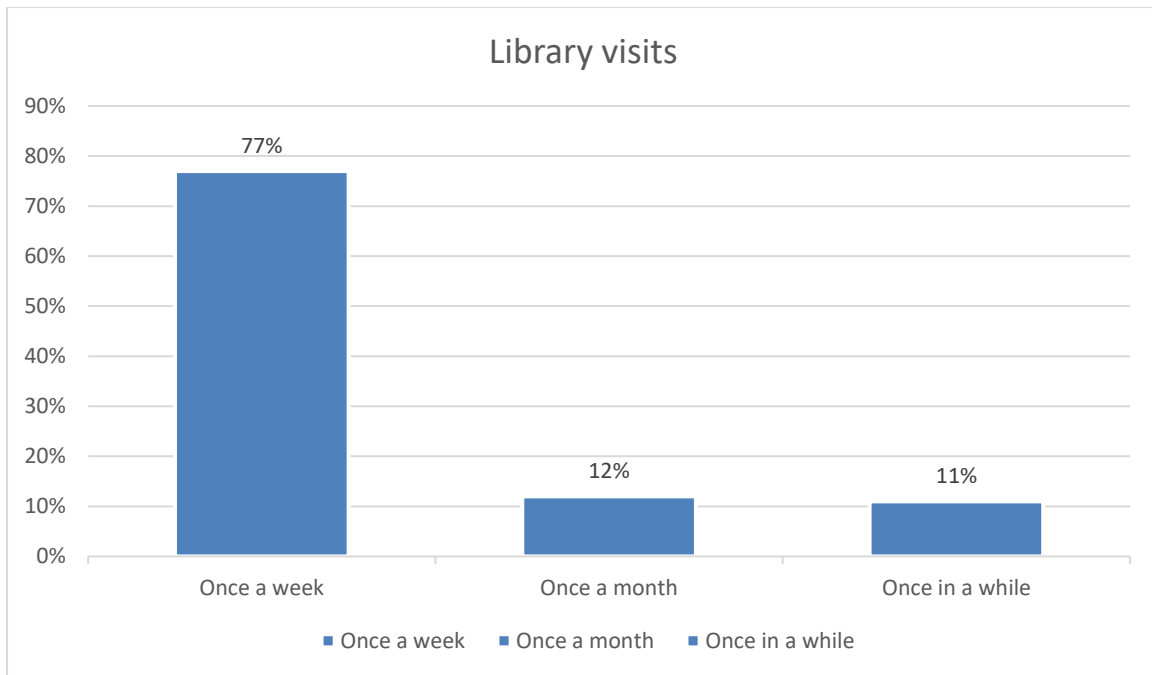
**Figure 4. 7: Duration using the centre**

The results showed that out of the 65 teachers (100%), 32 (49%) fell under the first category (0-5 years of experience), and 16 (25%) were within the 6-10 years of experience category. Only 12 (18%) fell under the third category of 11-15 years of experience, while 5 (8%) were under the fourth category of more than 15 years. One (2%) indicated 17 years, 2 (3%) said 18 years, another 1 (2%) said 19 years, and the last 1 (2%) said 20 years of experience. The findings indicated that few teachers had more than 15 years of Okhahlamba Teachers Development library utilisation experience.

#### **4.3.2 Teachers' Information Needs and Information-Seeking Behaviour in Schools Supported by the Okhahlamba Teacher Development Centre**

The following research questions were asked to identify the information needs and information-seeking behaviour of teachers utilising the Teacher Development Centre:

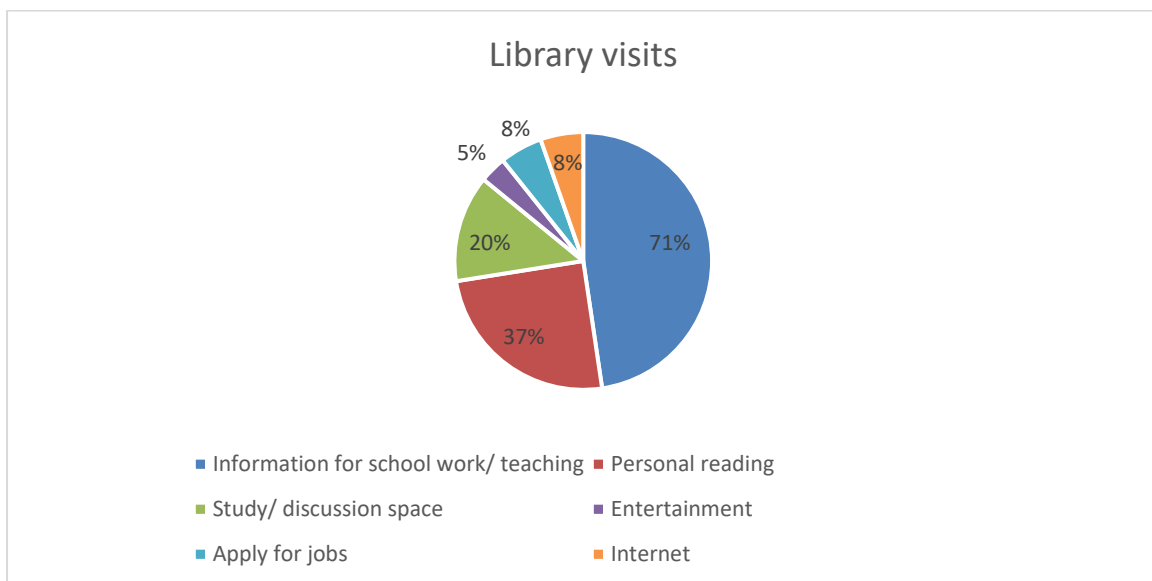
The respondents were asked how often they visited the Library. This question was asked to find out how often they visit the library. Figure 4.8 indicates the findings.



**Figure 4. 8: Library visits**

The majority of teachers (50;77%) indicated that they often (once a week) visit the library, some teachers (8;12%) said not often (once a month), and only a few (7;11%) answered once in a while.

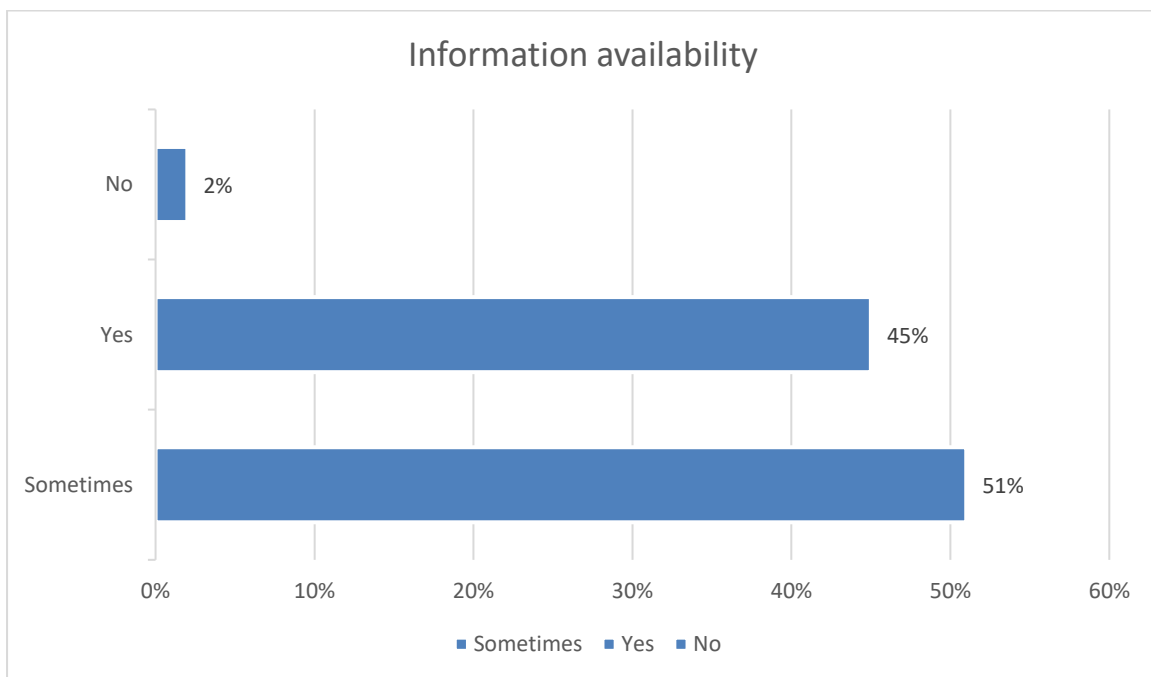
The respondents were asked what they look for when they visit the library. This question was asked to determine what the teachers look for when visiting the library. The findings are presented in Figure 4.9.



**Figure 4. 9: Library visits**

Many teachers (46;71%) indicated that they visit the library to look for Information for their school work/teaching, a significant number (24;37%) mentioned that they visit the library for personal reading, and few (13;20%) mentioned study/discussion space, few (5;8%) replied entertainment, some (8;12%) to apply for jobs, and others (5;8%) to use the Internet.

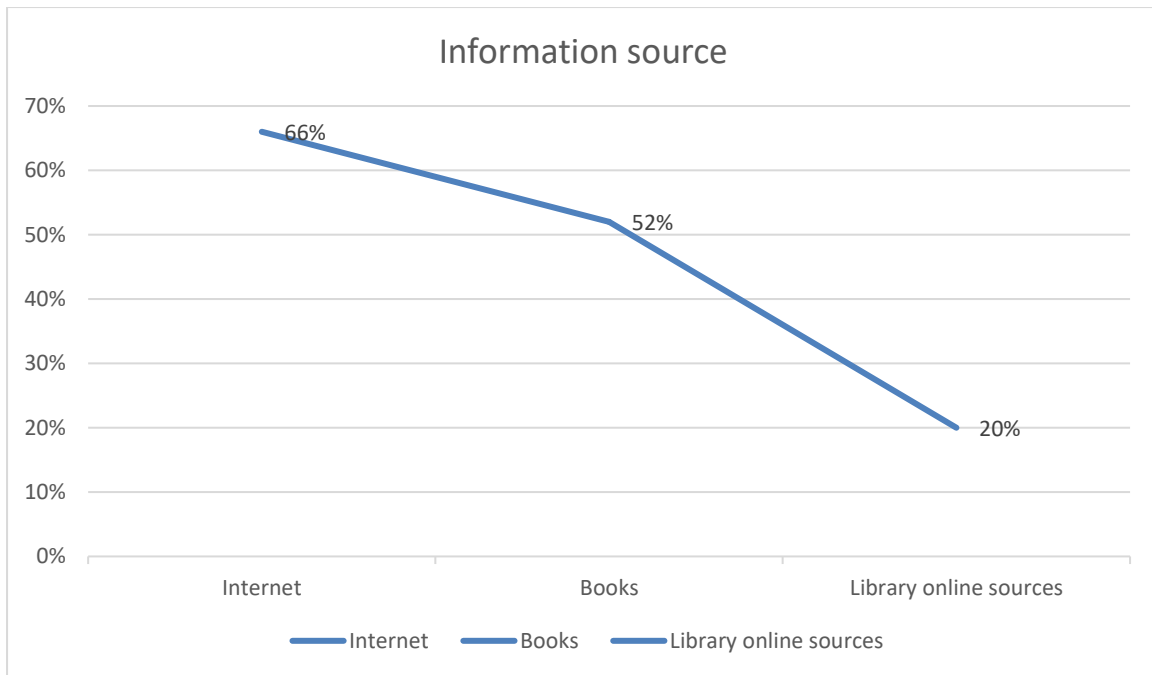
The respondents were asked if they always find the information they need in the library. This question was asked to determine if their information needs were met. The results of the information available to teachers are indicated in Figure 4.10.



