EDUCATIONAL NEEDS AND ASSETS OF THE VISUAL IMPAIRED UNDERGRADUATE STUDENTS AT A RURAL-BASED UNIVERSITY IN SOUTH AFRICA

by

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DISSERTATION

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DECLARATION

I declare that the dissertation submitted to the University of Limpopo, for the degree of Master of Education in Community and Continuing Education, has not previously been submitted by me for a degree at this or any other university; that it is my work in design and in execution, and that all material contained herein has been duly acknowledged.

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ABSTRACT

This study is an exploration of the educational needs and assets of the visual impaired undergraduate students at a Rural-Based University in South Africa. The research question addressed **is What are the educational needs and assets of the visual impaired Undergraduate students at a Rural-Based University in South Africa.** The study is underpinned within the interpretivist paradigm. A qualitative research approach was adopted, utilising a case study design. Data was collected through document analysis, semi-structured interviews and observations. Analytic induction in which themes, patterns and categories emerged from the data was deemed appropriate. The study sample was composed of the Director of Reakgona Disability Centre, four the visual impaired undergraduate students from the three faculties of the University of Limpopo (Humanities, Management and Law, and Science and Agriculture), as well as four academic staff members teaching the sampled students. The total study sample comprised nine participants.

The study has revealed the existence of a highly inflexible curriculum, lack of assistive devices, poor teaching and assessment strategies, untrained academic staff, poor support from the majority of academic staff members, poor support from a few of the peers with normal sight, difficulties during transition from secondary school to university, and limited library services that led to the marginalisation of the visual impaired undergraduate students.

The study also found that the visual impaired undergraduate students possess the following educational assets: the availability of Reakgona Disability Centre, support from the majority of peers with normal sight, support from a few academic staff members, availability of associations and institutions that offer financial assistance to the visual impaired students, and the health clinic that provides health care.

Based on the findings of the research some conclusions were drawn. Several recommendations are made to address the educational needs and assets of the visual impaired undergraduate students at a Rural-Based University in South Africa. Suggestions for future research are made to close the gap that exists in research on the education of students with visual impairments.

KEY WORDS

- Accessible curriculum
- Assistive device
- Blindness
- Braille
- Curriculum
- Disability
- Educational assets
- Educational needs
- Inclusive Education
- Undergraduate students
- University
- Visual impairment

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ACRONYMS

CRPD	:	Convention on the Rights of Persons with Disabilities
DSO	:	Disability Student Organisation
EMOE	:	Ethiopian Minister of Education
HEI	:	Higher Education Institution
HIV	:	Human Immunodeficiency Virus
ICT	:	Information and Communications Technology
JAWS	:	Job Access with Speech
Km	:	Kilometre
LCD	:	Liquid Crystal
MEDUNSA	:	Medical University of South Africa
NSFAS	:	National Student Financial Aid Scheme
PDF	:	Portable Document Format
RDC	:	Reakgona Disability Centre
SARS	:	South African Revenue Services
SASSA	:	South African Social Security Agency
SETA	:	Sector Education and Training Authority
TREC	:	Turfloop Research Ethics Committee
UK	:	United Kingdom
UNESCO	:	United Nations Educational Scientific and Cultural Organisation
WHO	:	World Health Organisation

