# SUPPORT FOR STUDENTS WITH DISABILITIES IN OPEN DISTANCE e-LEARNING

**by**

**TUMELO WARREN GOBUSAMANG DITLHALE**

Submitted in partial fulfilment of the requirements

for the degree

**MASTER OF EDUCATION**

in

**OPEN DISTANCE LEARNING**

in the

**COLLEGE OF EDUCATION**

at the

**UNIVERSITY OF SOUTH AFRICA**

**Supervisor: Prof. Geesje Van Den Berg**

**November 2020**

# DECLARATION

**Name: TUMELO WARREN GOBUSAMANG DITLHALE**

**Student number:** 41541359

**Degree**: Master's in Open Distance Learning

**Title: SUPPORT FOR STUDENTS WITH DISABILITIES IN OPEN DISTANCE E-LEARNING**

I, Tumelo Ditlhale, declare that the above dissertation is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

I further declare that I submitted the dissertation to originality checking software and that it falls within the accepted requirements for originality.

I further declare that I have not previously submitted this work, or part of it, for examination at UNISA for another qualification or at any other higher education institution.

_____ 26 / 11 / 2020

**SIGNATURE** **DATE**

# DEDICATION

This mini dissertation is dedicated to Modimo.

Thanks be to God.

# ACKNOWLEDGEMENTS

Praise to God almighty, the creator of all things for giving me strength and allowing me the opportunity to complete this study. There are other people whose names are not mentioned in this list, but who made it possible for this study to be completed. They encouraged and supported me during my studies, and I am thankful and would like to express my sincere gratitude to them.

Firstly, my sincere gratitude goes to Prof Van den Berg for her support, guidance, understanding, professionalism, and patience throughout my study and research.

Secondly, I am thankful to Ingrid Borgelt, for her continuous assistance, and Dr Cilla Dowse for her language editing.

Thirdly, I would like to acknowledge all participants who participated in this study: participants from the private and public school for learners with disabilities, as well as staff members from the Disability Unit. I acknowledge time they took out and their willingness to participate in this study.

Lastly, I would like to acknowledge the University of South Africa's Student Funding Directorate for funding received.

# ABSTRACT

People who graduated from higher education, whether they attended classes on campus or studied via a distance mode of learning, have not only been educated but are also able to participate in and contribute positively to the political, social and economic forums in their immediate environments and within their country. Progressing through the higher education system successfully is not easy since there are many challenges to overcome. Students With Disabilities (SWD) face even greater challenges in making their way through the system to emerge triumphantly as graduates. Institutions of higher learning, including Open Distance eLearning (ODeL) facilities, must provide support to SWD in order to facilitate their learning experience so that they are better equipped to succeed. Therefore, it is vital to promote access to higher education for people with disabilities and to provide support, such as making assistive technologies and human services available, for SWD within ODeL institutions.

This qualitative study was exploratory in nature and used a multiple case study research design in the chosen area to investigate the provision of support for SWD in the ODeL institution. Data were collected by means of semi-structured interviews and a document analysis, and these two methods of data gathering assisted with triangulation.

The research findings revealed differences between the findings that were obtained through the responses received from teacher and staff member participants. The research findings also revealed differences between the findings that were obtained through the responses received from the participants, in general, and those obtained through the document analysis. The findings obtained through responses received from teacher participants showed that support for SWD was more evident at the school level than at the ODeL institution, that is, at the tertiary level of education. The document analysis of the policies of the ODeL institution revealed that the policies were general and did not specifically relate to the needs of SWD. At the same time, the findings in this dissertation of limited scope showed that the use of technology and the availability of assistive devices were more prominent at the school level than at the ODeL institution.



**Keywords**: Assistive devices, assistive technologies, connectivism, constructivism, disabilities, disability unit, institutions of higher learning, multiple disabilities, Open Distance eLearning, Open Distance Learning, special needs high schools, students with disabilities, support.

# TSHOBOKANYO

Batho ba ba alogang go tswa mo ditheong tse kgolwane tsa Thuto, ba tswa ba ka bo ba rutilwe le go ithuta ka go tsenela dikamuso (attending lecturers) mo khemphaseng kgotsa ba rutilwe le go ithuta ka thutotlhaeletsano, ga ba rutega fela mme ba kgona gape le go nna le seabe le go abelana ka tshiamo mo diforamong tsa sepolotiki, tsa seloago le tsa seikonomi mo ditikologong tse ba iphitlhelang ba le mo go tsona naga ka bophara. Go tsweletsa dithuto mo setheong sa thuto e kgolwane ka katlego ga go bonolo ka gonne go na le dikgwetlho di le dintsi tse o tshwanelwang ke go di fenya. Baithuti ba ba tshelang-ka-bogole (Students with disabilities - SWD) ba lebagane le dikgwetlho tse dikgolo thata mo setheong sa thuto e kgolwane, go ka ipona kwa bofelelong e le dialogane tse di atlegileng. Ditheo tsa thuto e kgolwane, go akaretsa le tsa tlamelo ya thutotlhaeletsano ka mafarafatlha ntle le maparego (ODeL), di tshwanelwa ke go tshegetsa SWD mo dithutung tsa bone gore batle ba atlege. Ka jalo, go botlhokwa go rotlweetsa phitlhelelo ya thuto e kgolwane go batho ba ba tshelang ka bogole le go ba tshegetsa, jaaka go ka ba direla le go ba neela thekenoloji tsa thuso le ditirelo tsa thuso-ka-batho. Tshegetse fela jaaka e tshwanetse go SWD ba ba mo ODeL.

Patlisiso e ya khwaletatifi, e tlhametswe go utulola mme ebile e dirisitse mefuta e le mentsi ya go batlisisa ka ga mokgwa wa go tshegetsa SWD mo ODeL. Tshedimosetso kgotsa dinewane di kokoantswe ka go dirisa seripa sa dipotsolotso le go sekaseka tokamana, mme mekgwa e mebedi e, e thusitse ka go netefatsa diphitlheleo tse di bonweng.

Diphitlhelelo tsa patlisiso di bontshitse dipharologano magareng ga diphitlhelelo tse di bonweng go tswa go barutabana kwa sekolong le go tswa go badiri kwa ODeL. Diphitlhelelo tsa patlisiso, di tlhagisitse gape dipharologano magareng ga diphitlhelelo tse di bonweng go tswa go banna-le-seabe, ka kakaretso, le tse di bonweng go tswa mo go sekasekeng tokamana. Diphitlhelelo tse di bonweng go tswa go barutabana, di bontshitse gore tshegetso ya SWD e tlhomame kwa sekolong go na le kwa ODeL, e leng setheo sa thuto e e kgolwane. Tshekatsheko ya tokomana ya dipholisi tsa ODeL, e bontsitse fa dipholisi e le tsa kakaretso fela mme di sa tote ka tlhamalalo ditlhokego tsa SWD. Go ntse go le jalo, diphitlhelelo tsa tlhotlhomisi e e lekanyeditsweng mothamo, di bontshitse fa tiriso ya thekenoloji le go nna teng ga didiriswa-thuso, di tlhomame kwa sekolong go na le kwa ODeL.

**Mareo a Konokono:** Didiriswa-thuso, thekenoloji tsa thuso, bogolaganyi ka mafaratlhatlha, bolebapopego, bogole, mafapha a a dirang ka tsa bogole, ditheo tsa thuto e kgolwane, mefuta-ya-bogole, thutotlhaeletsano ka mafaratlhatlha ntle le maparego, thuto ntle le maparego,

dikolokgolwane tsa ditlhokego tse di kgethegileng (tsa barutwana ba ba phelang ka bogole), baithuti ba ba tshelang ka bogole, tshegetso.

# OPSOMMING

Mense wat aan hoëronderwysinstellings gradueer, of hulle klasse op kampus bygewoon het of deur 'n afstandsmetode van leer studeer het, is nie slegs onderrig nie, maar hulle kan ook deelneem aan en positief bydra tot die politieke, sosiale en ekonomiese forums in hul onmiddellike omgewing en in hul land. Dit is nie maklik om suksesvol deur die hoëronderwysstelsel te vorder nie, omdat daar baie struikelblokke is om te oorkom. Studente met gestremdhede (SMG) het selfs meer uitdagings om hul weg deur die stelsel te baan en triomfantlik as graduandi te verrys. Hoëronderriginstellings, insluitende oop e-afstandsleer (ODeL) -fasiliteite, moet ondersteuning aan SMG bied om hul leerervarings te fasiliteer sodat hulle beter toegerus is om sukses te behaal. Dit is daarom noodsaaklik om toegang tot hoër onderwys en ondersteuning aan mense met gestremdhede te bied, soos om hulptegnologieë en menslike dienste aan SMG in ODeL-instellings beskikbaar te stel.

Hierdie kwalitatiewe studie was verkennend van aard en het 'n veelvoudige gevallestudie-ontwerp in die gekose veld gebruik om die voorsiening van ondersteuning aan SMG in 'n ODeL-instelling te ondersoek. Data is versamel deur semigestruktureerde onderhoude en 'n dokumentonleding; hierdie twee metodes van dataversameling het met triangulasie gehelp.

Navorsingsbevindings het verskille aangedui tussen die data wat verkry is van die onderwyser en die van deelnemende personeellede se reaksies. Navorsingsbevindings het ook verskille aangedui tussen die data wat verkry is van deelnemers se reaksies oor die algemeen en die wat deur dokumentontleding verkry is. Die bevindings wat deur die onderwyserdeelnemers verkry is, het aangedui dat ondersteuning aan SMG duideliker op skoolvlak was as by die ODeL-instelling; dit is op tersiêre vlak van onderwys. Die dokumentontleding van die ODeL-instelling se beleide het aangedui dat die beleide algemeen was nie spesifiek met SWD se behoeftes verband hou nie. Terselfdertyd het die bevindings van hierdie verhandeling van beperkte omvang getoon dat die gebruik van tegnologie en die beskikbaarheid van hulptoestelle meer prominent was op skoolvlak as by die ODeL-instelling.

**Sleutelwoorde:** Hulptoestelle, hulptegnologieë, konnektivisme, konstruktivisme, gestremdhede, gestremdheideenheid, instellings van hoër leer, veelvuldige gestremdhede, oop e-afstandsleer, oop afstandsleer, hoërskole vir leerders met spesiale behoeftes, studente met gestremdhede, ondersteuning

# ACRONYMS

| | |
|---|---|
| APS | Academic Points Score |
| ARCSWID | Advocacy and Resource Centre for Students with Disabilities |
| BA | Bachelor of Arts |
| BEd. | Bachelor of Education |
| BSc | Bachelor of Science |
| DHET | Department of Higher Education and Training |
| DU | Disability Unit |
| FOTIM | The Foundation of Tertiary Institutions of the Northern Metropolis |
| HED | Higher Education Diploma |
| HEI | Higher Education Institutions |
| ICT | Information and Communication Technology |
| MEd | Master of Education |
| MSc | Master of Science |
| NIH | National Institute of Health and Human Development |
| NSC | National Senior Certificate |
| OCL | Online Collaborative Learning |
| ODeL | Open Distance e-Learning |
| ODL | Online Distance Learning |
| OER | Open Educational Resource |
| PGCE | Post Graduate Certificate in Education |
| PSET | Post-School Education and Training |
| RPSC | Research Permission Subcommittee |
| SID | Severe Intellectual Disabled |
| SWD | students with disabilities |
| UKOU | United Kingdom Open University |
| UNCRPD | United Nations Convention on the Rights of Persons with Disabilities |
| UNESCO | United Nations Educational, Scientific and Cultural Organisation |
| UNISA | University of South Africa |
| UP | University of Pretoria |
| Wits | University of the Witwatersrand |
| WHO | World Health Organisation |

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# CHAPTER 1

# OVERVIEW OF THE STUDY

## 1.1 INTRODUCTION

In this dissertation of limited scope, it is noted that access to higher education is very important for the country's economy in creating a solid quality workforce, drive innovation, increase employability and feed into a knowledge-based economy (Digital Marketing Institute: nd). In addition, higher education offers school leavers the opportunity of succeeding in the global economy. People who have graduated from higher education, whether on campus or via a distance mode of learning, have not only been educated but they are also able to participate in and contribute positively to the political, social and economic forums in their immediate environments and within their country. To successfully progress through the higher education system is not easy as there are challenges, such as meeting the minimum requirements for enrolling into a programme, securing tuition fees, adapting to new teaching and learning styles and coping with a lack of support, amid other challenges. It is thus even more challenging for students with disabilities (SWDs) to progress through the higher education system, without support, and to emerge triumphantly as graduates. Lack of support for students, especially those with disabilities, poses the greatest challenge and needs to be addressed. "As a result of the current thinking around disability, some practices and non-actions in higher education perpetuate injustices towards disabled students…" (Mutanga, 2015:iii). This also questions the transition of SWDs from high school into a tertiary education environment and puts this matter under the spotlight. In an Open Distance e-Learning (ODeL) institution such as the University of South Africa (UNISA), providing support to SWD should facilitate their learning experience so that they are better equipped to succeed. Van Der Merwe (2017) contends that supportive technologies being used in ODeL environments should reduce the challenge and make learning materials instantly accessible to students. This is one way of providing support in an ODeL institution, together with the support of the Disability Unit (DU), for a more positive learning experience and increased success.

## 1.2 BACKGROUND TO THE STUDY

In South Africa, the demand for higher education in recent years has reached a peak with the #RhodesMustFall movement and the call to decolonise education. Francis and Hardman (2018:67) state that riding on the coattails of the Rhodes Must Fall movement came the Fees Must Fall movement through which students demanded the abolishment of tuition fees at South African universities…to improve access for students from previously disadvantaged communities (meaning access to admission, as well as tuition and an accessible curriculum). The Rhodes Must Fall movement had to happen; but Chiwandire and Vincent (2017) pose their view that no movement such as the Rhodes Must Fall movement has ever been initiated to stand up for the rights of students with different disabilities. This type of student body still lacks full access to higher education. Students with disabilities (SWD) is a phrase used by Terblanché (2012:74) to describe people who have long-term physical, mental, intellectual or sensory impairments, which, in interaction with other barriers, may hinder the full and effective participation in society on an equal basis with others (UNCRPD, 2006:4). Even taking these aspects into account, qualifying SWDs also have the right to have access to higher education. The Foundation of Tertiary Institutions of the Northern Metropolis (FOTIM) in a project investigating the functioning of Disability Support Services Units at South African tertiary institutions, reported that more and more tertiary institutions are seemingly beginning to focus on the main-streaming and inclusion of SWD (FOTIM, 2011:17). However, the final comment in this report states: "The South African society and tertiary sector, however, does not appear to be ready yet for total faculty integration, although that would be the final aim, and is indeed still in transition. Not much has changed as can be seen from the latest study by Biggeri, Di Masi and Bellacicco (2020, 909) who report that although there is an increase in the number of SWD entering higher education due to the inclusive disability legislation, barriers persist to the full participation of SWD. DUs [Disability Unit] at tertiary institutions in South Africa thus have an important role to play in ensuring the inclusion and mainstreaming of students with disabilities within the sector and achieving the desired integrated approach." (FOTIM, 2011:104). Generally, students can access higher education via two modes: campus-based and through distance education. The distance education mode, though, appears to be favoured with many SWD opting for distance education in order to avoid the problem of access that are posed by campus-based institutions (Richardson, 2014:292).

This study aimed to look at the support for SWDs in an Open Distance e-Learning institution, the University of South Africa (UNISA). This study wished to examine the different types of support that SWD receive from the time they are still in high school with the focus to when they transition to enter the higher education system and throughout their journey until they exit, with expectations for them to have succeeded. This element is not dealt with or addressed in detail when reviewing some of the studies. For instance, Richardson (2014) focused on the pass rates of SWD without investigating their whole journey through their higher education studies. Furthermore, in the study conducted by Maboe, Eloff, Schoeman and Kayode (2018), the focus was on e-learning and websites. In their study, Maboe *et al.,* (2018:220) suggested that accessibility and usability design principles, guidelines and standards need to be applied by e-learning designers and developers when creating websites to minimise marginalisation or the digital divide. This is a major challenge that aligns with what is being aimed at in the study because e-learning, websites, internet and so forth are assistive technologies that form part of the learning experience, and form the areas of support that SWDs need in order to succeed. At a different level, Terblanché (2012) matched certain types of assistive technologies such as braille, scanners, screen magnification and others to those students with optical disabilities. Ngubane-Mokiwa's study (2013) focused on the experiences of students who are blind at UNISA and how technological tools could support them in accessing information, albeit with challenges. The author also stated that learners who are blind while still at primary and secondary schools, are in a better position to complete their education because of access to aids and teachers who are trained to understand the disability. This is different to when students with disabilities reach a higher education institution (HEI) where most lecturers are not trained to understand and work with students with a disability. Having lecturers who are not trained and do not understand disability can impact negatively on SWD and make it difficult for them to complete their studies in higher education (HE). Fortunately, the development of technological tools has tended to mitigate the problem by supporting students who are blind. The potential of technological tools to support students who are blind as in Ngubane-Mokiwa's (2013) study, enables one to understand that technological tools have the potential to support students with other disabilities.

With the increasing demand for access to higher education, it is possible for SWDs to enter the system and learn through distance education; however, they require support throughout their journey and this study aims at exploring the human and assistive technology support that can be given in an ODeL learning environment.

## 1.3 PROBLEM FORMULATION

It is usual for students to enter higher education by studying at a traditional higher education institute such as a university. Students can also enrol at an institution offering distance education such as UNISA; however, this might be a challenge for many students as it is a different mode of education and could be more so for SWD. The UNISA website (www.UNISA.ac.za) stipulates that distance learning requires that students study in their own time and in their own space. In general, ODL is challenging for most students because of the physical separation from their distance learning institution. Mohanachandran and Ramalu (2013:202) contend that isolation from peers and teachers makes it difficult for ODL students to be responsible and independent because there is nobody around to monitor them. UNISA is currently moving from being an ODL institution to an ODeL facility to include e-learning. This embraces an approach that is student-centred whereby students interact and learn together and this is clear from theories that underpin such a mode of learning such as Connectivism, Online Collaborative Learning (OCL), and others. Minnaar (2011:484) stated that for e-learning to become well established clear guidelines are needed to support higher education e-learning. With no clear guidelines around support, the question arises of how SWDs are supported at the ODeL institution. The support for SWD, cannot be done in general terms; it needs to be specific to their needs. The matter for this study requires solutions that are creative, innovative and practical.

## 1.4 RESEARCH QUESTIONS

Based on the research problem outline above, the main research question of the research in this mini-dissertation is: *How are SWDs supported in an Open Distance eLearning institution?*

The following sub-questions were formulated to address the main question:

1. What are the different assistive technologies that match and support SWD needs?
2. What is the difference between resources in schools and ODeL supporting SWD needs?
3. What resources are available at the ODeL Disability Unit to support SWD needs?
4. How can the ODeL university be guided to support SWD?