**Figure 4. 10: Information availability**

The majority (33;51%) answered that they sometimes find the information they need; some (29;45%) said they always find the information they need, and only (1;2%) indicated no.

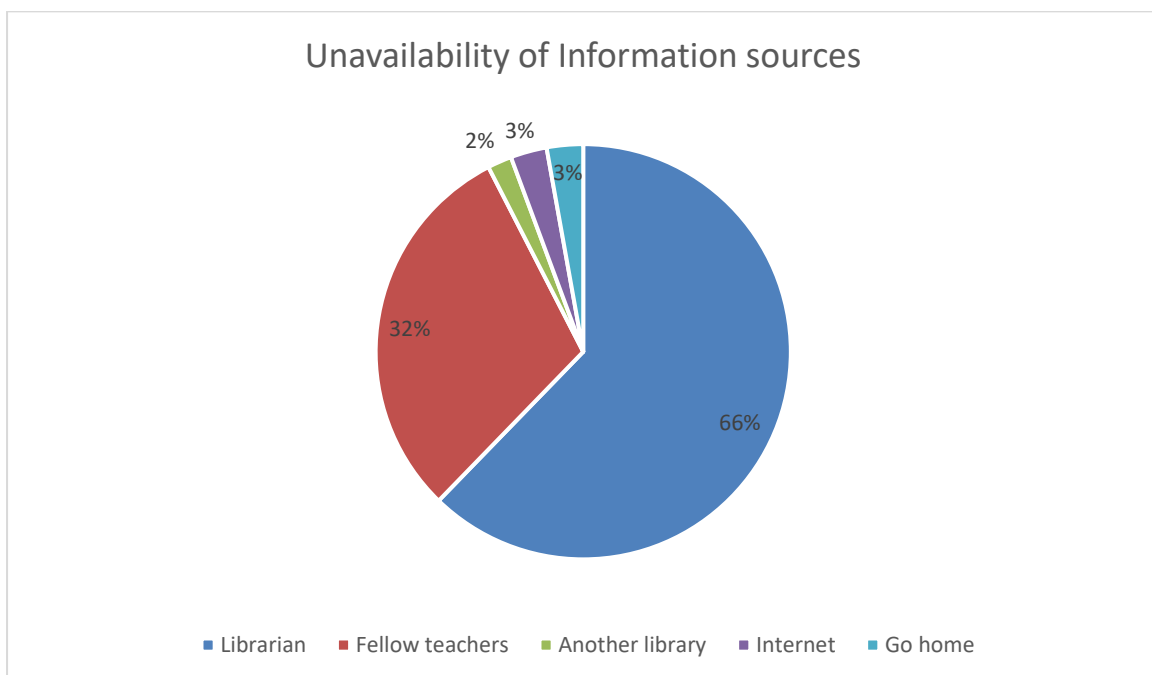
The respondents were asked which information source would give them the needed information. The question was asked to determine which information sources would likely give them information. The results on information sources that are likely to give the teachers the information they need are indicated in Figure 4.11.



**Figure 4. 11: Information source**

The majority (43;66%) indicated the internet, 34 (52%) indicated that books were the information sources that provided them with information, and few (13;20%) mentioned online library resources.

The respondents were asked what they would do if they did not find the information sources they wanted. The responses are indicated in Figure 4.12.



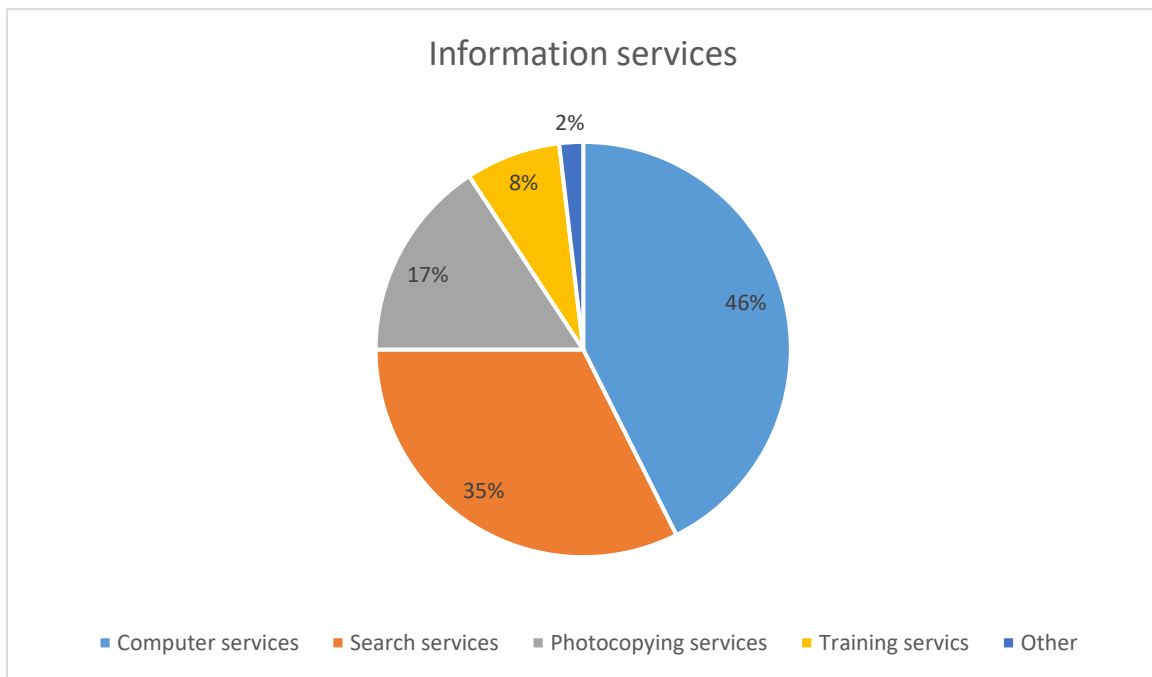
**Figure 4. 12: Unavailability of information sources**

The majority (44;66%) indicated that they ask the Librarian if they do not find the information sources, 21 (32%) indicated that they ask fellow teachers, 1 (2%) mentioned another library, 2 (3%) said internet, and another 2 (3%) indicated that they go home.

### 4.3.3 Information services and resources are available and accessible by teachers in schools supported by the Okhahlamba Teacher Development Centre

To establish the information and knowledge services and facilities available and accessible to teachers utilising the Teacher Development Centre, the following questions were asked:

The respondents were asked what information services they normally look for from the library. The results regarding teachers' required information services are indicated in Figure 4.13.

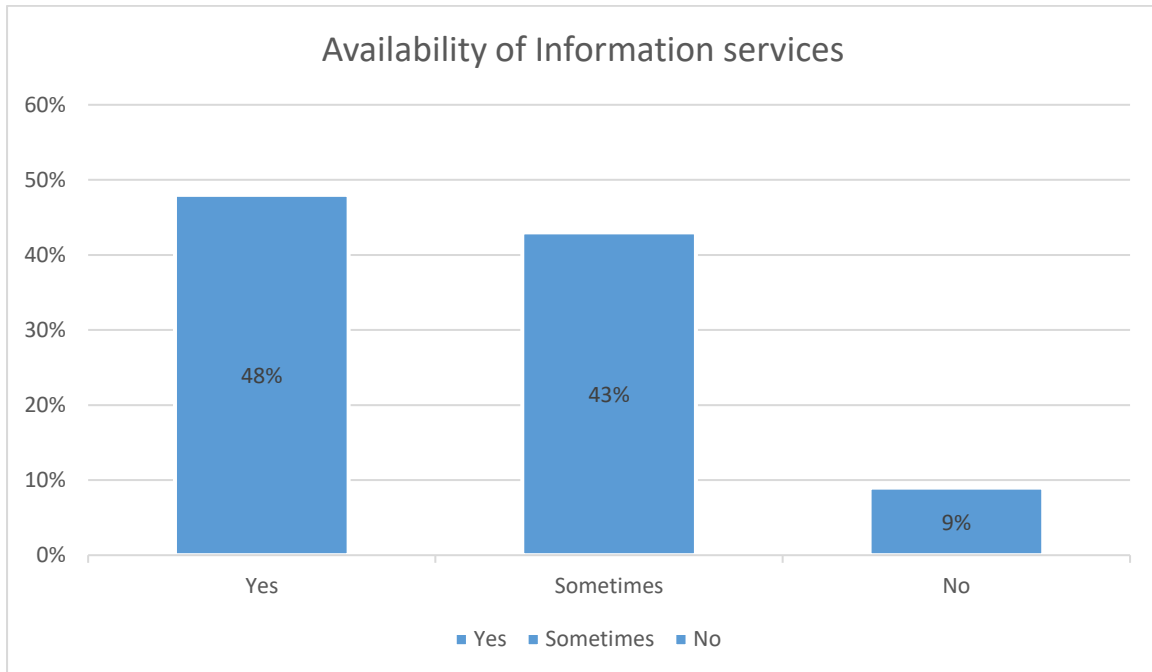


**Figure 4.13: Information services**

More teachers (30;46%) looked for computer services, some (23;35%) indicated search services, few (11;17%) mentioned photocopying services, 5 (8%) mentioned training services, and only 1 (2%) answered other - social media.