CHAPTER 1
INTRODUCTION AND STUDY ORIENTATION

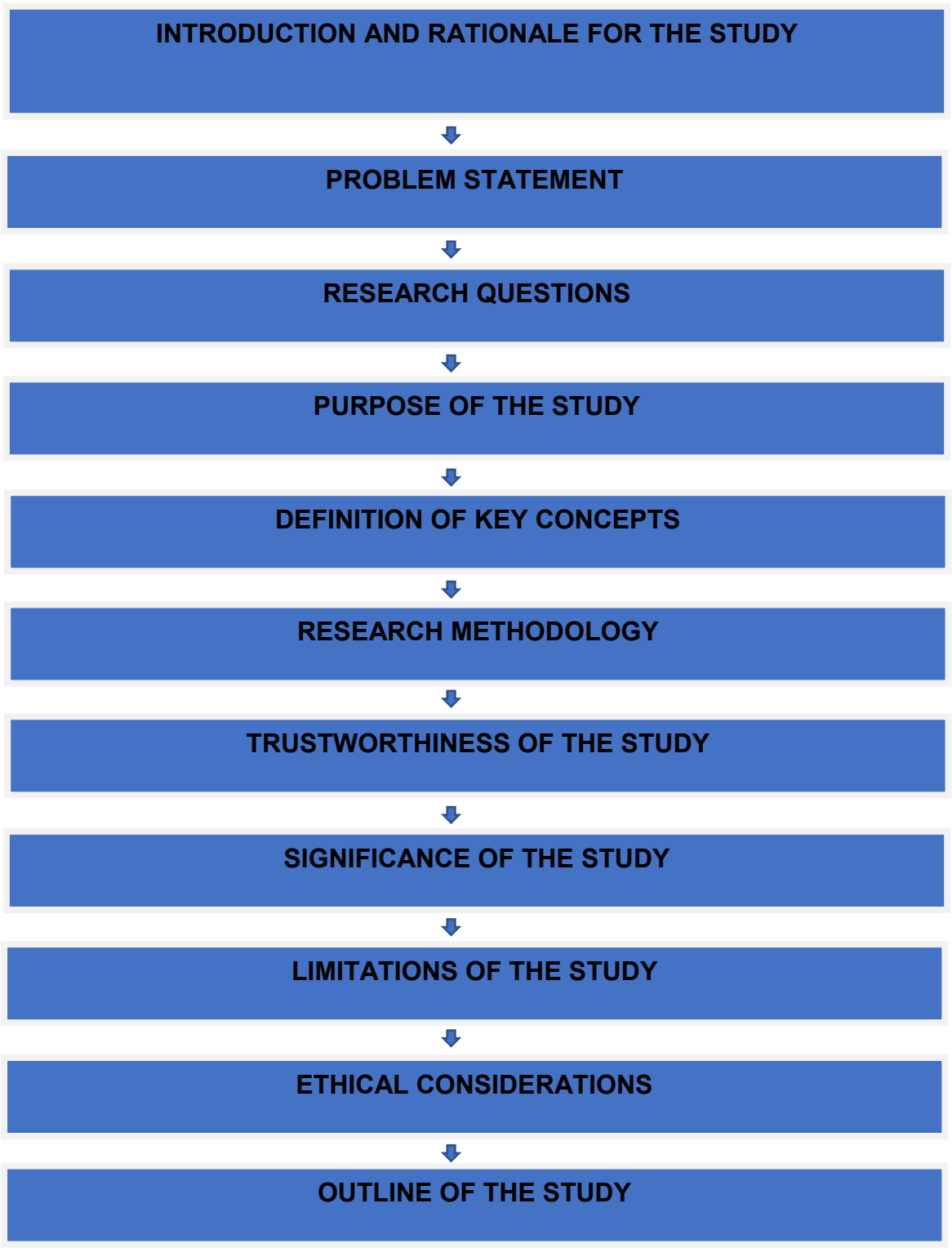

Figure 1.1. Diagram of the introduction and study orientation

1.1 INTRODUCTION

This chapter provides the introduction and rationale for the study. It also unpacks the problem statement, research questions, the purpose of the study, definition of key concepts, research methodology, the trustworthiness of the study, significance of the study, limitations of the study, ethical considerations, and a study outline.

1.2 RATIONALE FOR THE STUDY

Visual impairment covers deficiencies ranging from partial sight to blindness. Low vision can be regarded as a big challenge as it impacts one's capacity to view things clearly from a given distance (Claudy et al, 2015:217). Throughout the world until the latter part of the 1900s, people with visual impairments were discriminated against in most areas of their lives. Disabled People South Africa (2016:3) laments physical and attitudinal barriers that sometimes lead to the exclusion of people, including students with disabilities from accessing their fundamental rights.