## 1.5 AIMS OF THE RESEARCH

Based on the research questions, the study aimed to examine support for SWD throughout their enrolment at the ODeL institution. To achieve this, the study aims to:

- Explore the use of assistive technologies that match and support SWD needs.
- Compare the types of resources used at school and in ODeL institutions supporting SWD needs.
- Determine available resources at the ODeL Disability Unit to support SWD needs.
- Provide guidelines to the ODeL university to support SWD.

## 1.6 RESEARCH DESIGN

Research design can be described as a plan or structure of the proposed research work (Akhtar, 2016:68). According to the University of South California (2016), the design, in its logical way, is meant to ensure that the research problem is addressed effectively. Study types such as descriptive, experimental, review and so forth and sub-study type such as case study, descriptive longitudinal studies, and so forth are defined in the research design (Maree, 2010). The structure of the research design is carefully constructed to explore the depth and gain insights into concepts found in the literature review. In other words, the focus of this study is to explore types of support offered by the ODeL institution, with specific reference to the Disability Unit (DU)_ at UNISA. This means that the study examines the role and responsibilities of the Disability Unit and the ODeL institution in the wider context to help and provide a good learning experience for SWDs throughout their enrolment in the ODeL system.

### 1.6.1 Research Paradigm

Kuhn (1970:175) states that research paradigms, of which there are many, are beliefs, values and techniques shared by a certain community. In their research, Kivunja and Kuyini (2017:30) quote Candy (1989) that there are three main categories of research paradigms: Positivist, Interpretivist and Critical. According to Tashakkori and Teddlie (2003) in Kivunja and Kuvini (2017), there is a fourth paradigm called Pragmatism. This study followed an interpretivist or constructivist paradigm which "… use systematic procedures but maintain that there are multiple socially

constructed realities (unlike post positivism, which postulates a single reality). There is less emphasis on numbers and more emphasis on values and context" (McMillan & Schumacher, 2014:14). An interpretivist or constructivist paradigm underpinned this study and is discussed in-depth in Chapter 3, section 3.3.1.

### 1.6.2 Research Approach

Unlike the research paradigms which are accepted established models, research approaches are ways to do research. There are links between research paradigms and approaches and Nyamboga (2017) talks about three types of research approaches, namely qualitative, quantitative and mixed methods research. Nyamboga (2017) uses the two terms, namely "high level" and "low level" to further distinguish between research approaches. "High level" are regarded as qualitative, quantitative and mixed methods research designs and methodologies which are "low level" are ethnography, experiment, case study, and so forth. At this level, this study followed a qualitative approach with a multiple case study as a sub-type or research type because the researcher wanted to gather data about people's emotions and opinions so that meaningful decisions can be informed and expressed.

## 1.7 RESEARCH METHODS

"Research methods (sometimes called methodology) are the ways in which one collects and analyses data. Procedures are not haphazard; they are planned to yield data on a particular research problem" (McMillan & Schumacher, 2014:16). In this section, research methods such as sampling, data collection techniques and finally, data analysis and interpretation are discussed.

### 1.7.1 Sampling

In trying to understand support needed for SWDs, the goal is to provide an in-depth understanding. This required a target of specific people. Sampling, in a qualitative study, is "the selection of specific data sources from which data are collected to address the research objective" (Gentles, Charles, Ploeg & McKibbon, 2015:1775). Sampling in qualitative studies can be done in different ways and the choice is purposive. In this regard, the focus was on purposive sampling, which is "the selection of participants or sources of data to be used in a study, based on their anticipated richness and relevance of information in relation to the study's research question"

(Yin, 2011:311). The different participants are purposively selected to provide information from different angles to address the research problem. Detailed information is provided in Chapter 3 section 3.4.1.

### 1.7.2 Data Collection

Data collection refers to the ways used to collect data. This is in line with McLaughlin (2016) who states that an approach to measure and gather data from different sources is called data collection. There are different ways one can gather data such as incorporating a paper questionnaire, computer-assisted systems, and so forth. Data collection, in this study, was done to discover all that is available in the support for SWDs in the ODeL institution. In this study, semi-structured interviews and document analyses were used as a means to collect data. In Chapter 3 section 3.4.2, data collection methods are discussed in detail.

### 1.7.3 Data Analysis

In a qualitative study, the link between the research problem, research objectives, data gathering techniques and the analysis and interpretation needs to be established. The tape-recorded interviews will be transcribed and analysed using thematic analysis. Thematic analysis is "a method for identifying, analysing and reporting patterns within data" (Braun & Clarke, 2006:79) with views being offered by teachers in high school and people from the Disability Unit. Analysis of some policies will also be done to provide an additional meaning relating to the topic being investigated.

## 1.8 TRUSTWORTHINESS

Qualitative research is different from a quantitative study and this section is an example of that. Noble and Smith (2018:35) point out that concepts such as reliability, validity and generalisability are typically associated with quantitative research. This study planned to adopt strategies suggested by Noble and Smith (2018:35) for "trustworthiness" such as being able to account for personal biases, meticulous record-keeping which is demonstrating a clear decision trail and establishing a comparison case. Furthermore, the concept of trustworthiness, according to Lincoln and Guba (1985:218), entails credibility of the research, its transferability, dependability and confirmability and these elements are discussed in Chapter 3, section 3.5.

## 1.9 ETHICAL CONSIDERATIONS

According to Markham and Buchanan (2015), ethical considerations are a constant companion for a researcher and they are meant to check factors that are possible, fair and just in their given situations. When considering ethics, Bryman and Bell (2007) pose their view that the research participants should be respected, not be directed to any harm and that they should provide their full consent before any research is conducted. It is important for the researcher to obtain approval from the ethics committee before doing the research and the ethics policy from the university was obtained and read and the researcher obtained ethical clearance from the College of Education at UNISA before contacting participants and seeking their consent. The ethics policy and guideline forms provide guidance on how to deal with human participants, especially the vulnerable people that may include SWD, in research. This is important because "committees have the authority to approve, reject or stop studies or require modifications to research protocols" (WHO, 2009:11). The schools were requested to give permission to do the research and participants were invited to participate in the research and were asked for both of verbal and written consent.

## 1.10 CLARIFICATION OF CONCEPTS

There are terms commonly used in this study and these are clarified so that they are understood throughout the research.

**Students with disabilities (SWD)** are students who have disabilities or disorders that affect their abilities to learn at a regular pace (All Star, 2018). Students with disabilities have different impairments related to vision, hearing, verbal communication, learning, cognition, development and mobility, as well as seating and positioning.

**Open Distance Learning** is open access to education and training using telecommunication to enhance learning (Rouse, 2005). Using electronic devices in teaching and learning to enhance the provision of education, has now elevated Open Distance Learning (ODL) to a new level called Open Distance e-Learning (ODeL). UNISA (2019) positions ODeL as a different way of

learning whereby students mostly connect and interact with the institution via the internet or digital format. In this study, ODeL and ODL concepts are used interchangeably.

**Support** is any way or means to help and provide a positive learning experience in the institution of teaching and learning. Students' positive learning experiences are fuelled by the fact that *students have different needs which demand satisfaction* (Bhatti, Jumani & Malik, 2013:79). Student' needs vary greatly ranging from personal, psychological, emotional and so forth. SWD, studying in the ODeL environment, are deemed to need additional support for their success due to the "disability labels…false stereotypes that they are not as capable as their peers" (Picard, 2015).

**Assistive technologies** are devices, technologies and methods to support persons who have disabilities (Islim & Cagiltay, 2012). Assistive technologies also include related services for SWD to enable and enhance their involvement in all domains of participation (De Witte, Steel, Gupta, Ramos & Roentgen, 2018). In this study, the focus is on support for SWD and how the assistive technologies can help in the process.

**The Disability Unit** (DU) is a centre in an educational institution, especially in higher education in South Africa, where SWD can receive support. At the University of the Witwatersrand (Wits), the Disability Unit "is intended to create an enabling and barrier-free academic environment by removing all forms of unfair discrimination against students with disabilities" (Wits, 2016:3). Disability units offer services that are specialised to SWD in a way to facilitate their access and integration (FOTIM, 2011:18). At UNISA, the Disability Unit is called the Advocacy and Resource Centre for Students with Disabilities (ARCSWID), and its mission statement is to have an "environment that will lead to the full participation and equalisation for students with disabilities" (UNISA, 2019). In this study, the Disability Unit is looked at as a specialised area where SWD can receive specialised services and support relating to their individual needs.

## 1.11 DIVISION OF CHAPTERS

The study is composed of five chapters.

**Chapter 1** offered an overview of the study. It is the introductory chapter that provided an overview of the support of SWD in the ODL institution. In addition, it presented the problem

formulation, research questions and aims of the research. Research methodology and design, clarification of concepts and division of chapters are other aspects of the study that were outlined. Measures relating to trustworthiness and ethical considerations were also briefly outlined.

**Chapter 2** reviews the literature and highlights related concepts such as transitioning from high school into a higher education institution, access within the ODL institution, support, policies and types of assistive technologies and disabilities. The latter part of the chapter discusses concepts of the theoretical framework. The selection of constructivism and connectivism theories, which drive and form part of the theoretical framework, are discussed.

**Chapter 3** discusses the research design and methods used in this study in detail. This chapter, on the one hand, represents justification for empirical research to collect data. On the other hand, it describes the qualitative research approach as well as the case study research design. The chapter also describes research methods used in this study which include the sampling of participants, data collection and processing and elements such as steps followed in the empirical study as well as analysis. It concludes by discussing trustworthiness and ethical measures considered in the study.

**Chapter 4** reports on the outcomes of the empirical research. It presents data collected from documents and semi-structured interviews conducted with nine participants. This chapter begins with presenting the biographical profiles of participants, and then the themes and sub-themes emerging from data collected during the interviews and document analysis. The structure of this chapter reports on data analysis, as well as interview data analysis and document analysis.

**Chapter 5** is the reflection of the study that establishes if the research aims have been achieved. This chapter starts by discussing the summary of the literature review and empirical study. Then it synthesises the research findings to show any similarities and contradictions between the review of the literature and empirical study. This chapter also discusses the conclusions drawn from the research and offers recommendations relating to the improvement of support for students with disabilities in Open Distance eLearning institution. In conclusion, the chapter provides suggestions for further research.

## 1.12 CONCLUSION

This chapter outlined the statement of the problem to a topic which is support for SWD in the ODeL institution of higher learning. Additionally, it outlined the problem formulation, research questions and research aim. The research topic, questions and methodology that the research would follow as well as trustworthiness of the study and the ethical considerations were covered. Finally, clarification on the various concepts used in the study was given. The structure of the chapter forms the foundation for the subsequent chapters to follow. Generally, this chapter has looked at an idea about the journey SWD embark on in the ODeL institution such as UNISA.

In the next chapter, the literature will be reviewed to discuss different concepts relating to the support of SWD. The concepts to be discussed are also embedded in the theoretical framework.

# CHAPTER 2

# LITERATURE REVIEW

## 2.1 INTRODUCTION

In this chapter, which reviews the literature, the aim is to introduce and provide an analysis and relationships between different ideas and how they constitute the body of knowledge in the research topic (Hart, 1998:1). The aim is also to reveal gaps in the body of research and show what needs to be done on this topic (Efron & Ravid, 2018:2). At the same time, this chapter looks at synthesising, analysing and evaluating the work of other researchers. The focal point of this chapter discusses support for SWD in higher education considering factors such as the transitioning, assistive technologies and access for SWD from within the ODL institution. The discussion is based and driven by other studies so to validate the study. The final purpose of this chapter is to provide a theoretical framework for the study.

## 2.2 TRANSITIONING FROM HIGH SCHOOL INTO HIGHER EDUCATION

Transitioning from one system to the other, such as from the high school education system into the ODeL system or any other institution of higher learning will always require adjustment. Students transitioning from high school into the ODeL system such as UNISA, need to adjust and be prepared for something quite different because ODeL institutions offer education remotely. UNISA, the largest university in South Africa, offers courses at a distance mode which operates differently from other residential institutions of higher learning that are available in the country. The difference between residential and ODeL institutions is that residential institutions offer courses in “a classroom setting with a professor giving a lecture and students listening and writing notes – ‘sage on the stage’" (lecturers can also hold a Doctoral or Masters degree) (Shachar & Neumann, 2003:1) and this face-to-face interaction is not available in ODeL institutions. According to Coleman and Berge (2018:1), access to online learning has allowed SWD to access effective education and learn without the restrictive physical limitations generally found on the campuses of HE institutions. With SWD being able to access online and distance education through the use of mobile and web-based technologies is the reason for it being ideal for SWD and why this study focuses on ODeL.

In South Africa, learners have to sit, write and pass Grade 12 final examinations in order to transition from high school and be admitted to an institution of higher learning of choice. Great Schools (2014) refers to transition as a term referring to a move from a familiar school with familiar teachers, peers, academic expectations, and so forth to an unfamiliar school with unfamiliar teachers, peers and academic expectations. This happens in three major transitional shifts: when students move from primary schools to high schools, and from high schools to institutions of higher learning. Due to different teaching and learning styles in South African high schools and institutions of higher learning, learners in their first year of higher education find themselves having to adjust to new teaching and learning styles and methods. For most learners, adjusting is not a simple adaptation as there are challenges to face. SWD in their first year of study in higher education face challenges such as "finance, relationships, study skills and poor academic advise" (Obiozor, Onu & Ugwoebu, 2013:131). The authors also pose that about 46% of SWD in their first year drop out of the institutions of higher learning due to instructors showing no concern for their academic plight and the lack of support services. Erickson and Larwin (2016:76) state that distance education provides educational opportunities to students who are limited from attending campus-based institutions due to their lifestyles and geographic locations. That is to say that some individual students, in their first year, tend to opt to pursue their studies via distance education.

According to Anderson (2008:2), distance education was a model in which individuals pursued their studies using postal communications between them and their teachers. With rapid developments and the emergence of new technologies such as mass media, teleconferencing, computer conferencing and database-assisted learning, individuals currently pursue their studies via technology platforms. Distance education is a flexible mode to provide education. The flexibility that it offers is one of the main reasons why so many people use it, including SWD. UNISA is the largest university offering distance education in South Africa and has adopted the ODeL model. ODeL is a form of distance education with a subset of e-learning that is "facilitated by the use of computers, using the internet, an institution's intranet, or material on disks" (Wallace, 2015:94). Distance education is not only flexible but also provides access to higher education for the masses that were previously marginalised in South Africa and this includes SWD. "Distance-teaching universities are able to enrol large numbers of students at a lower cost and, as such, contribute greatly to the broadening of access to higher education and to social equity" (Guri-Rosenblit, 2013:111). The UNISA website shows that in 2014 the university had

350 775 student enrolments. The number increased to 381 483 in 2018. Clearly, there has been an increase in the enrolment pattern with access being granted to a larger number of students.

UNISA is trying to be "open" to accommodate different individuals from different backgrounds, and this includes SWD and those transitioning from high school. UNISA has become more accessible since it added e-learning yet did not do away with printed materials. The university opened to another group of students that would otherwise have chosen to study at other institutions. For example, in 2016 in South Africa, "almost 90% of students enrolled through the distance mode of learning were from UNISA" (DHET, 2018a:12). With the blended delivery mode UNISA did not restrict access to students who did not have internet access. Moving towards e-learning opened opportunities to use more methods, technologies and to apply theories such as Constructivism, OCL and Connectivism, which would not have been possible if UNISA was only using printed material. Regarding assessment, in the past students were only assessed through venue-based examinations, whereas now some courses are making use of discussions, blogs, portfolios and many more. Swart (2016:66) writes that due to high costs, UNISA had to explore different ways to do examinations and move away from the traditional venue-based system to technology-enhanced assessments such as take home and online timed examinations. "Take-home exams are much closer to standard open-book exams in that the time between the release of the question and the deadline is measured in hours or days, depending on the university" (Delorme, 2017). Just like take-home exams, online timed exams are not supervised and one can write them outside of an exam room using different devices connected to the internet such as tablet, laptop, smart-phone or a desktop.

In contrast, students who are planning to enter the ODL system such as UNISA, would also realise that the system they are trying to transition into is not completely "open". This is in line with Bates (2015:347) who states that "open, distance, flexible and online learning are rarely found in their 'purest' forms". An example of the degrees of openness can be found in comparing the United Kingdom Open University (UKOU) and UNISA. The UKOU is open to all students irrespective of previous educational qualifications (Lane, 2009). UNISA on the other hand, still has minimum admission requirements such as the completion of Grade 12 with degree or diploma entry (depending on the programmes for which they enrol) and for some degrees there are minimum requirements as to the grade received for certain subjects in their final Grade 12 examination. For example, "a higher certificate requires a minimum *Academic Points Score*

(APS) of 15, a diploma a minimum APS of 18 and a bachelor degree a minimum APS of 21" (UNISA, 2020a).

Transitioning into the ODL system might be seen as open to the qualifying students. At UNISA, students must at least have access to the internet to apply online. Students must also be willing to take advantage of the foundational programmes before continuing with their chosen degree if they do not meet the minimum requirements.

Distance education, such as studying through UNISA, may be flexible in providing the opportunity of access to higher education. However, there are challenges in the system. Walsh (2011) suggests that online courses requiring the use of both the internet and a computer challenge may be considered a challenge. Thus, one needs to have the relevant ICT skills and access to technology. Self-motivation is required as there is nobody to oversee or motivate a student. One is unable to participate in one-on-one sessions with a tutor since all work is done online or at a distance mode. Lack of support and social interaction are some of the challenges likely to be faced by those embarking on a distance mode study, including SWD. The points about challenges in distance education tie in well with the study done by Alahmadi and Drew (2017:7). They evaluated websites of top-ranking universities around the world, assessing their admissions pages, home pages, course description pages, and web/welcome pages for errors. Evaluation of the sites aimed at determining if SWD could easily navigate the sites to access information of the top-ranking universities online. Finding errors indicates that the top-ranking universities are in many instances inaccessible to SWD. Containment of errors in websites such as having non-scannable text, fixed font size, page titles with search engine visibility, not changing the colour of visited links (Nielsen, 2011) and so on, pose a challenge for people especially SWD. That means that students, including SWD, find it difficult to "perceive, understand *and* interact with the website" (Erkut, Uyar & Ilham, 2018:967).

Sites are part of the required technologies and if they contain errors, they are not facilitating the process for SWD who want to enrol for distance education, let alone enter the system. Therefore, there is a growing need for universities to improve accessibility through ways that are inclusive, which include incorporating useful chrome web extension that are available for SWD and struggling students. According to Curts (2016), there are 30 chrome web extensions such as text to speech, read aloud, dyslexia friendly, visor, high contrast, colour enhancer, google dictionary,

and so forth – and these chrome web extensions can help students in categories such as text to speech, readability, reading comprehension, focus and navigation.