The respondents were asked if the library's information services are always available. This question was asked to find out if the library's information services are always

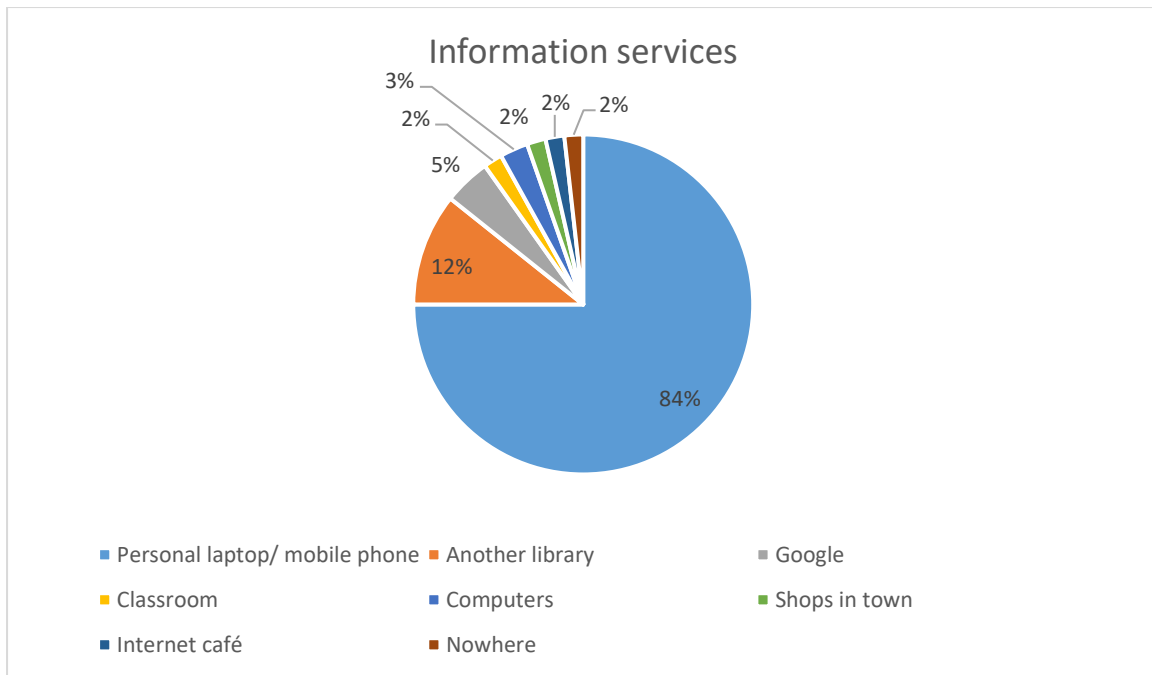
available. The results about the availability of information services are indicated in Figure 4.14



**Figure 4.14: Availability of information services**

Thirty-one (31;48%) teachers said the library's information services were always available. Some (28;43%) replied that the information services are sometimes available, and only a few (6;9%) indicated not.

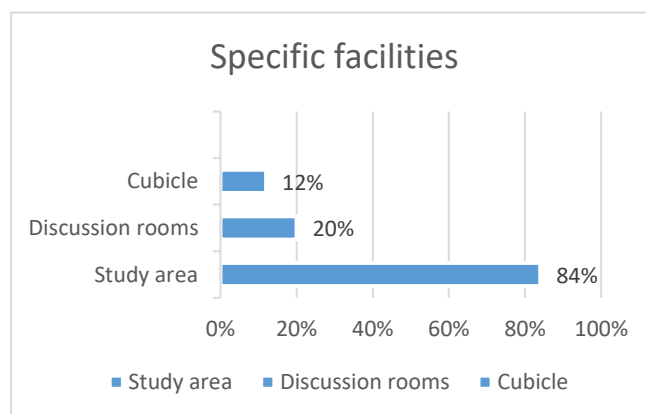
The respondents were asked where else they got the information services if they were unavailable in the library. The results of the information services are indicated in Figure 4.15



**Figure 4. 15: Information services accessibility**

Most teachers (55;84%) indicated that they use their laptops or mobile phone, 8 (2%) indicated another library, very few (3;5%) mentioned other - Google, classroom (1;2%), computers (2;3%), shops in town (1;2%), internet café (1;2%), and only 1 (2%) replied nowhere.

The respondents were asked what facilities they wished to use in the library. The results regarding specific facilities are indicated in Figure 4.16.



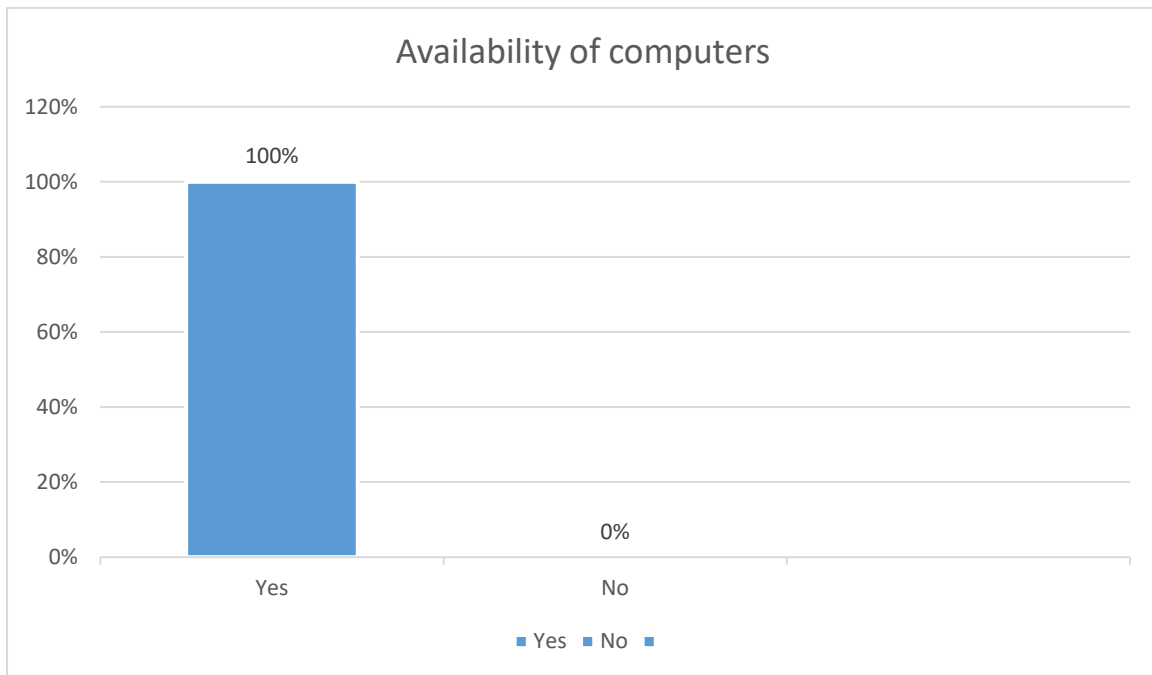
**Figure 4.16: Specific facilities**

A majority (55;84%) wished to have a study area, and a significant number (13;20%) indicated discussion rooms. A few (8;12 %) wanted more cubicles.

#### 4.3.4 Competencies teachers have to use information services and resources available in the library of the Okhahlamba Teacher Development Centre

To ascertain the competencies of teachers in using information services and resources at the Okhahlamba Teacher Development Centre, the following questions were asked:

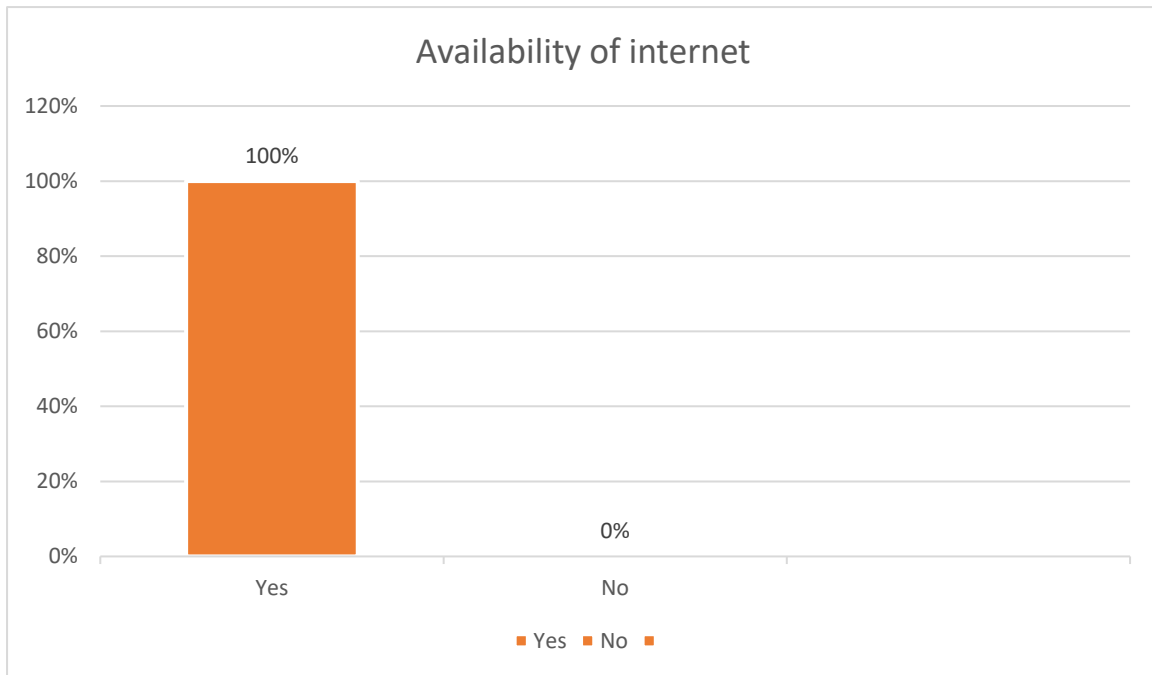
The respondents were asked if the library had computers. This question was asked to determine if there were computers in the library. The results regarding the availability of computers are indicated in Figure 4.17.



**Figure 4.17: Availability of computers**

All respondents indicated that the library had computers.

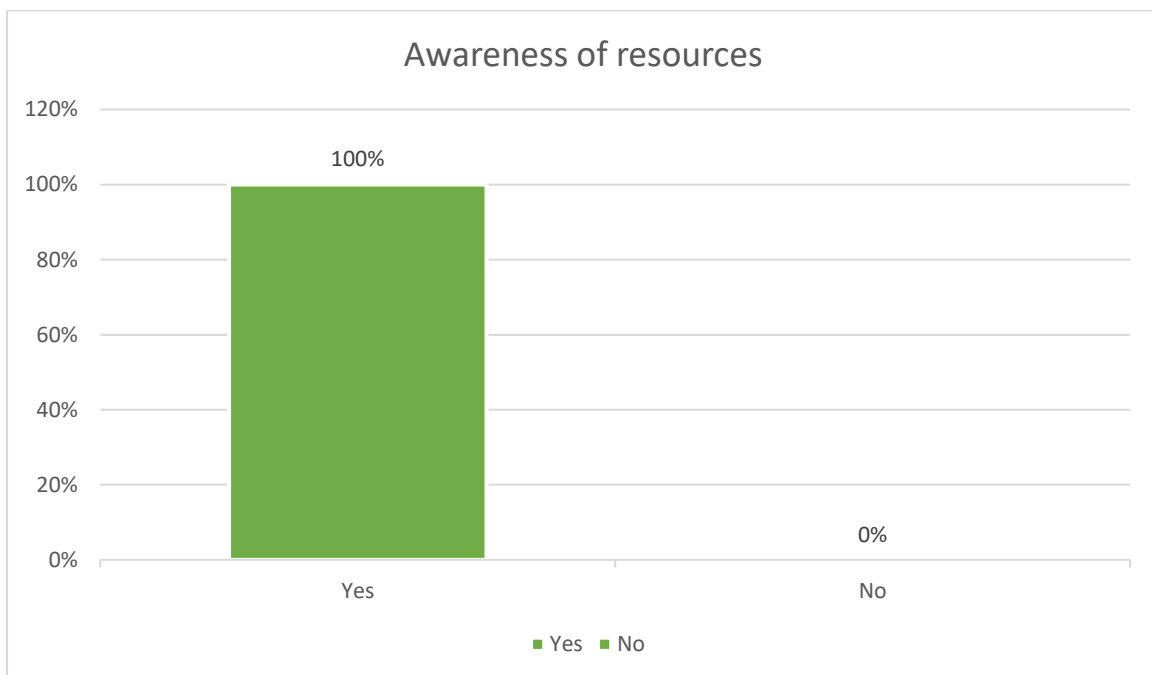
The respondents were further asked if the computers in the library had internet access. The results regarding the availability of the internet are indicated in Figure 4.18.