At the beginning of the 1900s teaching methods for the education of the visual impaired and some marginalised people gained momentum. The principle of Inclusiveness in Learning states that institutions of learning must cater for all learners, whether they have physical, intellectual, emotional, social or language problems or other conditions (United Nations Educational Scientific and Cultural Organisation, UNESCO, 2014:20). UNESCO (2015:40) embraced Inclusiveness in Learning in 1994 at the World Conference in Salamanca. National governments committed to plan and apply the policies to encourage Inclusiveness in Education at a World Conference held in Dakar (UNESCO, 2014:15). As a result of this, countries treat the idea of inclusive education as a priority in their political agendas and have taken different legal and political measures towards its implementation. Many developing countries have recognised inclusive education as a desirable form of education for individuals with disabilities and adopted inclusion as a policy (UNESCO, 2O15:42).

The curricula at universities in developing countries are often neither sufficiently flexible nor inclusive to meet the needs of students with disabilities and

academic staff members are not well prepared to handle inclusive classrooms effectively. Various researchers have found that most students with disabilities at tertiary institutions, including those with visual impairment, receive no special support while they take their courses (Phukubje & Ngoepe, 2016:11).

Consequently, little has been accomplished regarding the quality of instruction that students with disabilities in particular get. Bulat et al (2015:60) states that the needs of students with disabilities are not recognised or attended to. The main barriers, in many countries, according to UNESCO (2015:50) are the lack of knowledge about diversity, inflexibility of the curriculum; insufficient preparation of instructors and education leaders, rigid and poor teaching methods, inconvenient learning environments, and a lack of a needs assessment processes.

If Inclusive Education policy is to be successfully implemented, first and foremost there has to be a change in the curriculum in a way that will address the needs of all students in the classroom. The curriculum should be designed so that it is accessible to any group of students; it must provide opportunities for effective learning for all students, including those with special needs. This may require a different or greater emphasis on certain aspects of the curriculum to address the needs of certain groups of students. It can be achieved best if the curriculum is flexible enough to allow the universities and academic staff to make adaptations to it (UNESCO, 2015:58). Based on the results of the research on different Inclusive Education practices, UNESCO has identified the following features of an inclusive curriculum:

- Broad common goals defined for all, including the knowledge, skills and values to be acquired.
- Flexible structure to facilitate responding to the diversity and providing diverse opportunities for practice and performance in terms of content, methods and level of participation.
- Learning assessment based on students' individual progress; content, knowledge and skills that are relevant to the learners' context.

Existing research indicates that visually impaired students who enrol at tertiary institutions in Ethiopia are increasing (Ethiopian Minister of Education (EMoE,

2016:41). The Ethiopian government took lawful and political actions that recognise the privileges of visually impaired students. Ethiopia's Education and Training Policy of 1994 recognises the special needs of students with disabilities (EMoE, 2016:43). The Special Needs Education National Strategy in 2006 was developed to ensure access and quality education for all. Obstacles to inclusiveness in education were underlined and procedures indicated for its execution (EMoE, 2016:44).

Inclusive Education in Zimbabwe has undergone a tremendous revolution since 1980.Visually impaired students were previously not acknowledged in Zimbabwe. Minor changes were made more than six times on the 1987 Education Act, but nothing was said about the education of the visual impaired. Because of this lack of seriousness in the legislative system of Zimbabwe, visually impaired students have always experienced difficulty to obtain higher and tertiary education. Some teacher training colleges, technical colleges, agricultural colleges and universities are currently enrolling students who are visually impaired (Mahanya 2016:17). The conclusion is that Higher Education institutions in Zimbabwe are becoming inclusive in their practice.

Visual impairment is also common in South Africa. Prior to 1994 students with visual impairment that enrolled at tertiary institutions were few. This was related to the stereotyping and stigma that visually impaired students could not perform certain tasks. Those who enrolled at universities were a minority. Their rights and needs were not adequately addressed. Many dropped out of the tertiary institutions as they could not cope in an environment that did not cater for their specialised needs (Yssel et al, 2016:15).

Post 1994 South Africa chose to implement Inclusive Education. The Constitution Act 108 of 1996 and the South African Schools Act state that everyone is entitled to basic education and should not be discriminated against for any reasons. To achieve this objective, White Paper 6 on Education was enacted in 2001. This policy framework documents Government's determination to implement Inclusive Education by 2021. Students with visual impairment have been placed at mainstream universities with the aim of

promoting equal access and opportunities for all students in line with the South African Constitution (Yssel et al, 2016:20).