It would have been interesting if the study of Alahmadi and Drew (2017) had looked at the element of eliciting views from those outside the higher education distance system. That is, the high school teachers teaching SWD, especially the students doing their final year and looking to apply to further their studies at the ODeL institution. Teachers would have been able to give their views on an institution's admission page, course description, the needs and expectations of SWD they are teaching, and so forth, comparing if the sites were suitably accessible to SWD. Teachers could also have given their views about what SWD would anticipate the ODeL institution such as UNISA to be like for their educational journey, to discuss the current support at their school and compare it to support they anticipate receiving at a tertiary institution. The researcher hopes that this study will make a contribution in this regard and have high school teachers give their views on the accessibility of SWD to UNISA as the largest university in South Africa offering courses and programmes at a distance mode.

There are factors that need to be considered very carefully by both high school teachers and their students who plan to enter the ODeL system. Teachers can, therefore, advise their students if there are the needed academic and administration staff, technological tools, and access to resources and online platforms to support the needs of SWD. In addition to the above-mentioned factors, Barr, Harttnan and Spillane (2020) present other factors that might be useful to high school students with disabilities to know and consider before moving to higher education; factors such as developing self-knowledge, understanding legal rights and responsibilities, transition planning for college – this means knowing about types of institutions and options, admission test criteria, documentation of a learning disability, course selection and accommodative services, application and disclosure, and so forth.

Openness does have an impact on higher education in South Africa and can make or break the transitioning of those wanting to enter the ODeL higher education system. As stated, UNISA has been open through the years to all ages, genders and races. According to Bozzoli (2018), UNISA is training countless students, including the poor, rural, working, homebound, and older, in various degrees on offer and has done so for decades. On the flip side, to better include marginalised groups, more can be done, such as offering financial assistance and assistive technologies.

## 2.3 ACCESS WITHIN AN ODL INSTITUTION

Once SWD are in the higher education system, they need to be able to access the technological tools, libraries, a writing centre, administration people, support from lecturers and people from the disability unit, study material, funding, and so forth. Chiwandire and Vincent (2017) state that SWD, especially those using wheelchairs, still lack sufficient access to basic services such as libraries, toilets and transportation (physical environments) in most South African institutions of higher learning. For this reason and therefore their physical access to education and support is still limited.

For SWD to ensure that their studies are progressing well within the ODeL institution, they must have access to technological tools. "Research data suggest that persons with disabilities who use technology in education have greater success in secondary and post-secondary education" (Rowland, Burgsthaler, Smith & Coombs, 2002). It should be noted that distance education or online learning in the 21st century is driven by technology. "This is especially true as technology rapidly advances and more individuals with disabilities avail themselves to technology-mediated and distance education opportunities" (Cain & Merrill, 2001 in Rowland *et al.,* 2002).

Distance education or online learning is characterised as learning for students who are not in a physical classroom environment with other students and/or teachers. For it to be effective, there must be technological tools such as computers, tablets, smartphones, applications that are downloadable and relevant cabling and internet access and data, which is the prominent requirement. These technological tools ought to make students and teachers appear as if they are not physically separated with the technological tools enhancing teaching and learning within the online learning environment and promoting communication in the process. Communication is important as it is the foundation of teaching and learning. Simply stated, the discipline of communication is regarded as central to the goals of the education system to address student development (Morreale & Pearson, 2008:225). Students need to connect to the networks using their technological devices to communicate, learn and exchange ideas, with the purpose being to receive and create new knowledge. Being able to communicate through technological tools is part of constructivism and connectivism, the two learning theories underpinning this study.

Accessing online facilities such as the library, writing centre, university staff and study material is important for SWD and all other students enrolled in distance education. According to Hatzipanagos and Gregson (2015), it is advantageous to embrace and use Open Access and Open Educational Resources (OERs) such as teaching, learning, research, lab, games and simulations, materials, as well as many others, as they are free to be used and can be accessed by anyone from anywhere in the world. It has to be noted that OERs and Open Access also include having access to human services online. Human services include academics, administration, support and others. For this reason, any institution of teaching and learning, for its success and that of the students, needs to have staff in place. These staff members are there to help, administer, direct and solve any issues relating to the business of teaching and learning. They have to offer their services to all within the institution, especially to the students. Kumtepe *et al*. (2019:114) present their view that for the system to be sustainable, there should be distance education services available throughout ICT processes to support all stakeholders, particularly distance learners in the higher education system. Among other things, staff in the higher education system have the responsibility of providing information about different things, including information about funding, to those in need of it. For SWD enrolled in distance education to succeed within the system, they must have access to people who can always help and support them.

Conversely, accessing university staff at UNISA seems to be problematic. On the official Twitter page of UNISA, on April 3rd 2020, the university posted a message to students on how to contact lecturers during the lockdown in South Africa due to the coronavirus pandemic: "Some lecturers have diverted their office phones through to their private phones and might still be reached by phone. We appeal to students to only phone during office hours if needed. Use email where possible to contact UNISA staff" (@UNISA, 2020). About 146 students responded to the tweet message with the majority responding negatively. As an example, one student said:

> *"I sent an email last year enquiring about my application… I am still waiting, so emailing is useless…"*

Another student said:

> *"We email, tweet and call and receive no responses. Your updates here are useless because no one is coming back to us. You are willing to accept our money but after that we're on our own"*

Another student also tweeted and said:

> *"Your communication platforms are very bad, I registered on 12 March but still today my registration is not finalised".*

More responses are available on the @UNISA account on twitter.com. Mtshali (2016) concedes that at UNISA emails are not responded to, lines ring off the hook, and most students complain of poor service. Arko-Achemfuor (2013:ii) states that many students at UNISA are unable to access support services as expected.

Furthermore, to be within an ODL environment and struggling to access the study material is problematic, and it might lead to failure. SWD at UNISA should also have access to courses or programmes that are designed to be inclusive. "Universal design is an educational approach for instructing all students through developing flexible classroom materials, using various technology tools, and varying the delivery of information or instruction" (DHET, 2018b:23).

This research aims to investigate how SWD are supported in an Open Distance eLearning institution.

## 2.4 SUPPORT

Student support is an integral part in the success of students in distance education. According to Ciobanu (2013:170), student support is the division which offers services and support to students in higher education – and with an increasing number of students from diverse backgrounds, support includes services such as the academic and personal development of students. The throughput of distance education depends on the effectiveness of the support mechanisms put in place by different ODeL institutions. In this regard, Arko-Achemfuor (2013) quotes Kirkham and Ringelstein (2008) that having student support programmes in place can reduce the attrition rates and increase throughput and retention rates.

In other words, student support plays a vital role in the success of students, including the vulnerable ones. According to Simpson (2014), distance institutions organise their student support systems in different ways and some students may need more support than others. Taking the needs of students into account, lecturers can create materials and put support structures in place, such as an inclusive educational centre and other sources from where students can seek help. Lecturers should create course content to suit a diverse range of student needs. For example, reading material can be made available in audio format, or can be supplemented by videos, animations, graphics, and so forth. This is to suggest that lecturers need to accommodate different options as some students are differently-abled while others struggle to learn or work in the

environment in which they find themselves. According to Molina, Rodriguez, Aguilar, Fernandez and Morina (2016:1046), lecturers must not create attitudinal barriers as they are common and can destroy the whole idea of support and inclusivity in education. With the above, student support has to involve aspects such as tuition, administration, counselling and guidance.

Support is about caring for the students – something linked to the principle of ubuntu/botho, a concept of respect as a means to guide student support. In this way, Muleya (2016:195) is of the view that education, in the spirit of ubuntu/botho, "involves active participation of the citizens in managing themselves in society and making sure that everyone is supported". Just as in connectivism and constructivism approaches, ubuntu/ botho is in keeping with a student-centred approach, support and also in keeping with the spirit of caring.

For the maximum support and inclusion of SWD within the ODeL environment, the role of the disability unit has to be effective. Responsibilities of the disability unit or services are stipulated below according to UNESCO (2009):

- To provide special programmes and services for students who have learning difficulties,
- To assists students in the transition into university life, and
- To promote the relationships of friendship, development and a sense of belonging on campus.

The disability unit within an institution of higher learning is there to respond to the interests and needs of the students to ensure that the education for which they are enrolled has successful outcomes.

## 2.5 TYPES OF ASSISTIVE TECHNOLOGIES AND DISABILITIES

ODeL institutions such as UNISA, can increase the throughput rate if they can maximise support for the students, especially SWD. To maximise support would mean not only to have an understanding of different types of assistive technologies as well as disabilities but also to match them and to be able to identify how they can be used to support SWD. More importantly, it is essential to make assistive technologies available and accessible to those in need of them. The following table is a compilation of the insights from the Eunice Kennedy Shriver National Institute of Health and Human Development (NIH)(2018):

**Table 2.1: Assistive devices for students with disabilities**

| Types of Disabilities | Types of Assistive Technologies | Description and Relevance |
|---|---|---|
| Vision - different levels of blindness and visual impairment | Magnifiers, talking devices, braille displays, screen reading software, text to speech systems, large print materials and adaptable phones. | Tools are meant to help students who are blind or visually impaired to be able to access, consume and understand content in their respective line of their studies.<br><br>Doing practical activities and or assessments can be done orally. |
| Hearing - deaf or completely deaf | Close captions, personal amplification systems, vibrating devices such as mobile phones with captioning, texting and specialised applications. | Hearing aid tools to help students to "connect" with others in an online learning environment. For example, online discussions where mobiles phones would alert students and with captioning they can engage with others. |
| Speech communication | Voice amplification systems, speech output software and speech generating devices. | Fortunately, in the ODeL environment, students with speech impairments can communicate in writing. This is prominent as even the examinations are largely done in writing.<br><br>Students can also write emails if they want to communicate with other personnel such as the administration people. |
| Learning, cognition and development | Memory aids, reminder systems, note taking systems and audio books. | This category needs to be considered very carefully as it relates to teaching and learning directly. Aids such as computers, applications and other assistive |

| Types of Disabilities | Types of Assistive Technologies | Description and Relevance |
|---|---|---|
| | | devices must be available for the effective support of SWD.<br><br>For example, a student who struggles to use a printed material might have a second choice to use an audiobook. |
| Mobility, seating and positioning | Wheelchairs, walkers, scooters, crutches, automatic page-turners, book holders and adapted pencil holders. | Mobility aid tools are meant to help students to be mobile and be able to access places such as the exam centres.<br><br>When at home studying, tools such as automatic page-turners and book holders can help SWD a lot in their educational journey. |

Source: Eunice Kennedy Shriver National Institute of Health and Human Development (NIH)(2018).

The above list is not exhaustive as there are other types of disabilities in line with their respective assistive technologies. Types of disabilities also include those such as motor skills, having functional limitations, inability to adapt to the environment, inability to use transportation, and so forth. These types of disabilities have their respective matching assistive technologies such as the adaptive switches, book stands, lifts, hand controls, and so forth. Elements, when matched, can help SWD when at home and also when they want to access the real university campus, its regional centres and examination centres. It is highlighted in this literature review that assistive technologies are important elements that help SWD to access education and when aligned with relevant theories, they ought to provide effective education to SWD.

A literature review and theoretical framework are meant to validate, enhance and support this study. Theoretical frameworks "enhance the empiricism and rigour of a research" (Adom, Hussein & Agyem, 2018:438). Therefore, it is called for to discuss the theoretical framework.

## 2.6 THEORETICAL FRAMEWORK

In order to explore the effectiveness of support for SWD in the ODeL institution, theories that afford SWD an opportunity to *construct* knowledge and *connect* with the institution as a means to receive support in the process are deemed to guide the study. The two theories that form the theoretical framework for this study focus on student-centredness. This is regarded as important because teaching and learning today is for and about students and therefore the support of students. It is against this background that constructivism and connectivism are used to form the theoretical framework that guides this study. Theoretical frameworks offer credibility, deepen the essence and guide the paths of a research (Adom *et al.,* 2018:438). The two theories, constructivism and connectivism, are explained in the following sections.

### 2.6.1 Constructivism

Amongst others, contributors to the concept of constructivism can be tracked back to the works of Lev Semyonovich Vygotsky (1896 – 1943), Jean Piaget (1896 – 1980), John Dewey (1859 – 1952) and Jerome Seymour Bruner (1915 – 2016) (Learning-theories, 2015). These theorists influenced the formation of constructivism and therefore the learning process. These researchers were reacting to the behaviourist approach that viewed teaching as relating to the transmission of knowledge and skills by a teacher to a student (Richardson, 1996:2). Constructivism is of the view that during a learning process an individual learner constructs meaning and systems of meaning that are tested against current and past social experience (Zawacki-Richter & Anderson, 2014:358-359) and that from a constructivist perspective the focus is on the learner. Giesen (2020) also states that constructivism sees learning as an active process where students create new understandings.

There is social and cognitive constructivism and on the one hand, social constructivism is when one's learning process is influenced by his/her interactions with others. Social constructivism, according to Vygotsky (1978:57), is the cultural development of a child that appears twice - on a social (inter psychological) and an individual level (intra psychological). On the other hand,

cognitive constructivism is when skills and knowledge are developed from one's mind because "intelligence…is essentially a system of living and acting operations" (Piaget, 1950:7).

Constructivism, as a learning theory, frames this study with the assumption that SWD in the ODeL institution have to construct knowledge and acquire and develop skills in their interactions with different sources as well as being supported in many ways. Richardson (1996:5) posits that in the construction of skills and knowledge "the ideas may come from many different sources such as staff development, other teachers, research and practice articles and reflection on experience". Other sources may include the interaction with other student peers with whom SWD have to collaborate, the disability unit and other units within the institution such as the writing centre and others, which ought to offer services and support to SWD. In addition, we can note that when the constructivism approach is used to introduce new concepts, familiar ideas need to be considered. That is, ideas familiar to students, especially SWD, need to be discussed and this practice helps SWD because of their seemingly low self-esteem and repeated failure experiences (Lenjani, 2015:20). In this regard, constructivism is about constructing new skills and knowledge and in the process is about formulating the support-based structure from the constructs for the students.

### 2.6.2 Connectivism

Connectivism is similar to constructivism as both theories are student-centred and support the idea of how students construct knowledge on their own. Connectivism is an example of how things can evolve as it presents new possibilities in the fraternity of teaching and learning that were never thought of before. Kop and Hill (2008: 1-13) call connectivism a "learning theory of the future or vestige of the past…". Connectivism was developed as a theory by George Siemens (2005) and Stephen Downes (2010) for people to understand learning in the digital age. Siemens (2005:5) explained connectivism as learning process that is integrated and "explored by chaos, network, and complexity" where knowledge is derived from different opinions connected in the networks. The significance of connectivism is that when a learner is able to connect and feed information into a learning community, this process of learning and knowledge is stated as "social learning that is networked" (Duke, Harper & Johnston, 2013:6). Connectivism is driven by technology and therefore more suited to ODeL. It is suited to ODeL because in this mode of delivery, students are situated in different locations and need to take advantage of technology and embrace it in their learning process, especially in current times. This is in line with Juwah

(2010:7), who states that technology is important in supporting the effective delivery of distance education with benefits to the user such as accessibility, convenience, cost-effectiveness, enabling individuals to improve their knowledge, skills development and lifelong learning.

Just like constructivism, connectivism is a theory selected to underpin this study with the notion that SWD in the ODeL environment have to connect to the networks where information is located and to receive support. This is to say that in connectivism, behind the networked system, there are people to provide support to SWD. This is because "a network comprises connections between entities (nodes), where the nodes can be individuals, groups, systems, fields, ideas, resources or communities" (Bell, 2009:3). As stated, in constructivism, individuals construct knowledge based on their social experience and in connectivism knowledge is derived from interacting over the networks. In this regard, the researcher views connectivism as the extension of constructivism. Other writers such as Mattar (2010), Kop and Hill (2008) and Kerr (2007) also view connectivism as the development of constructivism. In this way, both constructivism and connectivism are viewed as most suitable to guide this study in the sense that interacting or connecting with people face-to-face or virtually enables students to get both knowledge and support.

## 2.7 CONCLUSION

From the review of the literature, it is clear that there are only a few studies that have been conducted in South Africa, that have investigated support for SWD enrolled in online learning (cf. Simpson (2014), Molina *et al.* (2016), Richardson (2014) and Obiozor *et al.* (2013). Other studies conducted internationally, are not specific on how SWD should be supported from the time they transition from high school into higher education, and until they exit the system successfully. Studies reviewed have been helpful in focusing this study, and their findings are used to shape the research and are later discussed in conjunction with the findings from this study. Other elements that have been helpful in shaping this chapter is the importance of transitioning from high school into HE institutions, access within the ODeL institution, support, and types of assistive technologies matching SWD disabilities. Finally, theories that align with online teaching and learning in the 21st century such as constructivism and connectivism, have been described and deemed appropriate to guide the study.

In the next chapter, research design and methods are presented.

# CHAPTER 3

# RESEARCH DESIGN AND METHODS

## 3.1 INTRODUCTION

The previous chapter of this dissertation of limited scope discussed important factors relating to the support of SWD in higher education, as outlined in the literature. The aim of this chapter is to outline the empirical structure that is aligned with the research design and methods of this research. It is important for the researcher to understand the influence of the research design and methods and how the research is done. Through the research process that McMillan and Schumacher (2010:30) call "a collection of research practices", a researcher is able to link the original idea and how it progresses within the scope of research itself and the works of other researchers. On the one hand, the research design, as a plan, describes the research paradigm and approach, while the research method outlines factors relating to the selection of participants, data collection and data processing – all to be discussed in detail in this chapter. The empirical research is meant to help the researcher to answer the main research question: *How are SWD supported at the ODeL institution?*

To answer the main research question, the research meant to involve high school teachers teaching SWD as participants to discuss support because their learners enrol at institutions of HE such as UNISA. Therefore, inviting high school teachers teaching SWD was viewed as important, and that support cannot be discussed in isolation from the perspective of higher education but needs to also link and trace it from high school and how learners transition into HE.

In addition, this chapter will explain in detail the rationale for empirical research, and it will conclude by looking at factors relating to the trustworthiness and ethical measures that are important to this study.

## 3.2 RATIONALE FOR EMPIRICAL RESEARCH

In Chapter 1 Section 1.2, it is stated that the demand for higher education in South Africa has escalated in recent years with a call to decolonise education and for students to have access to

higher education. With that, institutions of higher learning in South Africa, including those offering distance education such as UNISA, have been admitting more students than has previously been the case. It has also been highlighted that it is pointless to admit or offer study places to students, especially those with disabilities, into a higher education system yet fail to offer adequate support to them as this will only lead to an increased drop-out rate of students. These challenges have prompted the need for empirical research in the area of support in the ODeL institution such as UNISA in order to find out how SWD are supported during the transition from high school into the HE system where they are expected to exit as successful.