**Figure 4.18: Availability of the internet**

All respondents indicated that the library computers had internet access.

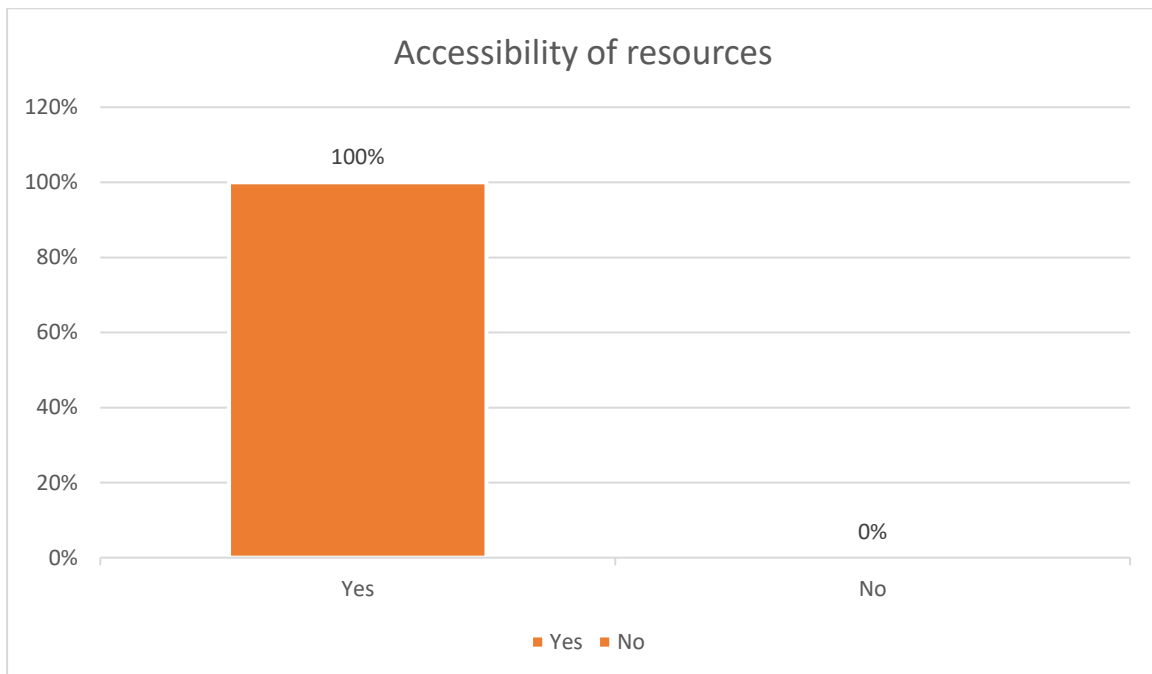
The respondents were asked whether they were aware of all the resources in the library. This question was asked to determine if the teachers are aware of all the resources in the library. The results regarding the awareness of resources are indicated in Figure 4.19.



**Figure 4. 19: Awareness of resources**

All respondents indicated yes, as they are aware of all the resources in the library.

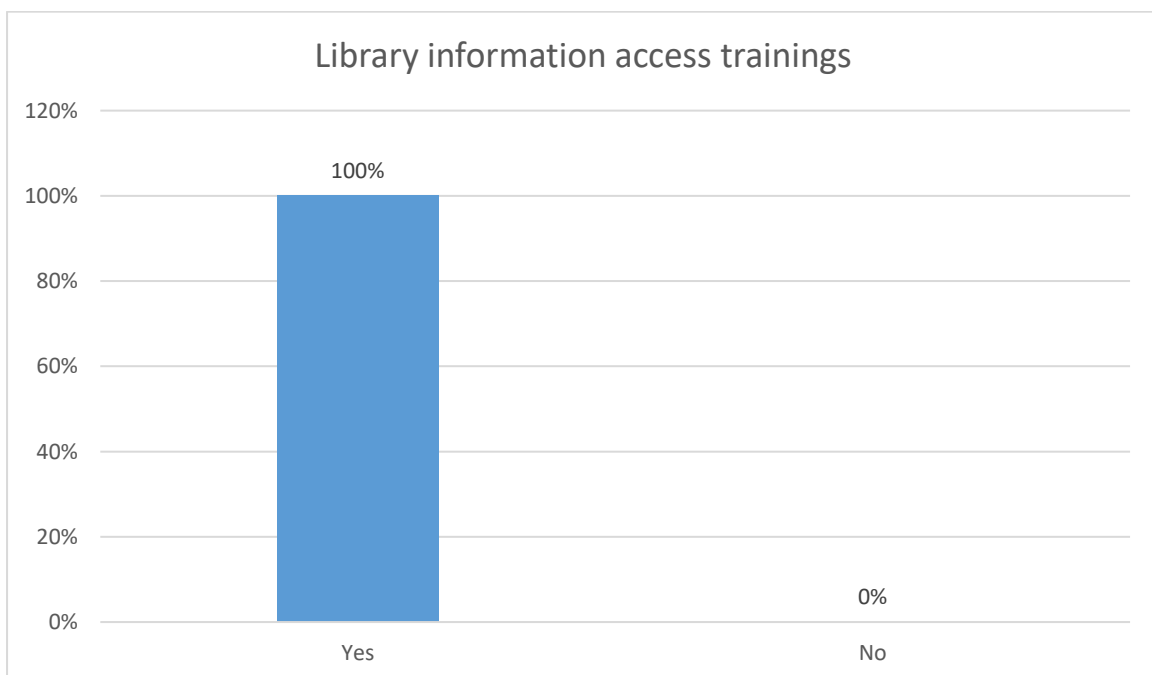
The respondents were asked if they were able to access all the resources in the library. This question was asked to determine if teachers could access all the library resources. The results regarding the accessibility of resources are indicated in Figure 4.20.



**Figure 4. 20: Accessibility of resources**

All respondents indicated that they could access all the resources in the library.

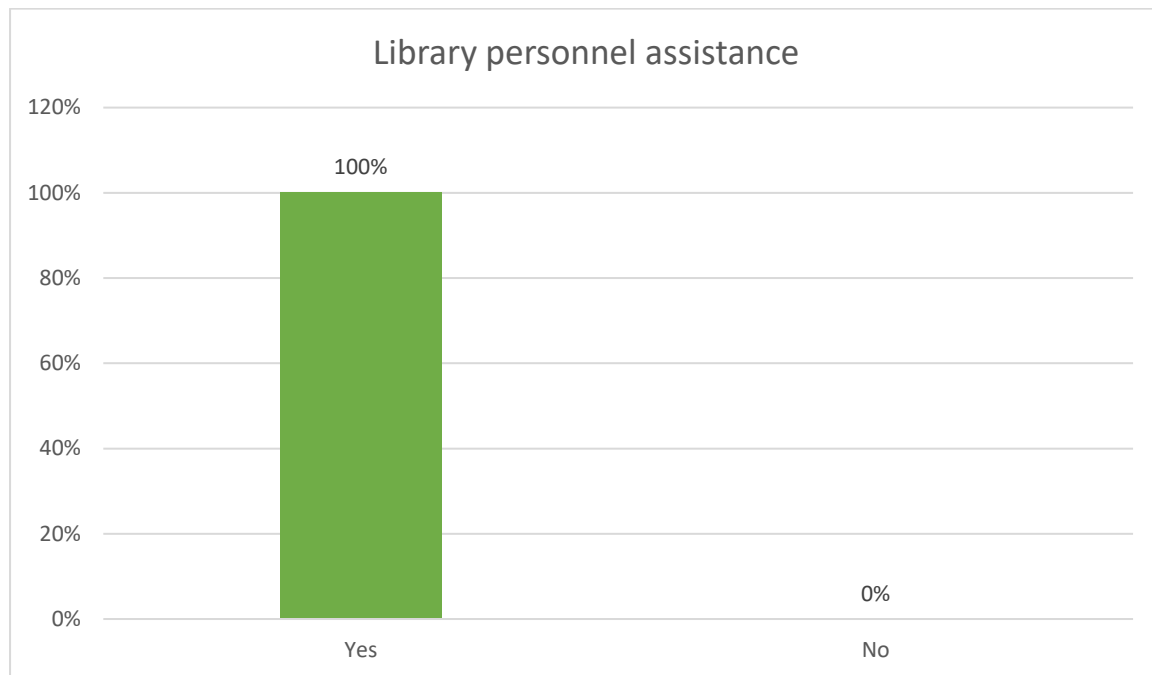
The respondents were then asked if the library offered training to access information. The responses are presented in Figure 4.21.



#### Figure 4. 21: Information access trainings

All respondents indicated that the library offered information access training.

The respondents were asked if the library personnel always assisted them when required. The results regarding library personnel assistance are indicated in Figure 4.22.



#### Figure 4. 22: Library personnel assistance

All respondents indicated yes. The library personnel usually assisted them.

#### 4.3.5 Challenges teachers face in using information services of the Okhahlamba Teacher Development Centre

To find out the challenges teachers faced using the information services of the Okhahlamba Teacher Development Centre. The following question was asked to determine teachers' challenges when accessing information services. The results regarding challenges teachers face when accessing information services were:

All (65;100%) highlighted not opening on weekends as a challenge. Most (55;84%) indicated a shortage of computers, slow internet service and unavailability of WI-FI. Some (46,71%) indicated inadequate books, resources for educators' development, and books that accommodate different kinds of learners. Some (38;58%) highlighted a shortage of staff. Others noted the following:

- The librarian not being familiar with their curriculum,
- Not being notified about new resources,

- The shortage of technological devices,
- The end of mobile library service,
- Outdated resources that suit the curriculum,
- Uncontrolled behaviour of the users,
- Irrelevant books,
- Shortage of books and learning materials that align with the syllabus,
- Curriculum together with ATPs,
- No security in case of emergency,
- No developmental skills,
- Lack of study rooms for kids,
- No internet access at the libraries in schools,
- No ongoing training services,
- No improvement in the infrastructure and internet access facilities,
- Shortage of study guides and animation/simulations. Especially subjects with practical, and
- No separate computer services for research purposes and online applications.

Most (46,71%) teachers indicated that the distance from their schools to the Centre is very long, while Some (31,48%) teachers highlighted that the end of the mobile library service was a setback for them.

#### **4.4 Chapter Summary**

This chapter presented the analysis of findings. The findings were obtained from the librarian interview and questionnaires distributed to teachers. The responses from the respondents contributed to the current study by indicating the impact of information services on teachers' teaching practices in schools using the Okhahlamba Teacher Development Centre in KwaZulu-Natal, South Africa. The data presented include personal information as well as questions that were guided by the objectives of the study.