Existing research shows that if there is to be actual progress towards full inclusion, it is mandatory that the actual learning experiences of the visual impaired undergraduate students be investigated. It is against this background that this study explores the educational needs and assets of the visual impaired undergraduate students at a Rural-Based University in South Africa.

1.3 PROBLEM STATEMENT

Since South Africa introduced an Inclusive Education system, the number of visually impaired students who enrolled at rural-based universities has increased. The inclusion has made excessive demands on the resources of the rural-based universities to address provision in relation to quality. There appears to be a lack of trained and suitable academic staff. (Seyama et al, 2014:80). Basic facilities are seemingly not available to facilitate the instruction and learning processes. In such a context it is difficult to predict that the learning challenges of visually impaired students will be accommodated (Seyama et al, 2014:89).

The quality of learning opportunities for visually impaired students is far lower than for fully sighted students. Visually impaired students are not fully supported to make their learning experiences relevant and effective (Seyama et al, 2014:91). Existing research shows that peers with normal sight and academic staff are not well informed about visual impairment at the University of KwaZulu-Natal. There is no awareness of visually impaired students (Seyama et al, 2014:120). The primary barrier is the assumption that the Disability Unit is the sole agent responsible for services provided to visually impaired students, whereas all faculties and students should be taking the responsibility to support them. Students with visual impairment are specifically discriminated against, in that libraries do not provide assistive devices to enable them to access information. No budget is specifically set aside for the visual impaired (Seyama et al, 2014:130). So far, no study has been conducted to explore the educational needs and assets of the visual impaired undergraduate students at a Rural-Based University in South Africa.

1.4 RESEARCH QUESTIONS

The study proposes to answer the following research question:

- **What are the educational needs and assets of the visual impaired Undergraduate students at a Rural-Based University in South Africa?**

Sub-research questions:

- What are the educational challenges facing the visual impaired Undergraduate students at a Rural-Based University in South Africa?
- What are the educational strengths, talents, abilities and potential of the visual impaired undergraduate students at a Rural-Based University in South Africa?
- Which strategies are in place to address the educational needs and assets of the visual impaired undergraduate students at a Rural-Based University in South Africa?

1.5 PURPOSE AND OBJECTIVES OF THE STUDY

The purpose of this study is to explore the educational needs and assets of the visual impaired undergraduate students at a Rural-Based University in South Africa.

Objectives:

- To identify the educational challenges facing the visual impaired undergraduate students at a Rural-Based University in South Africa.
- To identify the educational strengths, talents, abilities and potential of the visual impaired undergraduate students at a Rural-Based University in South Africa.
- To identify strategies that are in place to address the educational needs and assets of the visual impaired undergraduate students at a Rural-Based University in South Africa.

1.6 DEFINITION OF KEY CONCEPTS

1.6.1 Educational needs

Patel (2015:117) indicate that *needs* are *"*gaps or discrepancies between what is present and what is desired in education*".* They are what is lacking or deficient in the current educational arena.

Tiwari and Sharma (2015:128) define *educational needs* as *"*needs necessary to the learners for educational purposes which are supplementary to, and different from those generally needed by normal adult learners"*.*

In the context of this study, *educational needs* refer to the existing state of affairs of the visual impaired Undergraduate students at a Rural-Based University in South Africa and their desire to get proper allocation and effective utilisation of available educational resources.

1.6.2 Educational assets

Patel (2015:117) indicate that *assets* "are individuals, associations, institutions, gifts, skills and capabilities of community residents such as private businesses, schools, libraries, parks, police, fire stations, hospitals and social agencies".

Faheity and Gaulton (2017:29) define *assets* as "skills, talents, gifts, resources, capabilities and strengths that are shared with individuals, institutions, organisations and associations in the community and organisation".

Educational assets in this study refer to all those skills, strengths, talents or potential that visually impaired undergraduate students at a Rural-Based University in South Africa possess. Educational assets enhance the academic performance and lifelong learning of the visual impaired undergraduate students.

1.6.3 Visual impairment

According to World Health Organisation (2015:313), *visual impairment* is "visual acuity obtained with the best possible refractive correction which is achieved by testing subjects with pinhole or refraction, is a condition referred to as visual disability".