## 3.3 RESEARCH DESIGN

Research design explains the structure of the proposed research work and Maree (2010:70) states that a research design is a plan that starts with showing philosophical assumptions and then goes on to show how participants are selected, ways of gathering data, and how data is analysed. According to McMillan and Schumacher (2010:117) a research design is a strategy of selecting instruments, location, participants, and conducting data analysis in a way that tries to answer a research question. In other words, a research design as a detailed framework assists a researcher in the process of achieving the objectives (Wilson, 2010).

This research design was carefully constructed to first explore the depth and gain insights into concepts found in the literature review. The focus of the study was to explore means of support at the ODeL institution, with specific reference to the Disability Unit at UNISA. That was to examine the role and responsibilities of the disability unit at an ODeL institution in a wider context to help and provide a positive and supportive learning experience to SWD throughout their study in the ODeL system. This is to say that the researcher was trying to expand knowledge into new frontiers related to the content area. The research design must provide proper evidence that is needed and findings that are credible, trustworthy, reasonable, valid and accurate.

As part of the research design of this study, the research paradigm and approach are discussed next.

### 3.3.1 Research Paradigm

In a research study, there are different research paradigms or philosophies and the two popular ones are positivism and interpretivism. Any researcher conducting a research must subscribe and follow to a particular research paradigm with its strategies and instruments used in order to achieve the research objectives. According to Kawulich (2011), the ontological, epistemological and methodological factors characterise what the research paradigm or philosophy is, and it aligns with what is real, how something is known and how one goes about to find the needed information.

With the above-mentioned background, this study followed an interpretivist or constructivist paradigm. "Interpretive/constructivist researchers use systematic procedures but maintain that there are multiple socially constructed realities (unlike positivism, which postulates a single reality). There is less emphasis on numbers and more emphasis on values and context" (McMillan & Schumacher, 2014:14). In this regard, the manner in which data is collected, analysed and used follows the interpretivist/constructivist research paradigm style, approach and methods,.

### 3.3.2 Research Approach

There are links between research paradigms and approaches and Nyamboga (2017) talks about three types of research approaches, namely qualitative, quantitative and mixed methods research. Therefore, this study followed the qualitative approach because the researcher wanted to gather data about people's emotions and opinions so that meaningful decisions can be informed and expressed. Maree (2010) stipulates that during the qualitative process, an individual interacts and observes the participants in the natural environment and comprehends the cultural and social contexts of this process. A researcher, during the qualitative process, takes into account participants' ideals, feelings, actions and beliefs in their natural setting (McMillan & Schumacher, 2010:340). In this regard, a qualitative approach affords the researcher an opportunity to be considerate of participants' different perspectives – and this is the reason why this approach was deemed suitable for this study.

### 3.3.3 Research Type

A multiple case study, as a sub-type or research type, was used for qualitative data collection. A case study is when, for a defined period, a researcher collects data from individual people, events

or programmes (Leedy & Ormrod, 2005:135). The researcher in a case study is able to utilise different resources and strategies when collecting data. According to Cohen, Manion and Morrison (2008), a case study affords the researcher an opportunity to capture living experiences that are real in research. In a multiple case study, the researcher studies multiple cases to gain knowledge about the similarities and differences between the cases and analyse data accordingly (Gustafsson, 2017). Therefore, this qualitative study utilised a multiple case study design to explore the concept of support for SWD in transitioning from high school into an institution of higher learning such as UNISA and their journey throughout as expected to exit HE successfully. This allowed the researcher to gain insights about support for SWD in the ODeL environment and to control the research process by involving high school teachers teaching SWD and UNISA staff members from the Disability Unit. To control and involve participants in the research also meant to focus and engage in an authentic manner in the context of a real-life problem (Creswell, 2013:14).

## 3.4 RESEARCH METHODS

Research methods are the ways in which one collects and analyses data so that research decisions can be made (McMillan & Schumacher, 2014:16). In this regard, the researcher outlines methods that were used for the selection of participants and ways in which data were collected and analysed for this research.

### 3.4.1 Selection of Participants

According to McMillan and Schumacher (2010:323), in qualitative research, researchers aim to reformulate data they get from participants in the research study. In trying to understand the support needed for SWD, the goal was to provide an in-depth understanding of the research phenomenon. This required the selection of a target group of specific people and for this qualitative study, sampling in was used. Sampling can be described as "the selection of specific data sources from which data are collected to address the research objective" (Gentles *et* al., 2015:1775). Sampling in qualitative research can be done in different ways, and in this study the choice was purposive sampling. In this regard purposive sampling, which is "the selection of participants or sources of data to be used in a study, based on their anticipated richness and relevance of information in relation to the study's research question" (Yin, 2011:311), was the focus. The researcher proposed to have different participants in the study who were meant to

provide information from different angles to address the research problem. The participants were high school teachers teaching learners with disabilities and members of the Disability Unit of UNISA and were selected to pose their views about support for SWD. The teacher participants were selected to pose their views about support for SWD at a school level and staff member participants to share their views at the ODeL institution level. Teachers in high schools were to provide information about their learners anticipating to study further at UNISA. Participants from the disability unit provided information about the resources that are available at a disability unit and at UNISA as the ODeL institution on how SWD are supported.

The researcher involved six high school teacher participants teaching learners with disabilities from two different schools, one school located in the North West province and the other one located in Gauteng province. The researcher also involved three participants from the Disability Unit of UNISA. The high school teacher participants were expected to be teaching SWD, trained and have knowledge and experience in the needs of SWD, some of whom transition to a higher education institution each year. Likewise, UNISA staff members from the Disability Unit were expected to be working and have knowledge of SWD in the higher education system. These participants had to be willing to do and interact in the interview process that could make it possible for the researcher to gain access to the experiences of students regarding support. Conveniently, the selection criteria included participants based on gender, background/exposure and lived experiences. Lived experiences considered are participants' years of experience in teaching high school learners with disabilities and working at the disability unit at UNISA. In this way, the selected participants had to give their views from different angles explored for rich information needed. Profiles of participants are provided in Chapter 4 Section 4.2.1.

### 3.4.2 Data Collection

McLaughlin (2016) is of the view that an approach to measure and gather data from different sources is called data collection. When collecting data in qualitative research in order to comprehend the research problem, the methods tend to focus more on interviews, document analysis, observations, questionnaires as well as using video and audio materials (McMillan & Schumacher, 2010:327). Data were collected from conducting semi-structured interviews and document analysis, and these two instruments are discussed next.

### 3.4.2.1 Semi-structured interviews

The advantage of conducting semi-structured interviews is that it has a flexible approach. That is, semi-structured interviews "allow for the discovery or elaboration of information that is important to participants but may not have previously been thought of as pertinent by the research team" (Gill, Stewart & Chadwick, 2008). "A semi-structured interview is a meeting in which the interviewer does not strictly follow a formalised list of questions" (Doyle, 2019). Before interviews were conducted, a letter was sent to the identified participants inviting them and requesting their permission to participate in the interviews (*cf.* Appendix 3). This was also done to afford participants an opportunity to have time to prepare on how they would give their responses with regard to their opinions and experiences. In the process, individual interviews were conducted to source information from individuals' points of view that are not influenced by others. Interviews were recorded on a voice recorder. Language usage was primarily in English. Semi-structured interviews involve open-ended questions guided by an interview schedule (*cf.* Appendices 5-6). The researcher considered the use of telephone interviews, especially via Microsoft Teams, as an alternative to face-to-face contact interviews because South Africa and the entire world was rampaged by the COVID-19 pandemic at the time of the research. Despite the COVID-19 pandemic that was gaining momentum during the winter season in South Africa with records of high rates of infections and death cases, the researcher was fortunate to have been invited for the face-to-face interviews with teacher participants at both schools: Special needs public and private schools in the North West and Gauteng provinces respectively and with staff members at the UNISA Disability Unit. Interviews were scheduled to last for an average of 30 minutes with each participant.

### 3.4.2.2 Steps followed in the empirical study

It took more than three months to get the approval from UNISA's College of Education and the College of Education and Research Permission Subcommittee (RPSC) to do data collection. In step 1, the researcher had to apply for permission from the institution's research committee and wait for the approval. In step 2, school principals of targeted schools and the acting director at the disability unit were contacted, so as for the researcher to express an interest to do the interviews and to ask for permission to have access to the schools and participants and to also ask about their preferred interview process . Permission was given by the school principals to have access to the schools and by the acting director at the disability unit to contact prospective

participants. In step 3, the proposal, question guide and research approval were sent out, followed by a telephone call to make an appointment for the interviews. Amid the coronavirus pandemic in South Africa, the school principals in the North West and Gauteng provinces invited the researcher for face-to-face interviews on the school premises. In step 4, the researcher went to the schools and had to adhere to the rules set by the government and the schools for the safety of all involved in the interviews during the corona virus pandemic. Rules involved wearing a face mask, getting hands sanitised before entering the school premises and keeping social distancing. Face-to-face interviews were conducted at a private school in Gauteng province with two willing participants, and a week later interview were conducted at a public school in the North West province with four willing participants.

Semi-structured interviews with staff members from the UNISA Disability Unit were done online through an electronic mail with three participants instead of four, as initially targeted. It has to be noted that it was difficult to get participants from the disability unit and it took a few weeks to get the three participants after the initial request was made. During the researcher's struggle to get hold of people from the disability unit, the researcher asked the supervisor for advice which helped to devise a plan. The researcher had to search for the telephone numbers on the internet and fortunately found the acting director's contact details. From then on communication improved a little but required constant follow-ups as electronic mails and phone calls were often unanswered. The first round of interviews with three participants from the disability unit were held via emails. As part of these interviews, participants were asked if they would be available for a second online interview through Microsoft Teams (as the preferred interview mode indicated by the university at the time of the research). Only one participant showed interest to participate in a second interview. The researcher found a second round of interviews necessary for follow-up questions based on the email questions and responses.

The interviews conducted face-to-face and lasted about 30minutes. This was different to interviews conducted via electronic mail.

#### 3.4.2.3 Document analysis

In a qualitative study, "document analysis is a systematic procedure for reviewing or evaluating documents – both printed and electronic materials" (Bowen, 2009:27). Smulowitz (2017) posits

that in a qualitative research study, the inclusion of documents provides additional rich data and further support the research outcomes. This is the reason why the researcher deemed it suitable to include documents with the intent to triangulate. Triangulation is a way to ensure the validity/credibility of research by engaging different methods to collect data on the same topic (Kulkarni, 2013). Organisations and companies, including institutions of teaching and learning found at regional, national and international levels, must have policies in place for their smooth running. When policies are in place, it helps organisations and companies or people within those institutions to be compliant and able to deal with challenges more effectively. According to Plymouth (2020), when policies are not in place, institutions of teaching and learning would fail to provide the educational needs of students due to the lack of structure and function. A policy can be described as "a plan of action agreed to by a group of people with the power to carry it out and enforce it" (Dodd & Hebert-Boyd, 2000:1). For the effective support of SWD in the ODeL environment such as at UNISA, some policies were considered. Policies such as the *Strategic Policy Framework on Disability for the Post-Secondary Education and Training System*, UNISA's *Open Distance Learning Policy*, *Tuition Policy* and *Admission Policy* were considered. The procedure was to access the UNISA library, staff members from the disability unit at UNISA and the UNISA website for relevant documents.

### 3.4.3 Data Analysis, Processing and Procedures

Merriam (1998:178) posits that data analysis is a way of processing data collected so that it can be meaningful. Maree (2010:100) concurs that in the process of data analysis, common themes and words can be summarised by the researcher. In this regard, there were four aims to the analysis of data that were derived from the main aim of the study. The first aim was to explore the use of assistive technologies that match and support individuals' needs. The second aim was to understand to explore types of resources learners with disabilities are using in school through the interviews with the teachers. The third aim was to identify the resources that are available at a disability unit to support SWD. The fourth and last aim was to provide guidelines to the university to support SWD. These guidelines are provided in the recommendations section 5.7.

The researcher deemed it necessary to analyse data gathered from documents and interviews separately because of the diverse nature of data. Data gathered from the interviews were analysed first and followed by the analysis of data gathered from documents. To analyse data separately was meant to identify themes relating to and in support of the main aims. Therefore, the process

of thematic analysis was considered to be a suitable method for analysing the collected data. Thematic analysis is "a method for identifying, analysing and reporting patterns within data" (Braun & Clarke, 2006:79).

The researcher followed a six-step process suggested by Braun and Clarke (2006:89-96) for interpreting and analysing data, which were as follows:

1. To familiarise himself/herself with data
2. To identify and generate preliminary codes
3. To identify and look for themes
4. To re-identify and review themes
5. To name and explain themes
6. To produce and write the report

In seeking corroboration, data gathered from the documents were sought as an alternative resource to interviews. Therefore, the researcher considered two elements in analysing documents, which were to deal with bias and the lack of evidence in documents, that O'Leary (2014) calls unwitting evidence. In this regard, document analysis took the form of checking all references to SWD in documents against bias. It was done to check fairness and the lack of evidence in the documents.

## 3.5 TRUSTWORTHINESS

During the research process, the researcher must present the views of participants in a manner that is deemed to be accurate. In the process of data analysis, the researcher must not influence the data collected. According to Carmines and Zeller (1991:13), the researcher should be aware of factors that may present issues to the outcomes of the research. This study planned to adopt some strategies suggested by Noble and Smith (2018:35) for "trustworthiness" such as being able to account for personal biases, meticulous record-keeping, which means, demonstrating a clear decision trail and establishing a comparison case. In citing Lincoln and Guba (1985), Nowell, Norris, White and Moules (2017:3) stipulate that the concept of trustworthiness has the criteria of credibility, transferability, dependability, and confirmability and that this is different to the quantitative assessment that has parallel criteria of validity and reliability. In this regard, to avoid

bias, the researcher paid attention to the following elements which include credibility, dependability, transferability and confirmability.

**Credibility** is the most vital element in qualitative research to help establish trustworthiness. Credibility also helps the researcher to link the findings of the study with reality as a means to establish the truth of the findings. To ensure credibility, the researcher gathered data from different sources, and that is from documents and participants using different methods to answer the same questions. According to Devault (2019), this method is called triangulation and helps to establish credibility and contribute to trustworthiness. Korstjens and Moser (2018:121) state that credibility is "the confidence that can be placed in the truth of the research findings" to establish if plausible information from participants and their views are correctly represented. In the semi-structured interviews, the researcher applied this method by adopting open-ended questions and not leading participants during the interview process.

**Dependability** is when "the process within the study should be reported in detail, thereby enabling a future researcher to repeat the work, not necessarily to gain the same results" (Shenton, 2004:71). This is to say that dependability of the findings depends on consistent processes. This was a qualitative study and therefore, reliability would be different from techniques that positivism employ, argues Shenton (2004:71). Dependability cannot be the same or definite all the time because this study dealt with the views of high school teachers teaching SWD and of staff members at UNISA. However, the experiences and views of participants and how they were related were deemed authentic and accurate. The selection of participants and settings for interviews had to be maintained in a logical and stable manner by the researcher and the processes of this research were documented and can be traced. In this regard, Tobin and Begley (2004 in Nowell *et al.,* 2017:3) state that a process that is traceable, logical, and well documented, ensures that dependability is achieved.

**Transferability** refers to the ability to transfer qualitative research results to other settings or contexts with other participants (Korstjens & Moser, 2018:121). Document analysis and a small group of participants who provided data were highlighted and described precisely. The data collection and analysis methods were highlighted in section 3.4.2. It is understandable that the research findings cannot necessarily be transferred to a population that is wider because "the researcher cannot know the sites that may wish to transfer the findings" (Nowell *et al.,* 2017:3).

**Confirmability** is when other researchers can confirm research findings and to establish if these findings are clearly from the data and not figments (Korstjens & Moser, 2018:121). In the context of this study, any observer can trace the research processes step-by-step to reach a confirmability point. A trail would also afford any observer a chance to validate methods used by the researcher to collect and analyse data. This is because the researcher used the semi-structured interviews to justify data collected from documents and therefore any observer can notice two different methods used that were meant to do away with bias among other things and can be traced from the above sections that deal with credibility, dependability, and transferability. According to Guba and Lincoln (1989 in Nowell *et al.,* 2017:3), to establish and ensure confirmability, matters relating to the criteria of credibility, transferability, and dependability must all be achieved. In this way, the researcher adhered to the elements of trustworthiness to ensure trustworthiness of the study.

## 3.6 ETHICAL MEASURES

The researcher received permission from the schools and UNISA 's Disability Unit for conducting research. Throughout this study, ethical measures had to be implemented and adhered to. This is because qualitative research often involves human subjects (Dooly, Moore & Vallejo, 2017:351). This study involved human participants who had to be willing to participate and gave consent to their participation. They were assured that their privacy would be assured. In this regard, "ethics pertains to doing good and avoiding harm" (Orb, Eisenhauer & Wynaden, 2000:93). Doing good and avoiding harm also meant that participants had to be informed and give their consent, knowing that they could withdraw from participating in the research study at any time. Participants in this research study were high school teachers who teach learners with disabilities and staff members at the disability unit at UNISA. The researcher had to apply for and obtain ethical clearance from the College of Education Ref: 2020/05/13/41541359/09/AM (*cf.* Appendix 1) and the Research Permission Subcommittee (RPSC) (*cf.* Appendix 2) at UNISA before contacting participants in order to carry out the study. Participants had to understand the reason why they were requested to participate in the study, and the research objectives and procedures and were therefore assured that the information they provided would be treated with the utmost confidentiality. In this way, this study adhered to terms of 'anonymity' and 'confidentiality' and deemed them as important throughout the research process.

Importantly, all the participants were assured of confidentiality as part of the ethical measures and were advised that their interviews would be transcribed. Part 2, Section 4.7 of the UNISA Research Policy stipulates that "researchers should preserve research records for a minimum of five years" (UNISA, 2016:17). To preserve information for at least a period of five years will require the researcher to use a personal laptop and other external hard drives to store information, that is protected with a password. All these measures were adhered to in this research.

The researcher also received permission from the schools to conduct the research investigation done.

## 3.7 SUMMARY

Chapter 3 outlined the empirical investigation processes and the rationale of this research study. The discussion of trustworthiness and ethical measures concluded this chapter. Processes of research design that included the interpretative research paradigm, research approach that is qualitative and the research type that is a multiple case study painted the picture for the empirical research of this study. The chapter also outlined the research methods that included the selection of participants, data collection procedures, and processing that included procedures for data analysis and data interpretation. Motivation for doing a document analysis on top of interviews was discussed as triangulation to ensure validity/credibility of collected data by using different methods.

The next chapter will discuss the results and interpretation of data collected from documents and participants.