The next chapter presents a discussion of the research findings.

## **CHAPTER FIVE: DISCUSSION OF FINDINGS**

### **5.1 Introduction**

This chapter reflects on the key findings that emerged from the presentation and analysis of finding in Chapter Four. The data was obtained from the two population groups, the librarian and teachers, to assess the impact of information services on teachers' teaching practices in schools using the Okhahlamba Teacher Development Centre in KwaZulu-Natal, South Africa. In this chapter, the discussion of findings is linked, where applicable, with the findings from the two population groups, reviewed literature, and the theory used.

The chapter is guided by the research questions of the study, which are:

- What are the teachers' information needs and information-seeking behaviour in schools supported by the Okhahlamba Teacher Development Centre?
- What information services and resources are available and accessible by teachers in schools supported by the Okhahlamba Teacher Development Centre?
- What competencies do teachers have to use information services and resources available in the Okhahlamba Teacher Development Centre library?
- Are there challenges teachers face in using the information services of the Okhahlamba Teacher Development Centre?

### **5.2 Teachers' information needs and information-seeking behaviour in schools supported by the Okhahlamba Teacher Development Centre**

Understanding information needs and information-seeking behaviour is important for providing academic services to high school learners. Information needs and seeking behaviour are understood on different levels (Mugwisi, Ocholla, and Mostert, 2014: 86). For instance, the need arises when there is a void in what one has, and the seeking behaviour follows as the process and the way one attempts to fill in the void. The authors note that a need is a feeling of an inadequate state of knowledge. The findings of this study revealed that the teachers' needs are information for teaching, personal reading, furthering their studies, discussion space, entertainment, job applications and the internet. These findings align with Bitso, (2013:346), who highlighted that teachers depend on information to carry out their teaching tasks and

everyday activities, resulting in information needs that present the desire to find information. The findings further revealed that teachers need updated books to meet their information needs, similar to the findings by Bitso, and Fourie, (2011:186). The authors highlighted that teachers' main sources of information were the syllabus documents, books, and colleagues. Most of the time, teachers need computers connected to the internet to search for information that is not available in books. Therefore, they need the latest information about a specific subject and use books and computers to conduct projects with learners.

Teachers have been looking for information on current trends like the 4IR and COVID-19. They need information related to the subjects they teach; for instance, to teach business studies, they will need business studies textbooks and also search for information about businesses and business icons worldwide. Some teachers need information for personal and professional development, job search, and entertainment. The study showed that teachers' information needs were met. Teachers' information needs and seeking behaviour were noted and differed in some instances. According to Maphoto, (2016:60), the information needs differ in most cases, depending on the context. The findings revealed that teachers generally needed information to perform their school and personal work, improve teaching skills, and achieve good outcomes. These results align with Moodley, (2013), who stated that users of the library regard education as the most important information need.

### **5.3 Information services and resources are available and accessible by teachers in schools supported by the Okhahlamba Teacher Development Centre**

In response to the information services and resources available to meet the needs of teachers, the librarian indicated that the library ensures that there are books on shelves and they are arranged accordingly. This outcome means that books are the main resources of the library that teachers can utilise to meet their information needs. The findings revealed that information and knowledge services and facilities also available and accessible to teachers are computer services, search services, photocopying services and training services.

The findings also revealed that the library has resources, such as fiction and non-fiction books, encyclopaedias, dictionaries, study guides, textbooks, computers,

internet access, educational compact discs, charts, toys, and globes. These findings align with what was underscored by Bitso, and Fourie, (2011:186) that teachers' main sources of information were the syllabus documents, books, and colleagues. The study also found that newspapers and television were considered sources of information. In this study, it is also found that the internet is a source of information.

Similar to the findings of this study on the information sources available in the library, Ledwaba, (2018) observed that library resources include dictionaries, CDs, yearbooks, maps, newspapers, magazines, and books. The use of information sources preferred by teachers is similar to those found in the study conducted by Shipman, Bannon, and Nunes-Bufford, (2015:120). The authors found that in-service teachers used traditional information sources such as newspapers, magazines, textbooks, encyclopaedias, online databases, personal contacts, and reliance on colleagues.

#### **5.4 Competencies teachers must use information services and resources available in the library of the Okhahlamba Teacher Development Centre**

The Digital Education Action Plan 2021–2027, recently published by the European Commission (2020), emphasises that skills possessed by teachers and the sense of competence they experience are a prerequisite for transmitting the core competencies of the 21<sup>st</sup> century. Digital competence should be a core skill for all educators and training staff and should be embedded in all areas of teachers' professional development, including initial teacher education. This submission supports the findings of this study which revealed that teachers could access information services and resources available and accessible by teachers in schools supported by the Okhahlamba Teacher Development Centre. Teachers can access information using computers and can search through the internet.

Teachers need the skills to navigate the world of information overload to perform their roles and task efficiently. Oosthuizen, (1997:233) contends that if teachers know how, why, and where to find information and use it, these skills will enhance their teaching and impact the pupils and the community. This observation is similar to the findings that the teachers can use the computers and search for information through the internet. The librarian confidently indicated that the library is arranged according to the Dewey Decimal Classification Scheme, which is the classification

that teachers are familiar with since it is the same classification used in their schools, making it easy for the teachers to locate and access the information they need.

Digital education and skills should also consider the environmental and climate impacts of developing and using digital equipment and services (European Commission, 2020). This submission corroborates this study's findings as the librarian elaborated that teachers are also trained to access information services and resources and receive assistance from the librarian when they face problems accessing resources library. The librarian further indicated that most teachers could use computers and browse the internet to find the necessary information. The librarian elaborated that teachers are also trained to access information services and resources and receive assistance from the librarian when they face problems accessing them in the library. The librarian also indicated that teachers could use and find information on educational globes, CDs and toys. The librarian also noted that library orientation is offered to teachers to familiarise them with everything. The librarian also indicated that teachers are offered training on computer skills and highlighted that at the time of the interview, there was ongoing training for teachers on "Coding and Robotics and Basic Computer skills by Trainers Without Borders." The librarian also mentioned that the IT Technician offers basic computer skills to interested teachers.

### **5.5 Challenges teachers face in using information services of the Okhahlamba Teacher Development Centre**

Challenges faced by the teachers when using the information services of the Okhahlamba Teacher Development Centre are like challenges faced by the teachers while using the library. According to Muhamad, Ghalib, Saeed, and Sumera, (2021:24), most teachers complain that books are kept on closed-access shelves, which leads to inaccessibility. Other challenges noted include the following: lack of computers and internet connectivity in the libraries, inadequate furniture and photocopying machines, lack of access to required reading materials because libraries have outdated materials, unqualified library staff, not cooperating with users, and epileptic supply of electricity in the libraries. This study's findings confirmed these challenges.

In every service provision space, there are challenges caused by many factors. Different points of view were given; for example, budget allocation was mentioned,

which is in line with Green, (2013), who mentioned that library budgets are often reduced to divert funds to other services that are judged more important.

As it was suggested that the centres should have resources and materials available to support teacher learning in the study (Thwala, 2019:38), this study also discovered the need to support libraries so that more information resources, such as updated books, more computers with internet access, mobile library services, and computer training programmes, should be available, particularly to disadvantaged schools.

As the Department of Basic Education stated, the Teacher Development Centres' function is to help teachers develop their instructional skills in ICT and subject areas where they may fall short (DBE, 2015). Ongoing internet access and orientation on search tactics were suggested in this study to ensure that connectivity is there all the time and that teachers are equipped with search skills and knowledge. There is a need to upgrade internet connectivity, so the Wi-Fi connectivity lasts longer. This result concurs with Mojapelo, (2020), who highlighted that the server could be offline for a week, implying a devaluation of the library. As a result, some teachers might negatively perceive the library as useless, which is not always true.

The role of the department and Education Library Information and Technology Service is important for the betterment of the services in the library. Libraries remain universally accessible to anyone and are uniquely positioned nationwide (Lawson, 2016). This submission is in line with the suggestion that the library's opening hours should be revised because they are currently not favourable to teachers. Opening during weekends was considered to enable teachers to access information without time restriction because some teachers usually arrive towards the library's closing time.

An education system cannot be better than its teachers; thus, teachers' development is a key focus of many systems (Ajibade, and Bertram, 2020:2). The authors' position is in line with the training of teachers to utilise library services and sources. Orientation will expose teachers to the library and its services and provide them with skills that will enable them to be lifelong learners.

21st-Century teaching means teaching as you have always taught but with today's tools and technology. It means utilising everything important in today's world so that students can live and prosper in today's economy, as well as having the ability to guide

students and prepare them for the future (Cox 2021). In line with Cox's (2021) delivery, this study's findings of ongoing training for teachers on new technological facilities in libraries and teaching requires that visiting schools around the centre's library could improve the provision of services to teachers, and the librarian will be able to understand the schools' curricula. The visits would establish the school's needs, and the teacher-learner-librarian partnership would be created. It is also important to highlight that the teachers suggested that more librarians should be employed to meet their needs. This visit suggestion would be adequately met when the library has more qualified librarians.

The Teachers' Development centres serve primary and secondary school educators, subject advisors, circuit managers, Department of Education (DoE) officials, learners from different schools, and the community at large (Ajibade, and Bertram, 2020:2). This role confirms the request that the space of the library expanded to accommodate more teachers and other users at any given time. Thus, the Education Library Information and Technology Service should consider the librarian's involvement when making decisions, as this will address the complaint about librarians' non-involvement in selecting library materials/services. Library services include instruction on accessing and using library materials, circulation service, reference service, online reservation of books, recommendation of library material, current awareness service, interlibrary loan service, photocopying/printing service, orientation and information sessions, selective dissemination of information, audiovisual service and multimedia section (Tella, Quadri Bamidele, and Ajiboye, 2021). Involving librarians would improve the provision of information services to teachers as they work closely with teachers and understand their information needs.

In the study conducted in KwaZulu-Natal in Phumelela District, the Teachers' Development Centres were observed not to have enough operational funds. Inadequate funds can hinder smooth service provision. The current study also revealed that some Teachers' Development Centres in KwaZulu-Natal could not offer photocopying services because they rely on District offices for funding.

## **5.6 Chapter Summary**

This chapter discussed the key findings of the study, which emanated from the analysis of the data collected from both the librarian and teachers. In this chapter, it

was apparent that teachers had information needs and used various resources to meet them. They also engaged with the librarian. Challenges that hinder teachers from accessing and providing information sources and services were also discussed. The next chapter presents the summary, conclusions, and recommendations.

## **CHAPTER SIX: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

### **6.1 Introduction**

This chapter provided a summary of the study findings, conclusions and recommendations made in relation to the objectives and the degree to which they have been achieved. The following objectives guided the study:

- To determine the information needs and information-seeking behaviour of the 21<sup>st</sup>-century teachers in schools supported by the Okhahlamba Teacher Development Centre.
- To establish the information services and resources available and accessible by teachers at the Okhahlamba Teacher Development Centre.
- To ascertain the competencies of teachers in using information services and resources at the Okhahlamba Teacher Development Centre.
- To find out the challenges teachers face in using the information services of the Okhahlamba Teacher Development Centre.