Visual impairment is defined as "a functional limitation of the eyes or visual system and can manifest as reduced visual acuity or contrast, sensitivity, visual field loss, photophobia, visual distortion, visual perceptual difficulties, or any combination of the above" (American Optometric, 2014:234).

In the context of this study, *visual impairment* refers to a situation where the student is not in a position to use vision for learning purposes due to either blindness or vision that is so low that the student cannot depend on it for the purpose of learning. Such students need assistive devices and services that take into account the level of their needs, require specialised spectacles, and Braille or large print to assist them to compensate for their low vision.

1.6.4 Undergraduate student

Zaid (2017:10) defines an *undergraduate student* as “a student at a college or university who has not received a first bachelor degree”.

According to Mutanga (2017:135) an *undergraduate student* is “a student who is studying for his/her first degree of college or university”.

In the context of this study an *undergraduate student* is a student who is still studying for his/her first bachelor degree is a student at a Rural-Based University in South Africa.

1.6.5 University

According to O’Connell (2014:16), a *university* is “any un institution of higher learning, providing facilities for teaching, research, and authorising and granting academic degrees”.

South Africa’s Higher Education Act of 1997 (1997:9) define a *university* as “any university established, deemed to be established or declared as a university”.

In the context of this study, a *university* is an institute of higher learning where the visual impaired undergraduate students acquire their academic degrees in their different fields of studies.

1.6.6 Inclusive Education

UNESCO (2014a:65) defines *Inclusive Education* as “a process that involves the transformation of schools and other centres of learning to cater for all children and provide learning opportunities for all".

United Nations (2016:47) characterises *Inclusive Education* as:

- “acknowledging that all children and youth can learn and that all children and youth need support;
- accepting and respecting that all learners are different in some way and have different learning needs that are equally valued and an ordinary part of our human experience;

- enabling education structures, systems and learning methodologies to meet the needs of all learners;
- acknowledging and respecting differences in learners whether due to age, gender, ethnicity, language, class, or Human Immunodeficiency Virus (HIV) status;
- changing attitudes, behaviour, teaching methodologies, curricula and the environment to meet the needs of all learners;
- maximising the participation of all learners in the culture and the curricula or educational institutions and uncovering and minimising barriers to learning;
- empowering learners by developing their individual strengths and enabling them to participate critically in the process of learning."

In this study *Inclusive Education* is used with reference to an instructional process where all possible accommodations are made with the intention to create opportunities for increased participation of visually impaired undergraduate students in their learning.

1.6.7 Blindness

Blindness refers to "the total loss of eyesight as opposed to the degree of visual impairment (The International Classification of Diseases, 2018:17)".

According to World Health Organisation (2014:20) *blindness* refers to "a condition where a person has complete loss of vision, acuity of not greater than 3/60 in better eye with correction with glasses on, and a field not subtending an angle greater than 20 degrees".

In the context of this study, *blindness* refers to a situation where people who have lost their eyesight need assistive devices to be able to learn effectively. Blind persons may experience difficulty in moving around and knowing where things are, doing other activities of daily living, writing, reading and following visual signs or commands.

1.6.8 Disability

World Health Organisation (WHO) (2017:76) defines *disability* as “the outcome of the interaction between a person with impairment and the personal and environment and other barriers he/she may face, and focuses on the implications of impairment for functioning in a variety of contexts and for a range of purposes".

According to Anand (2016:84) *disability is* "the disadvantage or restriction of activity which takes little or no account of people who have impairments and thus excludes them from mainstream activity". Goodley (2016:45) defines disability as “any restriction or lack to perform an activity in the manner or within the range considered normal for a human being".

In the context of this study *disability* refers to a condition that makes it difficult for the visually impaired undergraduate students to see like other people do.

1.6.9 Braille

Braille is “a system of representing letters by patterns of raised dots” (Lane et al, 2015:34).

Braille is “a system of touch reading and writing used by blind and visually impaired persons” (Schiro, 2015:13).

For the purpose of this study, Braille refers to a technique of touch, reading and writing used by the visually impaired undergraduate students.

1.6.10 Curriculum

Curriculum refers to all the instructional plans that are intended to bring about student learning as well as the actualisation of these plans*”* (Mulenga, 2015:13).