# CHAPTER 4

# FINDINGS AND DISCUSSION OF EMPIRICAL RESEARCH

## 4.1 INTRODUCTION

The aim of this chapter is to report on the empirical research. This chapter focuses on data analysis and results that are qualitative in style. In exploring experiences of high school teachers teaching learners with disabilities, and staff members at the disability unit within the ODeL environment, this chapter presents data that was collected using semi-structured interviews and document analysis. Data collected was driven by the main research aim and four aims of this study to answer the main research question: *How are SWD supported in the Open Distance e-Learning institution?* Interviews were conducted with nine participants, and that is six high school teacher participants from two special needs high schools, one of which is a public high school in the North West province of South Africa and one a private high school situated in Gauteng province. Besides the school teachers, three staff members from a disability unit at the ODeL institution acted as participants in this study. The findings emerging from the analyses of the interviews and the documents are discussed next.

## 4.2 PRESENTATION OF FINDINGS

Data collected needs to be processed and analysed for it to make sense and be meaningful (*cf*. Section 3.4.3). In the process of data analysis, the selection of the important information out of the vast amount of data collected ought to build a meaningful framework. Unlike the quantitative data analysis which provides answers that can be expressed numerically, qualitative data analysis is more concerned about the meaning which describes valid information that can help a researcher answer the research questions (O'Connor & Gibson 2003, 64). In this regard, the research findings in this chapter are addressed through qualitative analysis: interview data analysis and document analysis.

The interview data analysis section explored the experiences of participants, but initially the biographical profiles of participants are presented. From the participants' responses, themes emerged from the interview data which were gathered through research questions that guided

interviews. Therefore, thematic analysis was employed by the researcher to identify and organise emerging themes. The document analysis section presents four analysed documents: *Admission Policy, Tuition Policy, Open Distance Learning Policy* and *The Strategic Policy Framework on Disability for the Post-Secondary Education and Training System.* The document analysis was done in addition to interviews, not only for triangulation but also to support or contradict features that relate to support of SWD in the ODeL institution. Data collected from interviews and documents were large amounts and therefore needed to be trimmed to a useful and meaningful pieces of information addressing the research questions.

### 4.2.1 Biographical Profiles of Participants

Nine participants agreed to participate in the study instead of ten as initially planned. These included two teacher participants from a private school in Gauteng province, four teacher participants from a public school in the North West province and three staff member participants from a disability unit. Teacher participants were selected to give views about support for SWD while still in high school before their transition into the ODeL institution of higher learning. To make a comparison, participants from the ODeL disability unit were sampled to give views about support for SWD in the ODeL institution. Getting views from different participants meant to get a deeper understanding of how SWD are being supported and the improvements that can be made.

The biographical information, which included participants' age, academic qualifications, experience, gender, position held at work, and race, assisted in contextualising the study. The following table, Table 4.1, shows the profiles of the participants involved in the study.

**Table 4.1: Profiles of participants**

| **Participants from the Private School** | | | | | | |
|---|---|---|---|---|---|---|
| **Name** | **Age** | **Academic qualifications** | **Teaching experience** | **Gender** | **Position** | **Race** |
| Participant1 | 35 | BA, PGCE, MEd. in Remedial education | 11 years | Female | Principal and teacher | White |

| | | | | | | |
|---|---|---|---|---|---|---|
| Participant2 | 28 | BSc, Honours in Science, MSc in Environmental studies, PGCE | 4 years | Female | Teacher | African |
| **Participants from the Public School** | | | | | | |
| **Name** | **Age** | **Academic qualifications** | **Teaching experience** | **Gender** | **Position** | **Race** |
| Participant3 | 52 | 4-year Diploma in Education, BEd. Honours in Learner Support | 28 years | Male | Deputy Principal and teacher | White |
| Participant4 | 66 | 4-year Diploma in Education, Qualification in Special Needs Education | 40 years | Male | Teacher | White |
| Participant5 | 29 | BEd | 7 years | Female | Teacher | White |
| Participant6 | | BA, HED | | Female | Teacher | Coloured |
| **Participants from the Disability Unit** | | | | | | |
| **Name** | **Age** | **Academic qualifications** | **Experience of involvement with SWD** | **Gender** | **Position** | **Race** |
| Participant7 | 43 | Not disclosed | 17 years | Male | Student support (no further details are provided to protect the identity of the participant) | African |
| Participant8 | 45 | Orientation and Mobility | 15 years | Female | Student support | African |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | (no further details are provided to protect the identity of the participant) | |
| Participant9 | 48 | Qualification in Advanced sign language training | 13 years | Female | Student support (no further details are provided to protect the identity of the participant) | African |

The above table is a clear indication that participants involved in the study were high school teachers teaching learners with disabilities, as well as staff members from the disability unit at the ODeL institution. The two high schools were specifically selected because they have learners with different disabilities who are able to sit for the national final year high school examinations (Grade 12/ National Senior Certificate (NSC). Learners who successfully complete and pass their examinations can continue their studies at institutions of higher learning including ODeL facilities, provided that they meet the institutions' admission requirements. The two schools selected are special needs schools catering only for learners with disabilities. The schools differ in that one is a private school, still new, having been less than five years in operation and the other is the public school that has been in operation for many years. The two schools are located in two different provinces.

Participants' ages, academic qualifications and experiences varied, ranging from those in their twenties to those in their sixties, and from those who have certificates, to those with diplomas and first degrees such as BEd degrees. Some participants had postgraduate qualifications such as master's degrees. All teacher participants were qualified teachers and in addition to teacher training qualifications, Participant 1 did psychology and remedial therapy, Participant 3 had an Honours degree in learner support and Participant 4 had a qualification in special needs

education. The other three teacher participants (Participants 2, 5 and 6) had in-service training on how to work with and teach learners with disabilities. The point is that all teacher participants, in one way or another, have had relevant training to teach learners with disabilities. In addition, the 'inclusive education' module is a compulsory module in general teacher training programmes.

Variations in participants' profiles also ranged from those with a few months to over thirty years of work experience. They also held different positions in their respective work environments and the variations produced different views about support for SWD. Balancing gender did not come out as planned by the researcher and this did not affect the research findings because participants' responses were not determined by gender.

Adhering to the research ethics, the identities of participants were not disclosed, and codes were used instead of their names. With regard to the racial distribution, the above table indicates that the majority of teacher participants were white with one African and one coloured participant. In contrast, all staff member participants were African.

## 4.3 FINDINGS EMERGING FROM INTERVIEWS WITH HIGH SCHOOL TEACHERS

Interviews with special needs high school teacher participants were done in a semi-structured format. In their responses, participants were able to share and talk about their experiences. High school teacher participants were able to talk about support for learners with disabilities whom they were teaching in schools.

This section is a presentation of responses from teacher participants. The responses are done separately because they come from different areas about support for SWD. It was mentioned in chapter 3 section 3.3.3 that the research type used involved a multiple case study. "Multiple case studies can be used to either augur contrasting results or similar results in the studies and the researcher is able to analyse the data both within each situation and across situations" (Yin, 2003 in Gustafsson, 2017). In this way, the responses from teacher and staff member participants are separate cases.

The involvement of high school teacher participants teaching learners with disabilities was deemed necessary and important because SWD in the ODeL higher education institution do not just arrive at such institutions, fully equipped to manage. Transition is needed from high schools into different institutions of higher learning, including ODeL, where SWD get taught and given support by lecturers. The focus of the study is on support and to understand support for SWD in the ODeL institution, therefore the researcher saw it fitting to look at support for SWD while still at school and to match and compare it with higher education institution support. Therefore, it was important to involve high school teacher participants teaching learners with disabilities because they were viewed as appropriate participants who could shed light on how they support their learners and answer the sub-question: *What is the difference between resources in schools and ODeL for SWD?"* and their background and teaching experience of SWD were viewed as important.

In this regard, interviews were conducted with six teacher participants, to discover their experiences and express their views about support for learners with disabilities. During the semi-structured interviews, research questions guided the interview and analysis of the data resulted in themes and sub-themes. The following table tabulates themes and sub-themes identified and generated from the research questions.

**Table 4.2: Research themes and sub-themes**

| Themes | Sub-themes |
|---|---|
| 1. Different assistive technologies that match and support the needs of SWD. | a. Different disabilities. |
| | b. Different assistive technologies. |
| 2. The resources that learners with disabilities use at school. | a. Support structures to teach learners with disabilities. |
| 3. Transitioning. | a. Preparation of learners who are about to leave school. |

### 4.3.1 Theme 1: Different Assistive Technologies that Match and Support the Needs of SWD

The first question that was asked strove to understand different assistive technologies that match and support the needs of learners with disabilities because support for these learners would not be complete without matching assistive technologies. Therefore, from the first theme the following sub-themes were identified and are discussed below: *different disabilities* and *different assistive technologies.*

**Sub-theme 1a: Different disabilities**

In South Africa, there are public and private schools. From the researcher's experience of browsing the internet for more information about special needs high schools and conducting the empirical investigation, there was a note that certain schools specialise and cater for specific disabilities. There are schools that specialise and cater for disabilities such as autism, deafness, developmental delay, emotional disturbance, multiple disabilities, health impairments, speech impairments, visual impairments, and so forth. For example, the private school that was visited specialises and caters for learners with multiple disabilities such as emotional barriers, blindness, autism, speech delay, sensory issue and attention-deficit / hyperactivity disorder (ADHD) but it does not cater for learners with physical disabilities. Participant 1 said:

> *"The model of the school as inclusive means we take students who don't necessarily fit in the mainstream and are not necessarily candidates for remedial school as the South African education system provides with. So, what we do is, we incorporate both of these students in one setting and then we work according to their level to allow them to transition at their time…. We've got a whole range of multiple disabilities. We don't necessarily take the students who have got physical disabilities or barriers that are so expansive that they need a second person to accommodate their physical needs – for example, toileting and feeding. We are not equipped for that at all. So, we take students that are self-reliant, they can go to the toilet themselves, but most have academic barriers of nature"*

The public school that was visited also specialises in and accommodates learners with multiple disabilities. Participant 3 stated that

*"at present we've got 64 different disabilities and syndromes that we cater for and that is from life threatening right through to just normal learning disabilities".*

The public school accommodates mostly learners with physical disabilities, yet they do not take learners who are Severely Intellectually Disabled (SID) nor blind or deaf because they indicated that they do not teach sign language. However, they take those with a hard of hearing disability.

The above was worth mentioning because schools operate differently to institutions of higher learning such as universities in South Africa. Universities do not select learners based on their type of disabilities but admit all students, as long as they meet the minimum requirements and if there is the available space to study. Importantly, support for learners with disabilities cannot be done in general terms as each kind of disability requires a matching type of assistive technology to go with it for maximum and effective support of the learners in their education journey.

**Sub-theme 1b: Different assistive technologies**

Support for learners with disabilities will often need to be supported by some kind of assistive technology. Young and MacCormack (2014) cite Dell, Newton and Petroff (2012) that assistive technologies are services and devices used to improve, maintain and increase capabilities of SWD. Stanberry and Raskind (2019) state that assistive technologies do not eliminate or curb learning difficulties but can help learners reach their potential, bypass areas of difficulty and capitalise on their strengths. Section 2.5 of this study discusses different types of assistive technologies matching their respective disabilities and how they can be used to maximise support for SWD.

From the empirical investigation, it became clear that there are different kinds of assistive technologies being used in schools to support learners with disabilities. According to Participants 1, 2, 3 and 4 the assistive technologies range from slant boards, coloured writing papers, braille, applications, tablets, laptops, computers, projectors, recorders, interactive boards, internet, learners' cell phones, adapted keyboards, mouse that one can use with a foot, yellow backgrounds, wheel chairs, crutches, and others. Eunice Kennedy Shiver (2018) have relatable insights about different types of disabilities matching types of assistive technologies and their descriptions and relevance. The authors mention types of disabilities falling into different categories such as vision, hearing, speech communication, learning, cognition and development,

and mobility, seating and positioning. These types of disabilities match types of assistive technologies found from the two schools.

According to Participants 1 and 6 assistive technologies are varied and could range from low to medium to high-tech. An example of low-tech might be something like a grip-pencil or a coloured paper. In the two schools visited it was clear that an array of different assistive technologies was considered and are available for use by the student. The participants described the function of each device. Participant 4, for example, stated that *"in Grade 12, there was a child who could not write and there was a device used that allowed him to speak and it would be converted in writing".* Participant 5 also described what the devices did and she said *"we have a little device, everything you do on it projects on the screen so they can do their experiments… we try to help everyone with everything. Some of the younger grades have hearing devices in classes".* Participant 3 mentioned that some of the assistive devices are made specifically for a certain child, and that the child is allowed to take the device with him or her when leaving the school.

Participants from the public school also mentioned that their school accommodates learners from very poor families. Therefore, the school clearly goes all the way to get different kinds of assistive technologies not only to support their learners but also to enable them to succeed. This ties in with what Participant 6 said:

> *"When I got here, it was a shock to see all the disabilities they have, but then they were happy here – I saw all the happiness, I saw how well they were treated".*

The above comment reinforces the fact that when the needed assistive technologies are available, and when there is support for the learners, success is achievable. The researcher witnessed this at the public school in the display of trophies, medals and group photographs exhibited in a glass and wood display cabinet, positioned in an immaculate T-Shaped hallway Participant 4 confirmed the point and said, *"In our school, for years now, we never had a failure in Grade 12, I think for ten years now".* Learners with disabilities must be supported by all means for their success; there must be assistive devices, resources and teachers who are creative, patient and caring to support and teach them.

### 4.3.2 Theme 2: The resources that learners with disabilities use at school

To support learners with disabilities in their learning processes, not only are assistive technologies important and needed but so are resources. An example of such a resource needed is the support structure to teach learners with disabilities and this aspect is now discussed next:

**Sub-theme 2a: Support structures to teach learners with disabilities**

At the two schools visited, resources found to support learners with disabilities include: the adjusted curriculum; small class sizes; different personnel including teachers, tutors, psychologists, therapists, parents, nurses, social workers, etcetera; textbooks; boarding facilities; transportation; bursaries; financial cover; extra classes including one-on-one sessions; internet for learners; devices such as computers and cell phones and assistive technologies, already discussed.

It became clear that the schools involved in this study tried their best to have different resources ranging from people to machines and money to support their learners. Indeed, these resources are varied, and Participant 4 said:

> *"Our resources include physiotherapists we have here. Once a week or a month or whenever we pick up that there is a problem with a learner, our physiotherapists assist us to assist a learner".*

Supporting learners with disabilities involves different resources and practices and Participant 1 said:

> *"We rotate teachers so to allow learners to find the best out of each teacher and by rotating teachers means that teachers are given a chance not only to deliver content but also to exude their creativity in order to support the learners"*

This means that teachers need to know the barriers a specific learner has and should be able to come up with the solution to assist such a particular learner. For example, Participant 5 said:

> *"for children with sight problems…make sure they sit in front of the class so that everybody focuses all the time…its only about a little bit of extra attention"*

Additionally, Participant 4 said:

> *"We work on a one-on-one basis and we have class assistants to help learners. We also have extra classes like Saturday classes"*

During the interview, it became clear to the researcher that a one-on-one session with a learner is possible because of small class sizes at both schools. Participants beamed with pride and acknowledgement to note their small class sizes because most classes in normal public schools in South Africa are far bigger, with an average of 50 learners. Participant 3 told the researcher that they do a lot to support their learners, and they adapt and adjust the curriculum so that it fits the learners' needs.

Participant 1 is the only participant who started to teach learners with disabilities once fully qualified as a special needs teacher, whereas the other teacher participants were not. The other two teacher participants, Participants 3 and 4, had no knowledge about disabilities when they started to teach SWD but advanced their studies to study about special needs education. Participant 3 said:

> *"When I moved here, I did not know anything about special needs education and realised that it was not going to work. Then I did my Honours degree in learner support to equip myself and I was promoted to become the deputy principal. Here I am still here almost 13 years later".*

Just like Participant 3, Participant 4 had a similar experience and said:

> *"I did my Diploma in education many years ago and it was a normal qualification. With it, I worked at the school of learners with bad behaviour and the school was closed down a few years later and then I moved to the school for the deaf. That is where I realised that deaf learners and those with hard-of-hearing are special kids and then I did another qualification in special needs education in hard-of-hearing".*

The last three teacher participants, Participants 2, 5 and 6, also had no knowledge of disabilities when they started teaching learners with disabilities but received training within their respective schools on how to teach these learners. Participant 2 expressed her views and said:

*"I think with the right training – yes any teacher without knowledge, background or qualifications in special education can teach these learners. It takes someone who is sympathetic…who can put themselves in their shoes and understand them".*

Participant 6 shared the same view and said:

*"I did not have the experience and I did not do the special needs course, but I am still here. I think everyone can do it if it is their passion and they want to do it. But then again, if you are a person who is very competitive, and you want learners to get As and Bs really to be academically strong – then this is not for you".*

As mentioned, all these teacher participants had completed some kind of in-service training and increased their knowledge on how to teach and support learners with disabilities. Not only are teachers involved as resources to support learners, but support staff - especially from the healthcare side - are involved and contribute their expertise to support the learners:

*"We have the whole multi-disciplinary team: psychologists, social workers, speech therapists, occupational therapists, physiotherapists, full-time nurses on the premises to support learners. Tutors also sit next to the learners in class to offer assistance when needed"* (Participant 3).

Due to the coronavirus pandemic that affected the entire world, many schools have adopted online learning whereby learners had to learn from home. This meant that parents, too, had to act as resources and assist their children studying from home. Participant 2 mentioned that:

*"with online learning, parents have to be involved otherwise, it won't work.... You can skype with them, or sometimes you just send them videos of lessons you've done and worksheets for them to do at home, submit them online, and then you mark them online and send them feedback…"*

Participant 3 mentioned that the support staff work in the hostels to support learners by bathing, feeding, changing their sleeping positions at night, dressing them and so forth. In the spectrum of resources being used to support learners, the researcher also learnt from Participant 6 that the school provides transportation and internet for the learners to use:

*"The classes are supplied with internet and learners can use the internet password for their cell phones if they have to look up information on Google or elsewhere"* (Participant 6)

The resources are not only limited to the availability of transportation, support staff and the internet but also include financial support. According to Participant 3, there is financial support for learners and that comes in the form of bursaries that pay for their boarding. This financial support is a financial cover from the Department of Education to help with the general operation of the school. Participant 3 went on to explain how government subsidises public schools according to weighting and how severe the disability is of an individual learner. Indeed, support for learners from both schools is varied.

### 4.3.3 Theme 3: Transitioning

The focus of the study was to understand how SWD are supported in the ODeL institution of higher learning and was therefore interested in how transitioning from high school emerged as the theme. This point about transitioning formed an interesting theme for the study from teacher participants' perspectives and their involvement in this process.

**Sub-theme 3a: Preparation of learners who are about to leave school**

Preparation of learners for their post-secondary journey is more important than ever before because we live in a digital age whereby technology becomes more dominant in people's lives. Learners who are about to leave schools need to be prepared for life that is constantly changing with the constant development of technology.