The conclusions in this chapter are made using the extent to which the research findings conform to the study's objectives. Recommendations are made based on the conclusions of the study.

### **6.2 Summary of findings**

The research findings are summarised and presented under the respective research objectives as follows:

#### **6.2.1 Summary of information needs and information-seeking behaviour of the 21<sup>st</sup>-century teachers in schools supported by the Okhahlamba Teacher Development Centre.**

The findings of this study concur with what Maphoto, (2016:60) indicated: in most cases, the information needs differ depending on the context. The majority (50;77%) of teachers indicated that they often (once a week) visit the library, some (8;12%) teachers said not often (once a month), and only a few (7;11%) answered occasionally.

Many teachers (46;71%) indicated that they visit the library to look for Information for their school work/teaching, a significant number (24;37%) mentioned that they visit the library for personal reading, and few (13;20%) mentioned study/discussion space, some (5;8%) for entertainment, few (8;12%) said to apply for jobs, and others (5;8%) for internet services.

The majority (33;51%) answered that they sometimes find the information they need; others (29;45%) said they always find the information they need, and only (1;2%) teachers indicated no.

The majority (43;66%) indicated the internet is likely to give them the information they need, 34 (52%) indicated that books were the information sources that provided them with information, and few (13;20%) mentioned online library resources.

Most teachers (44;66%) indicated that they ask the Librarian if they do not find required information sources, 21 (32%) indicated that they ask fellow teachers, 1 (2%) mentioned another library, 2 (3%) said internet, and only (3%) indicated that they go home.

The study employed the cognitivism learning theory, with the “primary emphasis placed on how knowledge is acquired, processed, stored, retrieved, and activated by the learner during the different phases of the learning process” (Yilmaz, 2011). This theory helped to determine teachers’ information needs and seeking behaviour.

The librarian indicated that teachers’ information needs include information for their schoolwork and prefer searching for information on the internet. Understanding information needs and information-seeking behaviour is important for providing academic services to high school learners. Information needs and seeking behaviour are understood on different levels. The findings of this study confirm the reflections in related studies.

### **6.2.2 Summary of information services and resources available and accessible by teachers at the Okhahlamba Teacher Development Centre**

The library services/facilities include circulation service, reference service, online reservation of books, recommendation of library material, current awareness service, interlibrary loan service, photocopying/printing service, orientation and information sessions, selective dissemination of information, audiovisual service and multimedia

section. Thirty (30;46%) teachers looked for computer services, and some (23;35%) indicated search services, few (11;17%) mentioned photocopying services, while 5 (8%) mentioned training services, and only 1 (2%) indicated other (social media).

The centres should have resources and materials available to support teacher learning in the study (Thwala, 2019:38). These findings confirm the availability of resources and materials in the Teacher Development Centre. More teachers (31;48%) established that information services are always available in the library, some (28;43%) replied that sometimes the information services are available, and only a few (6;9%) indicated no.

The majority (55;84%) indicated that they use their laptops/mobile phones, only 8 (12%) indicated another library, and very few (3;5%) mentioned other: Google, Classroom (1;2%), Computers (2;3%), Shops in town (1;2%), Internet café (1;2%). Only 1 (2%) replied nowhere.

Most of the teachers (55;84%) wished to have a study area to use in the library, a significant number (13;20%) indicated discussion rooms, and few (8;12 %) wanted more cubicles.

The librarian indicated that teachers prefer using computer services.

### **6.2.3 Summary of competencies of teachers to use information services and resources at the Okhahlamba Teacher Development Centre**

The study's findings showed that all (65,100%) teachers indicated that there are computers with internet access in the library. The teachers were aware of all the resources in the library and could access the resources in the library. It was also established that the library offers training to access information and that the librarian is always willing to assist when necessary.

The librarian indicated that teachers are competent in using information services and resources; for example, they can use computers and access the internet.

The study also employed Technology Acceptance Model as a theory. Through TAM, the researcher determined the teachers' competencies in using resources at the Okhahlamba Teacher Development Centre, their willingness to use technology, and their challenges.

#### **6.2.4 Summary of the challenges teachers face in using information services of the Okhahlamba Teacher Development Centre**

The study's findings showed several new challenges and common/already existing challenges noted in a few related studies (Muhamad, Ghalib, Saeed, and Sumera, 2021:24; Lawson, 2016; Mojapelo, 2020). All the teachers (65,100%) highlighted not opening on weekends as a challenge. Most (55,84%) indicated a shortage of computers, slow internet service and unavailability of WI-FI, and some (46,71%) indicated a shortage of books, resources for educators' development, and books that accommodate different learners. Thirty-eight teachers (38,58%) under library services highlighted a shortage of staff, the librarian not having the knowledge of their subject curricula, not being notified about new resources, shortage of technological devices, end of mobile library service, outdated resources, uncontrolled behaviour of the users, irrelevant books, shortage of books and learning material in support of the syllabus, curriculum together with ATP's, no security in case of emergency, no developmental skills, study rooms for kids, no internet access at the libraries in schools, no ongoing training services, no improvement of the infrastructure and internet access facilities, shortage of study guides and animation especially subjects with practical, and no separate computer services for research purposes and online applications.

Most teachers (46,71%) indicated that the distance from their schools to the Centre is very long, and some (31,48%) highlighted that the end of the mobile library service was disadvantageous to them.

There is harmony in the challenges indicated by the teachers and the librarian.

#### **6.3 Conclusions on assessing the impact of Library Services on teachers in schools using the Okhahlamba Teacher Development Centre in KwaZulu-Natal**

This section highlights the conclusions on assessing the impact of library services on teachers using the centre. The conclusions are made using the extent to which the research findings conform to the study's objectives.

### **6.3.1 Conclusions on information needs and information-seeking behaviour of the 21<sup>st</sup>-century teachers in schools supported by the Okhahlamba Teacher Development Centre.**

- The study concluded that teachers utilise the library for information needs for their school work/teaching, personal reading, study/discussion space and entertainment, to apply for jobs, and internet access.
- The study concluded that the library should extend its building to create more space to study and accommodate a larger number of teachers and other users.

### **6.3.2 Conclusions on information services and resources available and accessible by teachers at the Okhahlamba Teacher Development Centre**

- The study concluded that there are various information resources available in the library. These include fiction books, non-fiction books such as prescribed books, study guides, subject books, textbooks, and encyclopedias.
- The study concluded that teachers use these books for their schoolwork/teaching, personal reading and study for their tests, assignments, and examinations as they are also studying further.
- The study concluded that there are computers and the internet in the Okhahlamba Teacher Development Centre Library, which are important information services utilised by teachers to search for online information for their schoolwork/teaching for personal reading.
- The study concluded that teachers prefer to use instead of books when they seek information in the library.

### **6.3.3 Conclusions on competencies of teachers to use information services and resources at the Okhahlamba Teacher Development Centre**

- The study concluded that teachers could access information using information services and resources available at the Okhahlamba Teacher Development Centre.
- The study concluded that teachers could access and utilise computers and the internet.
- The study concluded that teachers could access information through the Dewey Decimal Classification system used in the library.

- The study concluded that librarians are equipped with the relevant skills to provide information services to teachers successfully.
- The study further concluded that the librarian has the skills and knowledge to assist teachers when seeking their academic information needs.
- The study concluded that the librarian's skills, knowledge, and experience add positive value to the teachers' information needs and seeking behaviour.
- The study further concluded that the librarian's skills and knowledge result in retrieving relevant information resources that meet the needs of the teachers.

#### **6.3.4 Conclusions on challenges teachers face in using information services of the Okhahlamba Teacher Development Centre**

- The study concluded that an inadequate budget allocation for the library is one of the greatest challenges which hinder the library from purchasing more information resources to meet the needs of patrons.
- The study also concluded that librarians are not included in the decision-making on book selection.
- The study concluded that more computers with the internet should be bought and installed so that teachers can search online sources to meet their information needs without limitations.
- Furthermore, the study concluded that more librarians should be appointed because staff shortages can negatively impact teachers during their information needs and information-seeking behaviour in the Teacher Development Centre Libraries.
- The study concluded that the mobile library bus and mobile library services must be brought back specifically to the Okhahlamba Teacher Development Centre.
- The study concluded that the Department of Education should buy more mobile libraries to provide information services to far and disadvantaged schools around the province.
- The study concluded that the Department of Education and ELITS should increase the library budget so that more resources can be bought to meet the information needs of the teachers.
- The study concluded that there should be ongoing programmes that will educate teachers about computer skills and library searching skills.

- The study concluded that more library space should be added to accommodate more teachers and children.

#### **6.4 Recommendations on assessing the impact of Library Services on teachers in schools using the Okhahlamba Teacher Development Centre in KwaZulu-Natal**

The following recommendations could serve as a foundation for the impact of information services on the teaching practices of teachers in schools using the Okhahlamba Teacher Development Centre in KwaZulu-Natal, South Africa and that it is successfully achieved. These recommendations are based on the findings and conclusions drawn from the study.

##### **6.4.1 Recommendations on information needs and information-seeking behaviour of the 21<sup>st</sup>-century teachers in schools supported by the Okhahlamba Teacher Development Centre**

A greater percentage of teachers use the library for Information for their school work/teaching information needs. The following recommendations contribute to the impact of information services on the teaching practices of teachers in schools using the Okhahlamba Teacher Development Centre in KwaZulu-Natal, South Africa and in meeting the information needs and information-seeking behaviour of the teachers:

- Teacher Development Centre libraries should conduct ongoing workshops and library orientations to schools to educate the teachers about how to locate information in the library, both physical sources and online sources.
- Teacher Development Centre libraries should work hand-in-hand with school teachers so that they know what they should provide to meet their information needs.
- Librarians should be involved in selecting library materials to meet the teachers' information needs, and the libraries will have updated and relevant information resources.

##### **6.4.2 Recommendations on information services and resources available and accessible by teachers at the Okhahlamba Teacher Development Centre**

- ELITS should purchase and provide libraries with the latest editions of books to ensure that teachers access current information sources.

- Libraries should frequently conduct more marketing strategies to ensure that teachers are aware of the information resources available and new resources.
- Libraries should consider adding more information resources so that teachers will not be limited in choosing library resources.

#### **6.4.3 Recommendations on the competencies of teachers to use information services and resources at the Okhahlamba Teacher Development Centre**

- Libraries should offer ongoing library orientations and training on technological devices and programmes because new programmes are introduced, and some are updated.
- Librarians must familiarise themselves with new, updated, and upgrading information services and resources so that they will be able to assist all the time.