According to Baker and Scanion (2016:93) *curriculum* is “a planned interaction of pupils with instructional content, materials, resources and processes for evaluating an attainment of educational objectives”.

Curriculum in this study covers all instructional plans that are intended to bring about student learning as well as the actualisation of these plans. It includes

the objectives of the programme, the content of learning, instruction and learning methods, students' learning experience, differences identified and used to enrich the instruction and learning processes, and different mechanisms that are used to monitor and check student learning.

1.6.11 Assistive device

An *assistive device* is used to describe "the technology and services that lessen or remove barriers faced by persons with disabilities" (WHO, 2017:120).

Rayini (2017:32) define an *assistive device* as any device that "enhances the capacity of a person to function in his or her environment".

Koch (2017:82) describes an *assistive device* as "a mechanism for using technology to make the learning environment more accessible to students with special needs".

In the context of this study, *assistive device* refers to the technology that can be used to facilitate the learning of visually impaired undergraduate students, such as Braille, tape recorders and note-takers.

1.6.12 Accessible curriculum

Accessible curriculum is used in the literature in reference to "a curriculum which allows flexibility in order that instructors can make reasonable adjustments to meet the educational needs of individual learners in the classroom" (World Health Organisation Disability Assessment, 2016:61).

Federici et al, (2016:43) defines an *accessible curriculum* as a "curriculum that considers the variety of learners in a classroom and designs lessons that will have multiple access points for multiple people".

An *accessible curriculum* in the context of this research refers to an instructional situation where all possible adaptations and modifications are made to the challenges and strengths of the visual impaired undergraduate students at a Rural-Based University in South Africa.

1.7 RESEARCH METHODOLOGY

1.7.1 Research design

The researcher employed qualitative research approach in this study. Qualitative research is interpretative in nature. Qualitative research shows concern for context and meaning, occurs in natural settings, introduces the concept of human as an instrument, deals with data that are in the form of words or pictures or other visuals rather than numbers and statistics, has an emergent design, and analysis data inductively through the process of coding and categorisation (Ary et al, 2014:451). The researcher interacts with the participants directly in their natural settings, and deals with data in the form of words.

A qualitative case study design was employed to determine the educational needs and assets of the target students at the University of Limpopo. Since a case study design affords an opportunity of examining a phenomenon within its real-life context, the researcher explored the educational needs and assets of the target students at a Rural-Based University in South Africa (Johnson & Christensen, 2017:214). The researcher interacted with the target students to gain insight into the challenges that they grapple with as well as the talents, knowledge and skills they possess (Johnson & Christensen, 2017:340).

1.7.2 Population and sampling

The study was conducted at the University of Limpopo. This university is situated in Limpopo Province at a township called Turfloop about 40 kilometres east of the city of Polokwane. The University of Limpopo was founded in 2005 after the merger between the University of the North and the Medical University of South Africa (MEDUNSA). In 2015 the MEDUNSA campus split and became the Sefako Makgatho Health Sciences University. The University of Limpopo comprises the following four faculties: Humanities, Management and Law, Science and Agriculture, and Health Sciences. Information rich participants were sampled purposively (Johnson & Christensen, 2017:320). The process of gaining access to the research participants was as follows: The researcher wrote a letter to Turfloop Ethics Research Committee to request for

authorisation to conduct research at the University with research participants. The Ethics Committee issued a Clearance Certificate giving permission to conduct research. Request to conduct research was also sent to the Director at Reakgona Disability Centre to conduct a research at the Centre. Permission was granted and four visually impaired undergraduate students were invited and given consent forms.

The study sample was composed of four visually impaired undergraduate students from the Faculties of Humanities, Management and Law, and Science and Agriculture; and four academic staff members who taught the sampled visually impaired undergraduate students, and the Director of Reakgona Disability Centre. The sampled students shared their educational challenges, abilities, talents and strengths. The academic staff shared their experiences in teaching visually impaired undergraduate students. The Director at Reakgona Disability Centre shared his experience of the educational needs and assets of the target students from a managerial point of view. The total study sample comprised nine participants.