It was clear that both schools were doing much to support and prepare their learners for the post-secondary education. For instance,

*"teachers teach their learners how to do research by allowing them to use their cell phones to look up information on Google and they also teach them proper writing skills"* (Participant 5).

The two schools expose their learners to different career paths and Participant 5 stated:

*"I make sure learners complete all their forms for university applications…we also take them to career expos; we have a special career expo for disabilities – unfortunately, it was*

*and where possible we even take some of our kids for registration at the university and help them as far as we can".*

Unlike the private school, the public school has been operating for more than 75 years and as a result, they have established links and relationships with universities such as the North-West University and the University of Pretoria, with the aim of supporting their learners with transitioning. In this regard, Participant 3 stated that:

*"we do have contact details of the admissions office if our learners are there because we want to monitor the progress that is being made and also for future reference".*

Participant 5 concurred and mentioned that:

*"Our HODs and staff have a good relationship with people on campus. They usually help us, help our kids and point us in the right direction if some of our kids need help. And some of the learners already transitioned keep in contact with the school".*

Teacher participants from both schools expressed their similar views about the support their learners would get once studying in institutions of higher learning. Four of the six teacher participants were sceptical and doubtful that support would not be great and matching the kind of support they are currently offering to the learners. Participant 1 said:

*"We still spoon feed learners quite a lot because that is what they need – but when they get to varsity, the student numbers are too large for a lecturer to worry about Sussie who cannot see… Our universities are not inclusive to the fullest extent, according to the White Paper 6".*

Participant 3 shared the same view as Participant 1 and said:

*"That, unfortunately, is always a problem that there is support on the one side… support in tertiary institutions fails them, especially accessibility… It is almost as if we nurture them far more here than what they get in tertiary institutions".*

Even though participants were made aware of the disability units in institutions of higher learning and that they are there to support and make the life of SWD easier, they stood by their position

that the support would not be matched and that they think that the disability units would just offer basic services. Clearly, teacher participants do a lot to prepare their learners for their post-secondary education but not all learners transition to institutions of higher learning. According to teacher participants 3, 4 and 6, it is unfortunate that only a small percentage of students who had enrolled in high schools are able to continue into higher education and pursue their studies. In the semi-structured interviews with participants from the public school that was well-established, it was clear that although they excel and produce matriculants, only a few of them are able to continue their studies in tertiary education as most prefer to look for a job immediately after completing their high school education. When participants 3, 4, 5 and 6 were asked why that was the case, they mentioned that their learners seem reluctant to continue their studies because they do not know what sort of support they would receive in institutions of higher learning, whereas some of their learners simply want to work, receive an income and become independent. The views of participants 3, 4, 5 and 6 are in line with Mutanga (2018:229) who mentions that "few students with disabilities progress to higher education… due to unavoidable barriers they face as they navigate different educational structures from lower levels".

The following section will talk about the experiences of staff members from the disability unit in their different roles to support SWD within the ODeL institution. Staff members and the disability unit are viewed as representing the university in supporting SWD.

## 4.4 FINDINGS EMERGING FROM INTERVIEWS WITH DISABILITY UNIT STAFF MEMBERS

Staff member participants from the disability unit were sampled in order to find out more about the role of the unit and that of the institution in supporting SWD in an attempt to answer the research question: *What resources are available at the ODeL Disability Unit to support SWD needs?*

Semi-structured interviews were conducted with three staff members participants instead of four as was initially planned, as the fourth participant was no longer available, despite a few requests. In their discussions, participants offered different views about support for SWD. Of the three participants, only one was willing to participate in a follow-up interview via Microsoft Teams whereas the other two only participated in the interviews via email.

The following table, Table 4.3, indicates themes and sub-themes emerging from the interview data. A discussion of the themes and sub-themes follows after the table.

**Table 4.3: Research themes and sub-themes**

| Themes | Sub-themes |
|---|---|
| 4. Different assistive technologies that match and support SWD needs | a. Different disabilities |
| | b. Different assistive technologies |
| 5. Available resources at an ODeL disability unit to support SWD | a. Support structure for SWD |

### 4.4.1 Theme 4: Different Assistive Technologies that Match and Support the Needs of SWD

Institutions of higher learning in South Africa are not special needs institutions and therefore operate differently to special needs schools. They admit students with different disabilities and needs that must be supported in their studies in order for them to exit the system as successful graduates. In this regard, this theme addressed the first research question and two sub-themes emerged, namely: *different disabilities* and *different assistive technologies*. These are discussed next.

**Sub-theme 4a: Different disabilities**

Many institutions of higher learning in South Africa are working towards being inclusive by accommodating and offering students who meet minimum requirements with different disabilities study places to be. Ramaahlo, Tonsing and Bornman (2018:349) state that "South Africa is committed to establishing an inclusive education system that does not exclude students with disabilities" and that there are university disability policies that govern the implementation of inclusive education. These institutions have disability units where SWD are meant to receive help and support. "Disability unit means the unit established to promote the integration of SWD… to address their respective learning and reasonable accommodation needs" (UP Support Service 2013:2). According to Mutanga (2018), in the year 2018, 7.5% of South Africa's population had disabilities and about 20% of that number had enrolled in different institutions of higher learning. At the ODeL institution under study, in 2020, there were over 4000 SWD that had registered and this insight was provided by Participants 8 and 9 who help SWD with their registrations at the ODeL institution.

It has been published that "the number of students who reported to have some disability was 9040 in 2018" (DHET, 2018:18) which was the total number of SWD enrolled in at least 26 public universities in South Africa. According to Participants 7, 8 and 9, on a yearly basis, they assist and support 3000 SWD on average at the disability unit of the ODeL institution. With over 4000 SWD registered at the ODeL institution in the year 2020, clearly this institution registers more SWD than any other public institution of higher learning in the country. Participants 7, 8 and 9 mentioned that they cater for different kinds of disabilities related to vision, hearing, mental impairments, intellectual disability, autism, physical disabilities, and others. Participants 7 and 8 also mentioned that they have *"all kinds of disabilities"* and Participant 9 said:

> *"We have students who are deaf, hard of hearing, blind, partially sighted, paraplegic, have learning disabilities, schizophrenic, bipolar, and have autism, to name a few"*

The role of a disability unit at the ODeL institution in accommodating students with diverse kinds of disabilities is to help and support SWD. This can be achieved when support is structured and done well, when there are matching assistive technologies, and when the disability unit itself receives support from the university at large.

**Sub-theme 4b: Different assistive technologies**

The schools visited reported that they equip SWD with resources and assistive technologies to support them, they even find assistive technologies specifically for some individual learners with unique disabilities. They allow those learners to take the devices with them when they leave the school. However, the question arises of whether institutions of higher learning, in particular ODeL facilities, with students situated in different locations, have adequate resources and assistive technologies matching the unique needs of SWD. It is also a question of whether the resources could be compared to those found in special needs high schools to support SWD. According to participants at the disability unit at the ODeL institution, there are resources and assistive technologies available to help and support SWD. Participants 7, 8 and 9 mentioned that the types of assistive technologies they have include audio tapes, software installed in computers like JAWS, multi-purpose computer laboratories located in different regions with access technologies to accommodate SWD, headphones, zoom text, Perkins braille, braille paper, adjustable chairs and desks, laptops, wheelchairs, magnifiers, screen readers, and human assistants.

Unlike learners with disabilities who have access to resources and assistive technologies within their school premises, SWD at the ODeL institution do not have immediate access to resources and assistive technologies because many students are geographically removed from the campus. This is especially true of those students located in remote areas. Unless they travel to the regional areas for help and support or if they have the resources at their homes, they cannot access the resources and assistive technologies. In this regard, it becomes a problem for many students because they cannot access the main campus or regional centres where these facilities are mainly located. A summary of problems expressed during the interview is outlined in Section sub-theme 5.a.

### 4.4.2 Theme 5: Available Resources at the ODeL Disability Unit to Support SWD

Resources that are meant to help and support SWD at the ODeL institution vary and include different elements. They include elements such as the role of the unit to support SWD, an institution that takes the responsibility to support the unit it represents, receiving students transitioning into a higher learning institution, courses that are universally and inclusively designed, having different departments and personnel that support SWD, and so forth. All these

elements ought to form the support structure of the ODeL institution through its disability unit in order to help and support. What follows is the discussion on the support structure for SWD.

**Sub-theme 5a: Support structure for SWD**

With regard to the support structure for SWD, Participant 7 mentioned that the role of the disability unit at the ODeL institution is to:

> *"advocate for reasonable accommodation for SWD, produce study material in alternative formats, for example in braille, large prints, MP3, electronic, and so forth. Also to provide student support services, orientation and mobility training, sign language services, liaison with the academic departments, advice and motivate on NSFAS bursary for assistive devices sales."*

According to Participant 7, other roles include support on application, registration and graduation processes, support on examination arrangements and that is organising examination venues, papers and writing formats and re-marking of examination scripts, and support on governance.

Furthermore, the researcher learnt from Participant 9 that:

> "*the role of the unit is to ensure that every student with a disability gets an opportunity to learn in a barrier-free environment".*

Participant 7 added that:

> *"Students with disabilities located far away from the main campus get support from regional offices or through the use of technology",*

In other words, SWD can reach out to the unit or university to seek help by making personal visits to the regional centres, making telephone calls, sending e-mails and through other means of technology. In contrast to the high schools, universities have disability units which interact, communicate and support learners with disabilities; however, there are no health specialists who support the SWD daily.

Similar to the high schools, the ODeL institution offers bursaries to SWD to support them. *"They receive various bursaries based on their academic performance and compensation for their economic background,"* said Participant 8. There is also a link with schools and this relationship is important as the university or unit is able to recruit learners with disabilities and offer opportunities to further their studies at the ODeL institution of higher learning. In this regard, Participant 9 said that *"the recruitment role is done by the registration officer, also known as the admin staff member"*. The link with special needs high schools is not only limited to the recruitment process but it is also a transitioning path that exposes learners with disabilities to understand that there is a unit that caters for and accommodates their needs once they are offered a study place and are studying through the ODeL institution.

Different challenges regarding support for SWD studying at the ODeL institution of higher learning have been identified as this institution is not campus-based; enrolled students study remotely. In this regard, participants from the disability unit suggested that support for SWD should not only come from the disability unit but from different bodies and structures of the university. Participant 8 stated that *"each department within the university should be responsible for accommodating SWD reasonably"*.

At the same time, Participant 7 mentioned that lecturers need an ongoing awareness of SWD in order *"to keep in touch with the changes in the disability legislation"*. Participant 8 held a similar view about lecturers and stated that there should not be challenges if lecturers were trained to teach SWD because the disability unit resolves numerous challenges with academic departments.

> *"Learners with disabilities come into the university with different styles of writing because it is how they are taught in schools. They write in short cuts. Lecturers and markers mark down and fail these students due to a lack of understanding of their writing style. Therefore, my role is to alert them. The whole thing is not the fault of students but staff members because we recruit them to study with the university but at the same time fail to assist and accommodate them"* said Participant 9.

Although this institution has links with some special needs schools where they recruit learners, clearly there are some problems if the academic departments are not aware of challenges such as the writing style of SWD when they transition into the institution. The core business of the institution is teaching and learning, and it is understandable that lecturers are at the centre of this

business because they deliver content to all students including SWD. If support for SWD is to be effective, the academic departments, including lecturers, must have knowledge about the disability. From the two schools visited, and it is evident that all teachers were knowledgeable about the disability, whether it is by enrolling for a formal qualification or doing on-the-job training about the disability. This training is also needed for lecturers who work with students with disabilities to ensure that the concept of inclusive education is effectively implemented.

The follow-up interview was conducted with Participant 9 using the Microsoft Teams platform. During the interview, a stream of issues and problems regarding support for SWD emerged. Participant 9 (participant's role not disclosed for the sake of anonymity) when working to support SWD, stated that there are no other people but the participant within the university, including its regional centres, assisting certain students. The participant further indicated that the university principal was aware of the situation, yet is not willing to appoint additional personnel to help. Participant 9 also stated that the job was very demanding, to the extent that every year he/she was getting sick and had to consult a doctor.

> "*I become very sick to the point I feel like leaving this institution for good… I am forever depressed, and I am earning peanuts! Why should I care about the university that does not care about me or SWD – they do not even hire graduates with disabilities from here."*

He/she went on to say:

> *"I remember they used to call me and say, Participant 9, your people are here and at that time I was at home sick…I was so annoyed to hear them saying 'your people are here'. Those are not my people, but SWD at the university, and sometimes they turn them back and tell them to come back when Participant 9 is here… this is not fair to the students".*

It was surprising for the researcher to learn that he/she was the only one fulfilling this particular role to support SWD, because the institution has a large student population. In this regard, he/she made a comparison to another institution that had, in his/her opinion, "lots" of people assisting SWD because they were taking their students seriously and take care of them.

Participant 9 raised a number of concerns about the learning materials. He/she raised concerns about some departments that were producing video content that was not user-friendly to SWD as

they were not having subtitles or sign language interpreter. This meant that this learning material is not accessible to certain SWD. A further issue raised was that of the online features. When the university changed its online features, it did not consult or involve people from the disability unit so that they could contribute or provide input as to how SWD should be accommodated. *"We will only hear from them when they come to test…"* uttered Participant 9.

In terms of the campus environment, Participant 9 felt that it was not hundred percent user-friendly to SWD.

> *"When you go to some buildings, the doors of the toilets are stiff, in others, there are just some stairs without lifts… all in all we have over 4000 SWD, and we are working hard for the university but the university does not care for our students… it is not their fault, they did not choose to be disabled".*

The findings from these interviews did not paint a positive picture of support for SWD at the ODeL under study. However, documents were accessed which address student support in an inclusive environment, and these are discussed in the subsequent section.

## 4.5 FINDINGS EMERGING FROM THE DOCUMENT ANALYSIS

A document analysis in this qualitative study was deployed by the researcher as a procedure to examine, evaluate and interpret documents to gain understanding and answer the main research question about support for SWD in the ODeL institution. The four documents were available from the internet and are called the *Admission Policy* (2011), *Tuition Policy* (2005), *Open Distance e-Learning Policy* (2018), and *The Strategic Policy Framework on Disability for the Post-School Education and Training* (2018), each of which is discussed in the next sections.

### 4.5.1 Admission Policy

The admission policy is a statement checking the admissions of individuals who register at the university and whom the council ought to approve (UNISA, 2011:2). Responsible open and minimum criteria for admissions are some of the aims of the policy. However, this policy is silent about the admission of SWD into UNISA. Conversely, the UNISA website stipulates something

about the admission of SWD. It states that "people with disabilities wanting to study through UNISA must apply and register for their qualification of choice" (UNISA, 2020).

### 4.5.2 Tuition Policy

UNISA's tuition policy promotes "the use of technology to explore knowledge, conduct investigations and produce products" (UNISA, 2005:4). This is evident from the fact that UNISA is currently moving towards e-learning; that is, creating the classroom for the twenty-first century, a virtual classroom. This is about technology, and it is leading to changes in the way teaching and learning has to happen. It is an online learning environment, that is web-based and accessed through the student portal or software-based. It enhances the student learning experience by including computers and the internet in the learning process. e-Learning links to the online learning theories of constructivism and connectivism that underpin this study. In this regard, the tuition policy states that UNISA also "caters for the needs of students with disabilities" (UNISA, 2005:4). However, UNISA's tuition policy does not explain how the learning materials are compiled and designed to enhance teaching and learning. Learning materials that are universally designed are meant to be inclusive and cater for all.

### 4.5.3 Open Distance e-Learning Policy

UNISA's Open distance e-Learning Policy stipulates that "student feedback, student success and improvement of the student learning experience will be central…" (UNISA, 2018:4). Today, teaching and learning is student-centred whereby students construct new knowledge Construction of knowledge has some relatedness to the theoretical framework that underpins this study to promote constructivism and connectivism in the ODeL environment. This policy also promotes bridging the gap from high school into higher education and within. That is, in "admission to learning programmes: UNISA will adhere to responsible open admission…" (UNISA, 2018:4). This is a support mechanism that students need. The shortcoming of this policy is that it talks about student support in general terms and without making any references to SWD. For instance, there is mention of the learning materials that are designed and accessible to the students and a reference is made to refer to this aspect in the Tuition Policy, but its specifics have not been outlined.

### 4.5.4 Strategic Policy Framework on Disability for the Post-School Education and Training System

This policy framework is a step in the right direction as it is specific to the needs and inclusion of SWD in higher education. The development of the policy is influenced by other documents such as the *Universal Declaration of Human Rights (1948), The White Paper On The Rights of Persons with Disabilities (2015), The South African Constitution,* and others. This policy recognises that SWD experience some difficulties in higher learning institutions. This policy "acknowledges the continued existence of barriers that discourage people with disabilities from entering, participating and succeeding at post education and training institutions…" (DHET, 2018:15-10).

The purpose of the policy framework is, therefore, to guide institutions of higher learning to create an environment that is inclusive and conducive for SWD, whereby monitoring and evaluation of SWD can be mainstreamed. "Emphasis is placed on the need for expanded disability support for the entire [Post-School Education and Training] PSET system" (DHET, 2018:16). Apart from the good intentions of the policy framework, there are loopholes. The policy framework does not address specific issues relating to ODeL as it generalises "all PSET (Post-School Education and Training) institutions" into a single category. The policy framework does not mention anything about the source of funds to secure technological tools for SWD. It also generalises different disabilities into a single category. To generalise is a loophole and failure because if SWD are to succeed and have meaningful and fruitful experiences in the ODeL environment, there must be specifics regarding their needs and support.

In the above-mentioned documents, support for SWD is loosely stated and is very limited. During the semi-structured interviews with staff member participants from the disability unit, nothing was reported about the above-mentioned policy documents nor did anyone refer to the website. Participant 7 mentioned the *"special assistance form to access study material in alternative formats"* as an important document. Participant 8 mentioned the ARCSWID Operational Plan, Service Charter and Student Charter as important and Participant 9 mentioned nothing about documents meant to support SWD and their needs.

The above-mentioned issues indicate that support for SWD at the ODeL institution is not in place according to policy as it does not provide them with the conducive positive learning experience.

In response to these issues, Chapter 5 Section 5.7 stipulates some recommendations to address the challenges expressed.

## 4.6 CONCLUSION

The focus of this chapter was to report on findings from the interviews about experiences of high school teacher participants teaching learners with disabilities, and staff members at the ODeL institution of higher learning's disability unit, regarding support for SWD as well as the document analysis of relevant policy documents. In this chapter, it was not relevant whether participants held different views about support for SWD in the ODeL environment; what was pivotal, was investigating the support offered to SWD studying remotely in the ODeL institutions. Data gathered from participants' views and experiences and the document analysis indicated that the current practice to support SWD studying at a distance mode has limitations and also demonstrates that staff members at a disability unit of the ODeL institution are under-equipped. Unlike staff member participants, high school teacher participants teaching learners with disabilities appeared to be involved and motivated to assist and support their learners. There was a clear indication that in special needs high school learners received more support from teachers who are involved, care for them, have knowledge about the disability and can adjust the curriculum accordingly to meet the individual's needs. This kind of practice to support SWD appeared to be lacking at the ODeL institution.