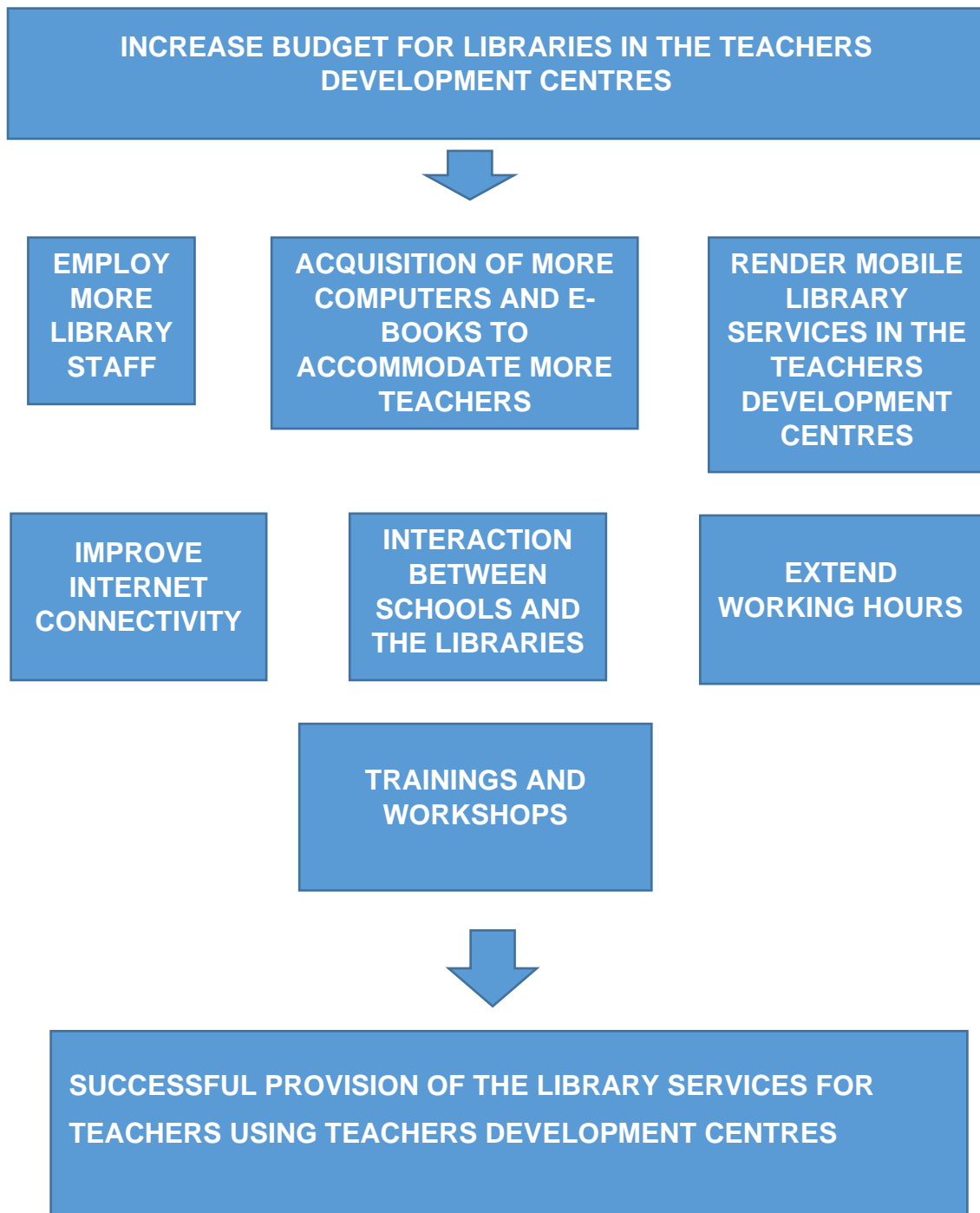
#### **6.4.4 Recommendations on challenges teachers face in using information services of the Okhahlamba Teacher Development Centre**

- The library should consider acquiring more information resources to accommodate many teachers.
- More computers should be bought and installed with internet connectivity to meet the information needs of teachers.
- Libraries should have more space to accommodate a large number of teachers.
- ELITS and the District office should increase the budget allocation for libraries at the Centres to acquire more information sources and services to meet teachers' information needs better.
- Librarians should be allowed to participate in selecting books to be purchased for their libraries. This involvement will add a positive value to the library collection because librarians are the ones who know and understand the information needs of the teachers.
- Libraries and schools should conduct computer training on computer skills to enable teachers to search for information faster and successfully.
- More library staff must be appointed for effective service delivery so that one person does not serve all the teachers.
- Mobile library service must be returned, and more library buses must be bought to serve all schools, including far and disadvantaged schools.

- The weekend opening of libraries should be considered because some teachers only have weekends to access and use the libraries for information seeking.

### **6.5 Emerging guidelines on the library services for teachers using Teacher Development Centres.**

The study noted several challenges teachers face in using the Okhahlamba Teacher Development Centre library services. Suggestions on guidelines on the library services for the teachers using Teacher Development Centres are indicated below in Figure 6.1.



**Figure 6. 1: Emerging suggestions on the library services for teachers using Teacher Development Centres.**

Source (Researcher's image)

### **6.5.1 Increase budget for libraries in the Teacher Development Centres**

The Department of Education needs to increase the budget allocation for libraries in Teacher Development Centres to meet the teachers' needs successfully. Adequate budget allocation will enable the libraries to maintain and develop their collection by purchasing more updated books, especially e-books and computers, to accommodate more teachers. Increasing libraries' budgets will allow libraries to hire more staff to effectively and efficiently offer library services. More library staff will assist when operating hours are increased so teachers can utilise libraries on weekends and holidays. Increased funds will aid the purchase of more library buses so that library services are rendered to distant and disadvantaged schools. An increased budget will also enhance teachers' training on innovations, new information resources, information systems, and library technological facilities.

### **6.5.2 Acquire more computers and e-books to accommodate more teachers**

More computers must be purchased in libraries so that teachers will not wait on others to utilise them and access information. Updated books must be purchased, especially e-books, as teachers prefer to access e-resources in libraries. Information sources must be updated so that the information needs of the teachers will be met. More relevant books must be purchased to enable the teachers to access the information they need, whether for their teaching or personal work. Different information sources must be bought to meet teachers' needs on different subjects. More information sources and resources must be purchased to accommodate many teachers.

### **6.5.3 Employ more library staff**

More library staff must be employed to render the library services effectively and successfully. The Centre managers should also ensure they employ more qualified librarians because they have the theoretical knowledge to assist library users more successfully. More staff will help with the library management and render library services to the teachers, such as mobile library service to schools. More librarians will assist the library in meeting the information needs of the teachers as they will always be assisted on time to locate and access the required information. More library staff will allow the libraries to offer both Centre library services and mobile library services to far as well as disadvantaged schools. Enough staff will assist teachers in all sections of the libraries on time, and they will have access to different information resources

and sources. More staff employment will improve the library services; for example, the arrangement will always be in place, assistance will be rendered on time, ongoing orientations will be rendered, and teachers' training will be offered continuously.

#### **6.5.4 Render mobile library services in the Teacher Development Centres**

Mobile library services will be very helpful to teachers who are from far and disadvantaged schools by bringing library services to their schools. This service will support teachers who do not have enough time to utilise libraries in the centres because they must travel from far locations after school, which limits their access to libraries because of the operating hours. Mobile libraries will also help with the library orientations of teachers and learners because some learners do not know what the library is and how it is arranged. Mobile libraries will familiarise teachers with the library arrangement and keep them up to date with new information and trends. The school will learn how to arrange their school or corner libraries, utilise information sources, and take care of library materials. Mobile libraries will motivate learners to read and encourage them to search for information for themselves.

#### **6.5.5 Improve internet connectivity**

Improving internet connectivity will assist the library staff in offering services successfully to the teachers. Librarians will be up to date with the new information and help teachers with trending information. Good internet connectivity will allow teachers to access information from different sources each time they visit the library to search for information. With a good internet connection, libraries will train teachers on new information sources and services. Teachers can search for information as far as they are willing to, access e-resources, engage in online programmes for their professional development, and be trained to use new technological facilities introduced in Education, particularly in the Fourth Industrial Revolution era. Librarians can access e-resources to assist teachers with information searches and be up to date on trending information and information sources and services. Good internet connectivity will enable Teacher Development Centre libraries to render services effectively and efficiently to the users.

#### **6.5.6 Organise training and workshops**

New librarians must be trained to render services to teachers effectively and efficiently. New librarians must be trained to arrange the library in a user-friendly and accessible

style. They must be trained on how to access information sources so that they will be able to assist teachers. Libraries must offer constant library orientation programmes, so teachers are always familiar with library arrangement and functionality. Teachers must be trained on new information sources, information systems, and technological facilities. Teachers must be trained to locate and access general information and e-resources in Teacher Development Centre libraries, as this will assist teachers in locating and accessing the information on their own to save time rather than wait for librarians to assist them. Librarians must also be trained to be always willing to assist teachers where needed and render services accordingly. Librarians must be trained again on effective library management as this will assist with the library management and the different teachers' information-seeking behaviour.

#### **6.5.7 Build relationships between schools and public libraries**

Public libraries must interact with the schools to be familiar with the school's curriculum and have a good relationship with schools, as this will assist the libraries in rendering services to teachers. School interactions will assist the library in knowing the information needs of the teachers so that the libraries can offer customised information services and sources to the teachers. Schools operate on terms, so the interaction between libraries and schools will help the libraries with the information on information needs of teachers for the terms in advance. Libraries should ask for teachers' input when making decisions on library resource acquisition to aid the delivery of information service provision that meets the specific needs of teachers and schools.

#### **6.5.8 Extend working hours**

Libraries at Teacher Development Centres must extend working hours to give teachers enough time to access library information. Libraries must consider opening on weekends so that teachers unable to utilise the libraries during the week due to the distance they travel from their schools can utilise libraries on weekends. Libraries must extend their working hours so that teachers can access libraries after school without being limited by time. Libraries must also be open on holidays because that is the only time some teachers can get adequate support to access information without the time constraint. Teachers are also furthering their studies, so opening libraries during weekends and holidays will help teachers meet their educational and professional development information needs.

### **6.5.9 Successful provision of library services for teachers using Teacher Development Centres**

If these emerging suggestions are considered in Teacher Development Centre libraries, the libraries will meet the information needs of the teachers successfully. In addition, the libraries will be managed effectively and efficiently, and library services will greatly impact teachers utilising Teacher Development Centres.

### **6.6 Suggestions for Further Research**

This study was a single case study, limited to the Okhahlamba Teacher Development Centre Library. It would be more enlightening to conduct multiple case studies to acquire comprehensive information about the impact of information services on teachers' teaching practices in schools using the Teacher Development Centres in the whole of KwaZulu-Natal, South Africa, in general. Therefore, the researcher suggests further studies be done in other Teacher Development Centres throughout KwaZulu-Natal in South Africa. Furthermore, the researcher suggests that a study be done on the limited number of information resources in library centres for teachers, especially computers with internet access, whilst encouraging them to adapt to the digital world and utilise the Teacher Development Centre libraries.