1.7.3 Data collection

Data collection techniques were triangulated in order to seek convergence and corroboration of the results from data collection techniques (Johnson & Christensen, 2017:340). The following data collection techniques were employed in order to enhance the richness and quality of the research findings

- *Phase 1: Document analysis*

Documents such as students' portfolios, tests and examination scripts, attendance registers, timetables and academic reports were collected and analysed. The documents were provided by the academic staff from the four faculties. The information obtained was recorded in the researcher's field notes. The researcher gained clear knowledge in terms of the challenges, abilities and strengths of the visually impaired undergraduate students at the University of Limpopo (Johnson & Christensen, 2017:340).

- *Phase 2: Semi-structured interviews*

The researcher conducted semi-structured interviews in August 2017 with the four sampled visually impaired undergraduate students, the Director from Reakgona Disability Centre and four academic staff from the University of Limpopo. Semi-structured interviews were vital as they allowed for probing and clarification on answers (Cresswell, 2014: 79). This involved questions that required more thought and more than a simple one-word answer that were not many, and aimed to prompt the perspectives of and ideas from the participants (Moser & Korstjen, 2017:271). The interviews enabled the researcher to understand the participants' sentiments, thoughts and intentions regarding the educational needs and assets of the visual impaired undergraduate students at the University of Limpopo.

The interviews afforded the participants an opportunity to narrate in detail. This was an advantage of accessing first-hand information because it offered the researcher direct contact with the participants (Ary et al, 2014:524). To comprehend how the participants were making sense of the situation, the researcher recorded what took place in the situation regarding the educational needs and assets of visually impaired undergraduate students at the University of Limpopo (Moser & Korstjens, 2017:279).

- *Phase 3: Observations*

Observation was the last technique employed to gather data. The data obtained through observations helped the researcher to support facts accessed during the interviews and document analysis (Ary et al, 2014:236).

Observation data from the visually impaired undergraduate students and the Director was collected at Reakgona Disability Centre, for the academic staff it was collected at their offices. Observation data was also collected in the classrooms and at the library at Reakgona Disability Centre. Data was collected for four weeks. Observation schedule was followed. Aspects observed included instruction and learning methods, learning resources for the target students, support from academic staff, use of the library and peer support. Observer field notes were kept (McMillian & Schumacher, 2014:377).

1.7.4 Data analysis

The aim of data analysis was to respond to the research topic, “Educational need and assets of the visual impaired undergraduate students at a Rural-Based University in South Africa”. McMillian & Schumacher (2014:395) noted that qualitative data analysis is primarily an inductive process of organising and coding data into categories. Inductive analysis was used to synthesise and make meaning from the data collected (Johnson & Christensen, 2017:342). Data was analysed separately in accordance with the data collection techniques. Individual opinions were later compared and integrated to form one research report to ensure the trustworthiness of the research results. Data collected from document analysis was analysed through content analysis. Content analysis involved the subjective interpretation of the content of the text data. This was achieved via the systematic classification process of coding and identifying themes from semi-structured interviews and relating them to documents analysed and observations. The process of data analysis was continuous throughout the research process to avoid losing meaning and focus (McMillian & Schumacher, 2014: 399).

The data obtained from semi-structured interviews was transcribed and read carefully and coded into themes and sub-themes (Ary et al, 2014:560). Data analysis involved the transcription and categorising of the audio-recorded data. The aim was to understand the various elements of data through an inspection of the relationships between concepts, to see whether there were any patterns or trends that can be identified to establish the themes (McMillian & Schumacher, 2014:400). The categories of themes and sub-themes spontaneously presented by the participants, were fully considered. They were analysed and interpreted in the context of the research questions and the assumptions about the educational needs and assets of visually impaired undergraduate students as outlined in Chapter 2. Questions in the interview guide were structured to illicit relevant information on the problem statement and related assumptions, making it easier for such themes to be identified.

Data obtained from observations was analysed inductively, where field notes were coded into main themes and sub-themes. The analysis involved verifying and confirming the educational needs and assets of the visual impaired undergraduate students at a Rural-Based University in South Africa against the responses from the participants and the document analysis.