The next chapter will conclude this study and by summarising the research and making some recommendations.

# CHAPTER 5

# SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

## 5.1 INTRODUCTION

The previous chapter presented the findings of data collected from semi-structured interviews and document analysis through a discussion of themes and sub-themes that emerged during the analysis process.

This final chapter provides a reflection of the entire study. It reflects on the most significant elements dealt with in the study and pose the differences and similarities about support for SWD in the ODeL environment found between the literature review and the empirical study. Based on the research questions, conclusions will be made relating to the findings and the themes and sub-themes that emerged. Finally, this chapter presents recommendations based on the findings followed by suggestions for further research.

## 5.2 SUMMARY OF LITERATURE REVIEW

The focal point of the literature review was based on other researchers' views and perceptions and the focus was on support for SWD in the ODeL institution of higher learning. The importance of support for SWD was emphasised through various factors such as transitioning from high school into the ODeL institution of higher learning, access, support, and types of assistive technologies matching their respective disabilities.

To understand support for SWD in the ODeL institution of higher learning, it was deemed important and necessary to look at support for learners with disabilities while still at high school, because it enabled the researcher to compare support regarding transitioning. Obiozor *et al.* (2013) posed their views that there are challenges such as finance, relationships, study skills, etcetera., for students who transition into institutions of higher learning. And if support is not in place, these challenges are exacerbated. Conversely, other authors such as Erickson and Larwin (2016) are of the view that distance education provides opportunities for students located remotely but support for SWD has to be on point at all times.

The literature review highlighted the importance in which access within the ODeL institution can influence support for SWD, and in particular, this relates to accessing technological tools to enhance teaching and learning in the 21st century and vital for providing support for SWD. It was highlighted that accessing online facilities such as the library, writing centre, and so forth is not only important to reaffirm support for SWD but also to elevate the success level for both students and the institution. On the flip side though, lack of access to online facilities is problematic and may hinder support and communication between students and the ODeL, institution as highlighted in Chapter 2 Section 2.3.

The literature review emphasised the way in which the success of students in distance education depends more on student support. Student support offers services to help and support students in matters relating to teaching and learning. For SWD, student support means to have different assistive technologies matching their disabilities because support for SWD cannot be done in general terms. For example, students with vision disabilities would need assistive technologies such as magnifiers, talking devices, and others. Assistive technologies for students who have vision disabilities are different to those who have hearing or speech communication disabilities.

The final section in the literature review centred around the theoretical framework, where different theories were discussed. Chapter 2 Section 2.6 presented that constructivism and connectivism theories were decided to be most appropriate as a framework for this study. This is because this study covers matters relating to student support in times where technology is a dominant element in education.

With the above-mentioned culmination of the literature review, the following section condenses the empirical study.

## 5.3 SUMMARY OF EMPIRICAL STUDY

This research study was qualitative in nature and design and used semi-structured interviews and document analysis to gather data. In Chapter 3 Section 3.4, reasons for collecting, storing and analysing data are outlined. The data collection process involved interviews and document analysis, used as a data triangulation strategy. In this way, the intended main instrument to gather

data was interviews and document analysis which were meant to validate and confirm participants' responses. There were nine participants including six high school teacher participants from two different schools teaching learners with disabilities and three staff members from the Disability Unit of the ODeL institution of higher learning. All participants formed part of the research sample and had a range of experience of teaching learners with disabilities and working with SWD at the disability unit. To manage time, interviews and to gain information, the researcher had a limited number of participants in the research process. Both teacher and ODeL staff member participants were selected based on availability and convenience. In this regard, data collection methods used in the study meant to confirm and align with participants' responses. Chapter 3 Section 3.5 covered in detail aspects of trustworthiness such as credibility, dependability, transferability and confirmability. The presentation of ethical measures is outlined in Chapter 3 Section 3.6 indicated the principles of ethics to which the research study adhered. Permission was granted by the research committee to have access to staff members and university material that included documents (*cf.* Appendix 2).

Chapter 4 presented the research findings reported in themes and sub-themes emerging from the participants' responses and document analysis. Under each theme and sub-theme of the research, findings and interpretations were made. The focus of the first theme in Chapter 4 Section 4.3.1, under teacher participants teaching SWD was on *different assistive technologies that match and support the needs of SWD*. This theme was outlined under the two sub-themes: *different disabilities* and *different assistive technologies*. According to participants, there are assistive technologies at a high school level to assist and support learners with disabilities. The address of the second theme was on the resources learners with disabilities are using in school and its sub-theme called support structure and learners with disabilities is outlined in Chapter 4 Section 4.3.2.

The last theme under teacher participants, was on transitioning and it is presented in Chapter 4 Section 4.4.3. Its sub-theme was *preparation of learners who are about to leave school*, had participants posing their views that there are plans in supporting and preparing learners for learners for post-secondary education and their future endeavours.

Under staff member participants, there were only two themes generated. The first theme was *different assistive technologies that match and support the needs of SWD* and had two sub-themes: *different disabilities* and *different assistive technologies*. The second theme was *available resources at the ODeL disability to support SWD* and had only one theme *support*

*structure for SWD*. These themes and sub-themes were all presented in Chapter 4 Section 4.4. From the above, staff member participants revealed that at the ODeL institution students find it difficult to get support and access assistive technologies, especially those located in remote areas. The second and last theme and its sub-theme under this category, Chapter 4 Section 4.4.2, highlighted the views of staff member participants that on the one hand there are mechanisms in place to support SWD and on the other hand there are serious challenges to support SWD.

The main findings of this research study showed the differences between findings from teacher and staff member participants and their contradictory relation to the document analysis. The document analysis of the policies revealed that they were general in nature and did not relate to the specific needs of SWD (see Chapter 4 Section 4.5). The document analysis and responses from participants formed triangulation which is a strategy used to evaluate the validity and trustworthiness of research outcomes. From the findings, it was clear that the use of technology and availability of assistive devices was more prominent at the school level than it was at the ODeL institution. The usage and availability of assistive technologies at the school level meant that support for learners with disabilities was imminent and supported theories used. With technologies and assistive devices, learners with disabilities at the school level more than at the ODeL institution, were not only being assisted and supported according to their specific needs but were also able to connect (connectivism) to the networks to construct (constructivism) knowledge using their prior knowledge as a foundation. That is, at the school level, learners with disabilities were able to use different assistive and internet technologies to source information, collaborate, learn, create and share new knowledge. More importantly, it was evident that teachers teaching learners with disabilities were present all the time to "connect", guide, teach and support their learners during contact classes within the school premises or online when learners were at home.

## 5.4 SYNTHESIS OF RESEARCH FINDINGS

The focal point of this section is to synthesise the research findings, contradictions and similarities found between the literature review and the empirical findings presented in the previous chapter. There are four similarities found between the literature review and the empirical findings: challenges relating to transitioning of SWD and accessing websites; lack of support for

SWD in general within the ODeL institution, which includes failure to access human services; challenges relating to online learning; and the last similarity is that distance education enrols large numbers of students. There is only one contradiction found and that is the availability of assistive technologies matching the needs of SWD. All of the above similarities and the one contradiction were found in Chapters 1, 2 and 4 and in that order the next section provides a synopsis of the similarities and the contradiction found in this study.

Chapter 1 Section 1.1 and Chapter 2 Section 2.2 highlight the first similarity, namely, challenges relating to transitioning of SWD and accessing websites. It is clear from Maboe *et al.* (2018) that e-learning designers and developers, when creating websites, must ensure that they are accessible to all. During the empirical research, participants stated that there is a disjuncture between schools and institutions of higher learning, and this can be picked up through the application processes. For example, SWD who are trying to apply for a study place or those who have been admitted and are trying to register for a programme at an institution of higher learning cannot do the application or register on their own without help because websites are inaccessible or not user-friendly.

The second similarity, namely, lack of support for SWD in general and failure to access human services appears in Chapter 1 Section 1.2 and Chapter 2 Section 2.3 and 2.4. SWD may be able to enter institutions of higher learning, but lack of support and challenges persist, and according to Obiozor *et* al. (2013), 46% of SWD drop out in the first year of their studies. In Chapter 4, participants offered their views that SWD experience challenges relating to lack of support from lecturers who, unlike teachers in schools, lack an understanding of disability and therefore fail to find ways to support SWD.

Furthermore, there are challenges relating to online learning which is the third similarity found in Chapter 1 Section 1.3. According to Minnaar (2011), there are no clear guidelines about support in e-learning programmes in higher learning institutions because e-learning is not that well established. Participants, as reported in Chapter 4, held the same view that SWD who are located in remote areas are not able to access the regional centres or the main campus of the ODeL institution. And when they do, it is difficult for them to use resources such as computers, access the internet, and so forth. As a result, it is difficult for them to study in an online learning environment.

The last similarity is captured in Chapter 2, Section 2.2 and Chapter 4 that many students, including SWD, are registering at institutions that offer distance education. This is due to the flexible nature of studying anywhere, anytime; however, it remains a concern.

The only contraction found between the literature review and the empirical study in this study is the availability of assistive technologies matching the needs of SWD. Chapter 2 Section 2.5 outlines different types of assistive technologies matching their respective types of disabilities. In other words, there is an array of different assistive technologies available on the market and teacher participants, in Chapter 4, ensure that these are available to learners within the schools. In contrast to the above, staff member participants from the ODeL institution revealed that although they have different assistive technologies, not all are available for all students with diverse kinds of disabilities (Chapter 4, Section 4.4.1). More so, those that are available can be reached only when SWD can reach the institution's main or regional centres.

## 5.5 CONCLUSIONS

This section discusses the research conclusions in line with the aim and research questions. This research study aimed to investigate ways of support for SWD in the ODeL institution of higher learning. In this regard, this research study sought to respond to 4 sub-questions that structured this study. The main research question was, "How are SWD supported in the Open Distance eLearning institution?" The main research question was supported by the following sub-questions:

1. What are the different assistive technologies that match and support SWD needs?
2. What is the difference between resources in schools and ODeL supporting SWD needs?
3. What resources are available at the ODeL Disability Unit to support SWD needs?
4. How can the ODeL university be guided to support SWD?

These questions supported by themes and sub-themes from participants' responses are discussed separately in the following sections.

### 5.5.1 RQ1: What are the different assistive technologies that match and support the SWD needs?

From the empirical study, there was an emergence of one theme: *different assistive technologies that match and support the needs of SWD* and two sub-themes, namely, *different disabilities* and *different assistive technologies*. Participants' experiences varied because they came from different learning environments - from the school level and from the Disability Unit of the ODeL institution. Therefore, it was clear that there are different assistive technologies available to support the needs of SWD and this was evident from the two schools visited. Schools with learners with multiple disabilities have assistive technologies for their learners (*cf.* Chapter 4 Section 4.3.1 sub-theme1b). In comparison, the ODeL institution has different assistive technologies to support SWD but they are general and not specific to the needs of different disabilities. This point gets perpetuated by the fact that in the ODeL institution, SWD cannot get access to the assistive technologies unless they go the institution or its regional centres.

### 5.5.2 RQ2: What is the difference between resources in schools and ODeL supporting SWD needs?

It was interesting to compare the difference between resources in schools and ODeL for SWD in order to understand ways to support SWD. There are differences and similarities in participants' responses regarding resources in schools and ODeL for SWD, and research findings revealed these variations. Resources included assistive technologies, as discussed in the above section, and human resources to support and assist SWD. In this regard, responses from teacher and staff member participants had to be used to identify the differences. Teacher participants were proud that they are available to service and support their learners. This is to say that teachers in their teaching roles act and become resources that learners can use in their learning experiences. Teachers, together with the support staff within the school, offer human services that include remedial work and varied means of support that match individuals' specific needs. And from staff member participants, human services to support SWD within the ODeL institution were not adequate to match their needs. In this regard, the researcher is aware that the schools in this research study specialised in teaching learners with disabilities, while the ODeL institution enrols different students including SWD, hence the findings on human services. Therefore, the study concluded that there was a substantial difference between resources in schools and ODeL for SWD, with more support at the school level than was the case for SWD at the ODeL institution.

More resources are needed for SWD at the ODeL institution and hopefully with that, maximum support can be given to these students.

### 5.5.3 RQ3: What resources are available at the ODeL Disability Unit to support SWD needs?

The third research question posed the theme regarding views about resources available at the ODeL disability unit to support SWD. To analysis this theme, it was vital to align the theme that emerged in relation to the following sub-theme: *support structure for SWD*. That means support mechanisms available at the ODeL Disability Unit to support SWD. According to staff member participants from the disability unit, the unit itself is trying its best to support and make resources available to SWD. In their roles to support SWD, staff member participants help SWD with registration, link them with lecturers, expose them to available bursaries for them, and so forth (see Chapter 4 Section 4.4.2 sub-theme 5a). However, even though policies are in place to assist SWD, the Disability Centre itself seems to be short-staffed and unable to meet the ever-increasing demands of an escalating student population.

### 5.5.4 RQ4: How can the ODeL institution be guided to support SWD?

Central to the main research question was the aspect of exploring what participants thought should be done to support SWD in the ODeL institution. Solid recommendations made by teacher participants at the school level versus those made by staff member participants become important when considering the fact that staff member participants, at their personal level, take responsibility and are willing to solve issues relating to support for SWD. From staff member participants' reflections, it was clear that they have a positive influence in their working environment to support SWD and can also influence those from other units and departments of the ODeL institution who work directly with SWD. Other reflections made by staff member participants was the willingness to expose, train and work together with people from other departments. It does not matter how training and working together except that it should happen, with the focal point of aiming at the support of SWD. With this in mind, staff member participants suggested that each department within the ODeL institution should have at least one person who understands disability. For example, one person who can do sign language. Again, Participant 9 stated that Wits University is willing to offer training on how to do sign language as long as there is a minimum of ten willing trainees. Both teacher and staff member participants reflected that

with shared experiences, support for SWD could be optimised and done well. Consequently, all relevant people must be willing to get involved and dedicate time to acquire skills and knowledge about different types of disabilities, with the aim to support and provide SWD with a positive learning experience within the ODeL institution in order to ensure that the ODeL institution is guided to support SWD.

In conclusion, to address the main research question: *How are SWD supported in the Open Distance eLearning?* it was clear that support for SWD at the ODeL institution was lacking compared to how it was done at the school level. The two main reasons that influenced the lack of support for SWD were that:

- Students were located in different areas and studied remotely and as a result, they had no access to people available to assist and support them and their needs.
- Assistive technologies that were meant to assist and support SWD and ease their learning process were not adequate to their specific needs. They were rather general.

Therefore, it was concluded that assistive technologies need to be specific to the needs of SWD and resources must be provided to SWD located in different areas. This should help and support SWD instead of them having to rely on resources found at the main campus or regional offices of the ODeL institution.

## 5.6 LIMITATIONS

This research study is of limited scope and could only address some aspects pertaining to support of SWD in the ODeL institution of higher learning. Therefore, the researcher acknowledges that there are limitations in this research study. The plan was to have four participants from each sector which is four each from a private school, public school and the disability unit of the ODeL institution. In this regard, one limitation was to only sample two participants from the private school because this school was still new. The two teachers were actively teaching learners with multiple disabilities who will soon transition into institutions of higher learning, including ODeL ones. The involvement of the two participants from the private school were deemed necessary and important to back up and provide different views from those at a public school. Therefore, the significance of this research study was not affected by this limitation of having two

participants from a private school or the planned four out of 34 teacher participants from a public school. The involvement of teacher participants, in general, was to give views about support for SWD before they transitioned to an ODeL institution of higher learning for which the main focus was on support for SWD at an ODeL institution level. This limitation itself offers an opportunity for further study.

Another limitation was to find participants from the Disability Unit of the ODeL institution who were willing to participate. Processes were followed as planned to invite participants, but it was difficult to find participants mainly because it was during the lockdown due to the coronavirus pandemic in South Africa. The researcher had to reach out to the supervisor for help and with the supervisor's suggestion, persistence and thorough research to find participants, interviews were eventually conducted with three participants. Furthermore, strict rules pertaining to Covid-19 contributed towards the limitation of conducting a follow-up interview with Participants 7 and 8 from the Disability Unit and this created the disjuncture in responses from Participant 7 and 8 versus Participant 9. The last limitation is the fact that students were not involved, which might have led to a deeper understanding of the needs of SWD in the ODeL environment. This limitation also offers an opportunity for further study. However, despite these limitations, it is believed that this study produced valuable data and contributed to the body of knowledge in the field of support to SWD.

## 5.7 RECOMMENDATIONS

Interviews and document analysis provided the research outcomes and therefore, this research study makes recommendations that relate to support for SWD in the ODeL institution. The following recommendations ought to be viewed and, therefore, as guidelines to the university to support SWD.

### 5.7.1 Recommendations to the Management of the ODeL Institution

"In a true community, the individual does not pursue the common good instead of his or her own good, but rather pursues his or her own good through pursing the common good" (Nzimakwe, 2014:36). It is not about the sacrifice of oneself to ensure the good of others; instead, it is about one realising that "they can attain their own true good only by promoting the good of others" (Nzimakwe, 2014:36).

In terms of support for SWD, this would mean to assume a level of responsibility for the success of SWD. This is not just because it is expected of the management of an ODeL institution, but because unless the management is truly invested in the success of SWD, management cannot attain any measure of true success for themselves as an ODeL institution.

Against the above background, it is recommended that the Management should, annually, allocate a sufficient budget to the disability unit. This will not only help the unit to search for the latest available assistive technologies on the market but also to be able to purchase and make them available to SWD for their different needs. A sufficient budget should also ensure that the Disability Unit was well staff with qualified staff members or assistants to assist SWD that should include the support team people such as therapists.

Management should have policies in place that guide the institution on the support for SWD from the time SWD apply for admission, and until they are expected to exit the system as successful graduates. In policies such as the Tuition Policy, SWD should be explicitly mentioned. And with policies in place, each department within the ODeL institution should be required to have a person who can assist and support SWD. Again, policies can help management to ensure that the buildings of the institution and its regional centres are accessible by SWD. Lastly, it is clear that technology continues to impact teaching and learning enormously (where teaching and learning is done online, with online discussions/forums, and so forth). With related policies in place, management need to ensure that SWD are included, supported and have access to all online platforms and services.