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## **APPENDICES**

### **APPENDIX A: QUESTIONNAIRE FOR TEACHERS**

#### **Questionnaire on Assessing the impact of Library Services on teachers in schools using the Okhahlamba Teacher Development Centre in KwaZulu-Natal.**

Dear Respondent,

I am Siyathokoza Princess Sybil Ntumba doing a Master's Degree at the University of Zululand. I am conducting a study on "**Assessing the impact of Library Services on teachers in schools using the Okhahlamba Teacher Development Centre in KwaZulu-Natal**". This study aims to assess the impact of Library Services on the teaching practices of teachers in schools using the Okhahlamba Teacher Development Centre in KwaZulu-Natal. The outcome of this study will benefit all the teachers, and your response may be used to update the library. I request that you kindly complete and return this survey questionnaire to the library you were given. Questionnaires should be returned on the second day from the day received. Be assured that the information provided will only be used to attain this study's aim. Anonymity and confidentiality are promised and maintained. Your participation will be highly appreciated.

#### **Please note that:**

- Your participation is entirely voluntary. You can choose to participate, not to participate or stop participating in the research. You will not be penalized for taking such an action.
- Your views in this research will be presented anonymously. Neither your name nor identity will be disclosed in any form in the study.
- The questionnaire will take you less than 20 minutes to complete.

Thank You.

Siyathokoza Princess Sybil Ntumba

Contact: 0733392459. Email: [siyatho.ntumba@gmail.com](mailto:siyatho.ntumba@gmail.com)

### **SECTION A: PERSONAL INFORMATION**

*Draw a cross/tick in the block that expresses your answer, and you can write your answers where it is necessary.*

1. Name of your school

.....

2. Gender

Male		Female	
------	--	--------	--

3. Grade Teaching

.....

4. Subject Teaching

.....

5. Qualification

.....

6. How long have you been using the Teacher Development Centre

0-5 years	
6-10 years	
11-15 years	
Other, please specify...	

**SECTION B: TEACHERS' INFORMATION NEEDS AND INFORMATION-SEEKING BEHAVIOUR IN SCHOOLS SUPPORTED BY THE OKHAHLAMBA TEACHER DEVELOPMENT CENTRE**

7. How often do you visit the Library?

.....

8. What you visit the library, what do you look for?

For school work/ teaching	
---------------------------	--

Personal reading	
Entertainment	
Apply for jobs	
Get help from a librarian	
Other: Please specify.	

9. Do you always find the information you need in the library?

Yes	
No	
Sometimes	

10. Which information source is likely to give you the necessary information?

Books	
Internet	
Library Online Resources	
Other: please Specify.....	

11. If you do not find the information sources you are looking for, what do you do?

Ask librarian	
Ask fellow teachers	
Go home	
Other, please specify.....	

**SECTION C: INFORMATION AND KNOWLEDGE SERVICES AND FACILITIES AVAILABLE AND ACCESSIBLE FOR TEACHERS UTILISING THE TEACHER DEVELOPMENT CENTRES**

12. What information services do you normally look for from the library?

Computer access	
-----------------	--

Search services	
Photocopying services	
Reading and discussion services	
Training services	
Other, please specify.....	

13. Are these information services always available in the library?

Yes	
No	
Sometimes	

14. Where else do you get these information services if they are unavailable in the library?

Nowhere	
Another library	
Personal laptop/ mobile phone	
Other: Please specify.....	

15. What specific facilities do you use when visiting the library?

Discussion rooms	
Cubicle	
Study area	
Other, please specify	

**SECTION D: COMPETENCIES TEACHERS HAVE TO USE INFORMATION SERVICES AND RESOURCES AVAILABLE IN THE LIBRARY OF THE OKHAHLAMBA TEACHER DEVELOPMENT CENTRE**

16. Does the library have computers?

Yes	
No	

17. Do the computers have internet?

Yes	
No	

18. Are you aware of all the resources in the library?

Yes	
No	

19. Are you able to access all the resources in the library?

Yes	
No	

20. Does the library offer training to access information?

Yes	
No	
Not sure	

21. Is the library personnel always willing to assist?

Yes	
No	

**SECTION E: CHALLENGES TEACHERS FACE IN USING INFORMATION SERVICES OF THE OKHAHLAMBA TEACHER DEVELOPMENT CENTRE**

22. What challenges do you face regarding access to information at Okhahlamba Teacher Development Centre Library?

.....

.....

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**Thank you for your time!**

## **APPENDIX B: INTERVIEW SCHEDULE FOR THE LIBRARIAN AT THE OKHAHLAMBA TEACHER DEVELOPMENT CENTRE LIBRARY**

Dear Participant

I am Siyathokoza Princess Sybil Ntumba, a Master's student in the Department of Information Studies at the University of Zululand. I am doing research on "*Assessing the impact of Library Services on teachers in schools using the Okhahlamba Teacher Development Centre in KwaZulu-Natal*".

The study has received ethical clearance from the University of Zululand.

I want to request you to answer the following questions. Please note that this information is solely for study purposes, and your confidentiality will be ensured. Participation in this study is voluntary; you can withdraw at any given point should you feel it necessary.

For more information, you can contact me on this number 0733392459.

Kind regards,

S.P.S Ntumba.

## **SECTION A: PERSONAL INFORMATION**

1. Gender
  - Male
  - Female
  - Other, please specify
  
2. Age
  - 22-30 years
  - 31-40 years
  - 41-50 years
  - 51 and above
  
3. Qualification
  - Bachelor of Information Science
  - Honours Bachelor of Information Science
  - Master's in Information Science
  - Doctor of Philosophy in Information Science
  - Other, please specify
  
4. Work experience
  - 0-5 years
  - 6-10 years
  - 11-15 years
  - 16-20 years
  - Other, please specify

## **SECTION B: INFORMATION NEEDS AND SEEKING BEHAVIOUR OF THE TEACHERS**

5. In your view, what are the information needs of the teachers?

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.....  
.....  
.....  
.....

6. How do teachers seek information in your library?

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**SECTION C: INFORMATION RESOURCES AVAILABLE**

7. What information resources are available in the library to meet the information needs of the teachers?

.....  
.....  
.....  
.....  
.....

8. What are the information sources mostly preferred by teachers?

.....  
.....  
.....  
.....  
.....

9. In your opinion, do you think teachers know about the information resources and are given enough time to utilise these information resources?

- Yes
- No

10. What is the justification for your answer to the previous question?

.....  
.....  
.....  
.....  
.....

**11.** How do you make the teachers aware of the information resources available in your library to meet their information needs?

.....  
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.....  
.....

**SECTION D: COMPETENCIES TEACHERS HAVE TO USE INFORMATION SERVICES AND RESOURCES AVAILABLE IN THE LIBRARY OF THE OKHAHLAMBA TEACHER DEVELOPMENT CENTRE**

**12.** Are teachers able to access information services and resources available in the library?

.....  
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.....

**13.** What kind of skills do you apply to meet the information needs and seeking behaviour of the teachers?

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.....

14. How do your knowledge, skills and experience add value to the information needs and seeking behaviour of the teachers?

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**SECTION E: CHALLENGE FACED BY TEACHERS IN USING INFORMATION SERVICES OF THE OKHAHLAMBA TEACHER DEVELOPMENT CENTRE**

15. Would you share the challenges encountered in providing information services to teachers?

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16. In your view, what factors could contribute to these challenges mentioned in the previous question?

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17. How do these challenges affect the information needs and seeking behaviour of teachers?

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18. In your view, what should the Okhahlamba Teacher Development Centre library do to successfully provide information resources to teachers in the schools at Bergville?

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**Thank you for your time**

## APPENDIX C: ETHICAL CLEARANCE CERTIFICATE



UNIVERSITY OF ZULULAND RESEARCH  
ETHICS COMMITTEE  
(Reg No: UZREC 171110-030)



### ETHICAL CLEARANCE CERTIFICATE

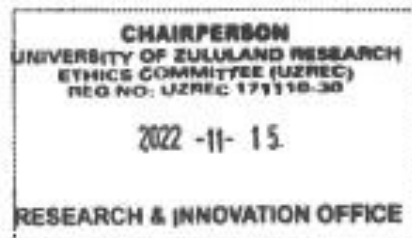
Certificate Number	UZREC 171110-030 PGM 2021/243			
Project Title	Assessing the impact of library services on teachers in schools using Okhahlamba Teachers Development Centre in KwaZulu-Natal			
Principal Researcher/ Investigator	S.P.S Mumba			
Supervisor and Co-supervisor	Prof DV Jiyane			
Department	Information Studies			
Faculty	Humanities and Social Sciences			
Type of Risk	Medium Risk - Data collection from people			
Nature of Project	Honours/4 <sup>th</sup> Year	Master's	<input checked="" type="checkbox"/> Doctoral	Departmental

The University of Zululand's Research Ethics Committee (UZREC) hereby gives ethical approval in respect of the undertakings contained in the above-mentioned project. The Researcher may therefore commence with data collection from the date of this Certificate, using the certificate number indicated above.

- SPECIAL CONDITIONS:**
- (1) This certificate is valid for 1 year from the date of issue.
  - (2) Principal researcher must provide an annual report to the UZREC in the prescribed format [due date- 15 November 2023]
  - (3) The UZREC must be informed immediately of any material change in the conditions or undertakings mentioned in the documents that were presented to the meeting.
  - (4) Under the Protection of Personal Information Act, 04 of 2013 ("POPIA"), researchers have a general legal duty to protect the information they process. They must ensure the security and protection of any personal information processed through the research and provide a compliant and consistent approach to data protection. The information collected via interviews must be for research purposes only. No personal information such as opinions, views, and academic background may be linked to the respondents' identity or shared with anyone for marketing purposes or otherwise.

The UZREC wishes the researcher well in conducting research.

Prof. Nekuthala Kunene  
Chairperson: University Research Ethics Committee  
Deputy Vice-Chancellor: Research & Innovation  
15 November 2022



RESEARCH & INNOVATION OFFICE  
Website: <http://www.uz.ac.za>  
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Tel: 035 902 6314/6314  
Email: [librarian@uz.ac.za](mailto:librarian@uz.ac.za)/[Research@uz.ac.za](mailto:Research@uz.ac.za)

## APPENDIX D: THE OKHAHLAMBA TEACHER DEVELOPMENT CENTRE PERMISSION LETTER



**KWAZULU-NATAL PROVINCE**  
EDUCATION  
REPUBLIC OF SOUTH AFRICA

### UTIHUKELA DISTRICT

26 SOUTH STREET  
BERGVIEW 3500  
Email: [khosimbongwa@gmail.com](mailto:khosimbongwa@gmail.com)  
Tel: 031 440 9215 Fax: N/A

OKHAHLAMBA DISTRICT TEACHER DEVELOPMENT CENTRE  
ENQUIRIES: M.H. MBONGWA  
DATE: 08/11/2022

**TO: THE MANAGEMENT**

**UNIVERSITY OF ZULULAND**

**SUBJECT: RE-REQUEST TO CONDUCT RESEARCH AT OKHAHLAMBA DTDC**

In response to the request made by your student on 07/11/2022: Ms SPS Numba, I would like to mention that Okhahlamba DTDC management is granting permission to your student to conduct research in our centre.

Regards

MH MBONGWA

Okhahlamba DTDC Manager