### 5.7.2 Recommendations to Lecturers

Lecturers should be encouraged to do short courses on how to teach, assess and support SWD. It is recommended that lecturers be given training opportunities where they are able to develop skills and knowledge about different kinds of disabilities. This could be achieved through well-planned workshops and by making bursaries available for lecturers who want to enrol for short courses. Incentives should be available to motivate lecturers to attend training, make necessary preparations, advocate changes for SWD, and be proactive in the process.

### 5.7.3 Recommendations to Staff Members at the Disability Unit

The Disability Unit represents the ODeL institution in dealing with matters relating to support for SWD and it is recommended that the unit creates links and relationships with special needs high schools in the country. With established links and relationships, there can be an exchange of ideas on how SWD are being supported at a school level before transitioning to the ODeL institution. Links and relationships can also be established with disability units of other institutions with the sole purpose on how to maximise support for SWD. Lastly, the ODeL Disability Unit together with the department of student affairs and lecturers should create short modules to support and expose SWD in their first year to things such as writing, using technologies to learn, and so forth in the ODeL environment. Creating an online writing centre would help and expose SWD in their first year of study about the expected writing style and level at an institution of higher learning. Offering introductory short courses on how to use the resources, technological devices and have access to human services would elevate support for SWD in the ODeL environment and it is recommended.

## 5.8 SUGGESTIONS FOR FURTHER RESEARCH

The scope of this research study was limited with research done at two special needs high schools and the ODeL Disability Unit with a total of nine participants. It is recommended that researchers carry out more qualitative research on support for SWD at different ODeL institutions of higher learning in South Africa or the Southern African region. A comparative study could also be done to compare issues relating to support for SWD by involving SWD both at a school and higher learning level. This comparison could be worthwhile, particularly as some contact institutions have developed distance learning units. Finally, challenges pertaining to support for SWD in the ODeL institution are evident from this research findings, and with further research support for SWD could be optimised.

## 5.9 CONCLUSION

The focal point of this study was to elicit views of participants regarding support for SWD in the ODeL institution. This research study was qualitative in nature and used semi-structured interviews and document analysis for data collection from nine participants. Two taught at the private special needs high school located in Gauteng province, four at the public special needs

high school located in the North West province, and three other participants were from the Disability Unit of the ODeL institution. After transcription, triangulation and thematic data analysis were used to code, identify themes and produce the writing of the findings. The findings indicated that support for SWD at the school level was better than at the ODeL institution of higher learning where challenges were evident. The quality of support for SWD in the ODeL institution needs to be improved, and in this way, recommendations were made.

The significance of this study has the potential to improve support for SWD in the ODeL institution, just as participants have voiced their views. It offers guidance to the management, lecturers and staff members at the disability unit in support strategies for SWD. This research study has potential implications for the practices in ODeL institutions across different sectors of higher education institutions managers to institute and identify support mechanism that would afford their SWD an opportunity for a positive learning experience throughout in the ODeL institution.

Finally, people with disabilities including SWD want to be heard and included in different aspects of life, and this has to start with giving proper support for SWD in institutions of education including ODeL facilities for the inclusivity of all.

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# APPENDICES

## Appendix 1: Ethical clearance

UNISA university of south africa

**UNISA COLLEGE OF EDUCATION ETHICS REVIEW COMMITTEE**

Date: 2020/05/13

Ref: **2020/05/13/41541359/09/AM**
Name: Mr TWG Ditlhale
Student No.: 41541359

Dear Mr TWG Ditlhale

**Decision:** Ethics Approval from
2020/05/13 to 2023/05/13

**Researcher(s):** Name: Mr TWG Ditlhale
E-mail address: 41541359@mylife.unisa.ac.za
Telephone: 0844233945

**Supervisor(s):** Name: Prof, G. Van den Berg
E-mail address: vdberg@unisa.ac.za
Telephone: 012 429 4895

**Title of research:**

**Support for students with disabilities in Open Distance e-Learning**

**Qualification:** MEd Curriculum and Instructional Studies

Thank you for the application for research ethics clearance by the UNISA College of Education Ethics Review Committee for the above mentioned research. Ethics approval is granted for the period 2020/05/13 to 2023/05/13.

*The **low risk** application was reviewed by the Ethics Review Committee on 2020/05/13 in compliance with the UNISA Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment.*

The proposed research may now commence with the provisions that:

1. The researcher will ensure that the research project adheres to the relevant guidelines set out in the Unisa Covid-19 position statement on research ethics attached.
2. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone +27 12 429 3111 Facsimile +27 12 429 4150
www.unisa.ac.za

3. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the UNISA College of Education Ethics Review Committee.
4. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
5. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing.
6. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
7. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data requires additional ethics clearance.
8. No field work activities may continue after the expiry date **2023/05/13**. Submission of a completed research ethics progress report will constitute an application for renewal of Ethics Research Committee approval.

*Note:*

*The reference number* **2020/05/13/41541359/09/AM** *should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.*

Kind regards,

**Prof AT Motlhabane**
**CHAIRPERSON: CEDU RERC**
motlhat@unisa.ac.za

**Prof PM Sebate**
**ACTING EXECUTIVE DEAN**
Sebatpm@unisa.ac.za

## Appendix 2: Research Permission

UNISA university of south africa

**RESEARCH PERMISSION SUB-COMMITTEE (RPSC) OF THE SENATE**
**RESEARCH, INNOVATION, POSTGRADUATE DEGREES AND**
**COMMERCIALISATION COMMITTEE (SRIPCC)**

24 June 2020

| | |
|---|---|
| **Decision: Research Permission Approval from 24 June 2020 until 23 June 2021.** | Ref #: 2020_RPSC_015<br>Mr. Tumelo Warren Ditlhale<br>Student #: 41541359<br>Staff #: N/A |

**Principal Investigator:**
**Mr. Tumelo Warren Ditlhale**
Department of Curriculum and Instructional Studies
School of Teacher Education
College of Education
41541359@mylife.unisa.ac.za; 0844233945

**Supervisor** : Prof Geesje, Van den Berg

**Support for students with disabilities in Open Distance e-Learning**

Your application regarding permission to conduct research involving UNISA employees, students and data in respect of the above study has been received and was considered by the Research Permission Subcommittee (RPSC) of the UNISA Senate, Research, Innovation, Postgraduate Degrees and Commercialisation Committee (SRIPCC) on 18 June 2020.

It is my pleasure to inform you that permission has been granted for the study. You may:

1. Recruit four staff members from the disability unit (ARCSWiD) through their Director or Manager and conduct interviews with them via Microsoft Teams.
2. Gain access to the following Unisa documents:
    - Open distance learning policy
    - Tuition policy
    - Admission policy

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

You are requested to submit a report of the study to the Research Permission Subcommittee (RPSC@unisa.ac.za) within 3 months of completion of the study.

The personal information made available to the researcher(s)/gatekeeper(s) will only be used for the advancement of this research project as indicated and for the purpose as described in this permission letter. The researcher(s)/gatekeeper(s) must take all appropriate precautionary measures to protect the personal information given to him/her/them in good faith and it must not be passed on to third parties. The dissemination of research instruments through the use of electronic mail should strictly be through blind copying, so as to protect the participants' right of privacy. The researcher hereby indemnifies UNISA from any claim or action arising from or due to the researcher's breach of his/her information protection obligations.

*Note:*
*The reference number **2020_RPSC_015** should be clearly indicated on all forms of communication with the intended research participants and the Research Permission Subcommittee.*

We would like to wish you well in your research undertaking.

Kind regards,

**Dr Retha Visagie – Deputy Chairperson**
Email: visagrg@unisa.ac.za, Tel: (012) 429-2478

**Prof Lessing Labuschagne – Chairperson**
Email: llabus@unisa.ac.za, Tel: (012) 429-6368

**Appendix 3: Informed letter of consent**

UNISA
PRELLER ST, MUCKLENEUK
PRETORIA
0002

29 March 2020

**DEAR PROSPECTIVE PARTICIPANT**

My name is Tumelo Ditlhale and I am doing research under the supervision of Professor Van den Berg in the Department of Curriculum and Instructional Studies towards M.Ed. at the University of South Africa. As a student, I am required to do a research project and upon completing it successfully I will graduate. Therefore, we are inviting you to participate in a study entitled: Support for students with disabilities in Open Distance e-Learning.

**WHAT IS THE PURPOSE OF THE STUDY?**

This study is expected to collect important information about the views of students on how they view an ODL institution such as Unisa and if they would opt to pursue their studies at an ODL institution after completing their Grade 12.

**WHY AM I BEING INVITED TO PARTICIPATE?**

You are invited to participate because we believe that you could provide us with an important information therefore contributing positively towards the research.

I obtained your contact details from your school/unit. There is a total number of four participants, and you will be one of them.

**WHAT IS THE NATURE OF MY PARTICIPATION IN THIS STUDY?**

Your actual role in the study will be to answer questions posed to you. The study involves audio taping with semi-structured interviews. The following are examples of questions to be asked:

- What are the different assistive technologies that match and support individuals' needs?
- What kind of support will the learners need when entering Higher Education, especially ODL?
- What resources are available at a disability unit to support the SWD?
- How can a university be guided to support SWD?

The expected duration to participate will depend on your available time and therefore can be segmented.

**CAN I WITHDRAW FROM THIS STUDY EVEN AFTER HAVING AGREED TO PARTICIPATE?**

Participating in this study is voluntary and you are under no obligation to consent to participation. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a written consent as an adult. You are free to withdraw at any time and without giving a reason.

**WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THIS STUDY?**

Possible participation of you will not only help the research project to be completed but will also benefit directly or indirectly the SWD. That is, the SWD will know if studying at an ODL institution is a viable option and if there is support that is specific to their needs in order for them to succeed.

**ARE THERE ANY NEGATIVE CONSEQUENCES FOR ME IF I PARTICIPATE IN THE RESEARCH PROJECT?**

There are no foreseeable risks in you participating in the project as questions to be asked are not personal.

**WILL THE INFORMATION THAT I CONVEY TO THE RESEARCHER AND MY IDENTITY BE KEPT CONFIDENTIAL?**

You have the right to insist that your name will not be recorded anywhere and that no one, apart from the researcher and identified members of the research team, will know about your involvement in this research (this measure refers to confidentiality) **OR** Your name will not be recorded anywhere and no one will be able to connect you to the answers you give (this measure refers to anonymity). Your answers will be given a code number, or a pseudonym and you will be referred to in this way in the data, any publications, or other research reporting methods such as conference proceedings (this measure refers to confidentiality).

There will be no an external coder / transcriber to access your information. Your answers may be reviewed by people responsible for making sure that research is done properly, including members of the Research Ethics Review Committee. Otherwise, records that identify you will be available only to people working on the study, unless you give permission for other people to see the records.

Information that you will convey may anonymously be used for other purposes, such as a research report, journal articles and/or conference proceedings. That is, your privacy will be protected in any publication of the information. For example, a report of the study may be submitted for publication, but individual participants will not be identifiable in such a report.

**HOW WILL THE RESEARCHER(S) PROTECT THE SECURITY OF DATA?**

Hard copies of your answers will be stored by the researcher for a period of five years in a locked cupboard/filing cabinet at my residential place for future research or academic purposes. Electronic information will be stored on a password protected computer. Future use of the stored data will be subject to further Research Ethics Review and approval if applicable. Later on, when data is no longer needed, it will be destroyed. For example, hard copies will be shredded and/or electronic copies will be permanently deleted from the hard drive of the computer through the use of a relevant software programme.

**WILL I RECEIVE PAYMENT OR ANY INCENTIVES FOR PARTICIPATING IN THIS STUDY?**

There will be no payment or any incentives for participating in the study.

**HAS THE STUDY RECEIVED ETHICS APPROVAL?**

This study has received written approval from the Research Ethics Review Committee of* Unisa. A copy of the approval letter can be obtained from the researcher if you so wish.

**HOW WILL I BE INFORMED OF THE FINDINGS/RESULTS OF THE RESEARCH?**

If you would like to be informed of the final research findings, please contact Tumelo Ditlhale on 084423394 or email 41541359@mylife.unisa.ac.za. The findings are accessible after a period of one year for a five years period.

Should you require any further information or want to contact the researcher about any aspect of this study, please use the above contact details provided.

Should you have concerns about the way in which the research has been conducted, you may contact my supervisor Professor Van den Berg on 012 429 4895 and on vdberg@unisa.ac.za.

Thank you for taking time to read this information sheet and for participating in this study.

Thank you,

(Mr. T. Ditlhale)

**Appendix 4: Consent form**

University of South Africa

College of Education

Preller Street, Muckleneuk

Pretoria

0002

**Title: Support for students with disabilities in Open Distance e-Learning.**

I, _____ _____ (participant name), confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read (or had explained to me) and understood the study as explained in the information sheet.
I have had sufficient opportunity to ask questions and am prepared to participate in the study.

I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable).

I am aware that the findings of this study will be processed into a research report, journal publications and/or conference proceedings, but that my participation will be kept confidential unless otherwise specified.

I agree with the recording of the questionnaire/ interview.

I have received a signed copy of the informed consent agreement.

Participant Name and Surname (please print) : _____

_____ _____

Participant Signature Date

Researcher's Name and Surname (please print):

_____ _____

Researcher's signature Date

**Appendix 5: Interview questions for teacher participants**

- What support structure do you have for your learners?
- What are the resources SWD are using in school?
- Do you have assistive technologies to support your learners? Please elaborate.
- How do you prepare your learners who are about to leave your school either to go look for a work or pursue HE?
- How do you think your learners will be supported when they enter different, HE institutions for their academic success?
- Do you think the current support they get here will be matched to those going to do distance education?
- Do you have students or are you aware of any transitioning from your school to do distance education in particular?
- If so, do you know if are they succeeding?
- Do you have any relationship with DE institution regarding the transition of your learners?
- In general, how do you think your students should be supported when they opt to go for distance education?

**Appendix 6: Interview questions for staff members**

- What is the role of the unit to support SWD?
- What resources are available at the unit to support SWD?
- Do you have assistive technologies to support SWD?
- What are the different assistive technologies that match and support SWD's needs?
- This is an ODeL institution and unlike campus-based one how then do you support SWD located in different areas far away from the campus?
- Can you tell me about the different kinds of disabilities that students have that reach out to the unit in need of help?
- How does the unit support student with different disabilities?
- Are there specific documents about support for SWD at the unit or university?
  If YES, what are those documents called and what do they entail?
- How many SWD receive help from the unit on a yearly basis?
- How can a university be guided to support SWD?

**Appendix 7: Interview transcriptions**

**Participant 1**

**The researcher**: What support do you have for your learners?

**Participant 1:** We rotate teachers so to allow learners to find the best out of each teacher and by rotating teachers means that teachers are given a chance not only to deliver content but also to exude their creativity in order to support the learners.

**The researcher:** Do the learners you teach, and in the school, have different disabilities?

If YES, what kinds of disabilities do they have?
If NO, what kind of disability do they have?

**Participant 1:** Yes. We have a whole from learners who got barriers to random reading, to emotional barriers, blindness, sensory issues – and then we go to the more severe; sign blinders would be – to autism, ADHD and speech delay.

The model of the school as inclusive means we take students who don't necessarily fit in the mainstream and are not necessarily candidates for remedial school as the South African education system provides with. So, what we do is, we incorporate both of these students in one setting and then we work according to their level to allow them to transition at their time…. We've got a whole range of multiple disabilities. We don't necessarily take the students who have got physical disabilities or barriers that are so expansive that they need a second person to accommodate their physical needs – for example, toileting and feeding. We are not equipped for that at all. So, we take students that are self-reliant, they can go to the toilet themselves, but most have academic barriers of nature.

**The researcher:** Do you have assistive technologies to support your learners? Please elaborate.

Participant 1: We have slant boards, coloured writing papers, braille…technological devices, Siri app (for those cannot physically write or type information). Reading apps (to read to students). And just normal tools like different types of pens.

**Participant 3**

**The researcher:** How do you prepare your learners who are about to leave your school either to go look for a work or pursue HE?

**Participant 3:** That is where occupational therapist come…they work with placements. They

even help with social services. They work with placements and bursaries because a lot of our kids when they go out for university, you find that universities are not accessible. We have two of our learners who went to the North West university and each one of them was given an assistant, full time assistant, as part of their bursary for the university.

**The researcher:** How do you think your learners will be supported when they enter different, HE institutions for their academic success?

**Participant 3:** That unfortunately is always a problem. There is support on the other side because they leave here and we have supported as much as we can…support in tertiary institutions fails them, especially accessibility of the lecture rooms…

**The researcher:** Do you think the current support they get here will be matched to those going to do distance education?

**Participant 3:** I don't think so, but if they go online learning then it is much easier for them. Being disabled, there is a lot of financial strain on families because of specialised equipment, doctors' bills, and so forth.

**Participant 8**

**The researcher:** What is your role at the unit?

**Participant 8:** To provide support services to students registered with Unisa, from Application stage up to graduation stage

**The researcher:** Do SWD you get to work with, in the unit, have different disabilities?

If YES, what kinds of disabilities do they have?

If NO, what kind of disability do they have?

**Participant 8:** Yes. Visual, Physical, Mental, Neurological, Epileptic, Diabetic, Deaf/Hard of Hearing, Stroke/Brain disorders, Dyslexic/Learning Disabilities, Cerebral Palsy, Limb/Joint/Muscular, Paraplegic, Quadriplegic

**The researcher:** In your opinion, can any person without knowledge, background and qualifications in special needs education or disability work at unit with SWD?

**Participant 8:** No.

**The researcher:** Why do you say so?

**Participant 8:** They will need to go through training. You need to have qualities, skills and

education to work with SWD. You will also need to understand the disabilities in order to communicate and assist the SWD

**The researcher:** What are the different assistive technologies that match and support SWD's needs? Or that match each specific or different disability?

**Participant 8:** JAWS, Headphones (all disabilities), Zoom Text (Dyslexia, Learning disabilities and Low Vision), Perkins Braille (Blind), Braille Paper (Blind), Adjustable chairs and desks ( Limbs/Joints/ short/), NSFAS devices: Laptop with relevant software, relevant wheelchairs, Human Assistants, magnifiers and screen readers.

**Appendix 8: Proof of editing**

**To whom it may concern**

This letter serves to confirm that editing and proofreading was done for:

**TUMELO DITLHALE**

**Open Distance Learning**

in the

**College of Education**

at the

**University of South Africa**

**Master's Dissertation**

**Support for Students with Disabilities in Open Distance e-Learning**

Cilla Dowse

13 November 2020


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| Cilla Dowse<br>PhD in Assessment and Quality Assurance in Education and Training: University of Pretoria 2014<br>Programme on Editing Principles and Practices: University of Pretoria 2009<br>Basic Editing and Proofreading: McGillivray Linnegar Associates 2008<br>Professional Editors' Guild Associate Member, DOW003 | Rosedale Farm<br>P.O. Box 48<br>Van Reenen<br>Free State<br>cilla.dowse@gmail.com<br>Cell: 084 900 7837 |