1.8 TRUSTWORTHINESS OF THE STUDY

The following quality criteria were applied to ensure the trustworthiness of this study:

1.8.1 Credibility

Credibility relates to the truthfulness of the research findings. For the purpose of triangulation, multiple techniques were used to collect and interpret data (Denzin & Lincoln, 2018:274). Triangulation was done to cross-check for internal consistency utilised in the current study by conducting interviews with participants at different times. A voice recorder was used during the interviews to guarantee the exact report of the findings based on the viewpoints of the participants. The research report includes information about the context, appropriate quotes and a detailed discussion of concepts. Data collection lasted for six days, thus three days for semi-structured interviews, a day for document analysis, and two days of observations.

1.8.2 Transferability

Transferability refers to the degree to which the research can be transferred to other contexts or settings. This can be achieved only if the researcher provides sufficient information about the research context, research process, research participants and the relationship of the researcher with the participants so that the reader can make decisions whether the research findings can be generalised to his or her context (Moser & Korsjens, 2017:280). Moreover, all the methods employed and the strategies followed in this study are described in a detailed manner (Creswell, 2014:19). As a case study design was adopted in this study, the findings are not generalisable.

1.8.3 Dependability

Dependability simply verifies that the process of the study can be done in the same way over time, in a sensible way and across the researcher's techniques. It could be attained through a complete reporting and record of the research process from the stage of collecting data and explanation (Ali & Yusof, 2015:75). In this study, the researcher gave the research report to the supervisor to monitor the extent to which the data was aligned with the problem statement and research questions (Creswell, 2014:27).

1.8.4 Confirmability

Confirmability is the degree to which the information discovered in the research has not been prejudiced by the researcher. It assesses whether data gathered has led to the most rational conclusions possible without being biased. It can be initiated by the triangulation of information provided and methods (Ary et al, 2016:410). In this study, data was collected from different sources, including visually impaired undergraduate students, academic staff and the director of Reakgona Disability Centre. Multiple data collection methods like semi-structured interviews, document analysis and observations were used. Confirmability was established by corroborating all rights and interpretation (Ary et al, 2016:418).

1.9 SIGNIFICANCE OF THE STUDY

The study may complement similar areas of research that show an interest in the educational needs and assets of visually impaired undergraduate students. It is the conviction of the researcher that the study may add to the prevailing body of knowledge in the field of inclusiveness and act as a point of departure for future similar studies. The research is anticipated to assist academic staff to recognise the educational needs and assets of visually impaired undergraduate students and to check if the instruction and learning methods used are suitable for visually impaired undergraduate students.

The study should be informative for visually impaired undergraduate students regarding their full range of educational rights; it may also create awareness among full sighted students that they need to support the visual impaired

academically and socially. Parents of visually impaired learners may benefit from the study by becoming informed about teaching strategies, materials and activities to ensure consistent approaches and support.

The study attempts to create an environment that may be conducive to learning. It shows that even if they are visually impaired, such students have academic potential. As such, they should not abandon their studies and may not rely on the students who are not visually impaired because the surrounding is inclusive for all (Koehler & Wild, 2016:38). Essentially, by identifying the educational needs and assets of visually impaired undergraduate students, the institution may be carrying out its lawful mandate that advocates that every learner is entitled to obtain education (Lamichhane, 2017:8).

1.10 LIMITATIONS OF THE STUDY

Data was collected from visually impaired undergraduate students, academic staff and the director of Reakgona Disability Centre only. Students who are not visually impaired were not interviewed to explore their support or lack thereof for visually impaired undergraduate students at the University of Limpopo. Apart from its focus on the academic processes, the study did not investigate any other issues that would have an effect on the social, political, psychological or economic life of visually impaired undergraduate students. The study does not explore the problem of socialisation; post-graduate students were not considered. The study was confined to a Rural-Based University in South Africa; visually impaired undergraduate students from other universities were not included. The findings cannot be generalised to other universities since data was collected from only one university.

1.11 ETHICAL CONSIDERATIONS

Turfloop Research Ethics Committee (TREC) granted the researcher permission to conduct this research. Meetings with the director at Reakgona Disability Centre followed to obtain access to the four sampled visually impaired undergraduate students. This was followed by meetings with the four sampled academic staff members. The meetings were meant to explain the purpose of the research and to arrange schedules for data collection.

Authorisation to conduct the research was obtained from the participants regarding their participation in the study after explaining the objectives and procedures of the research as well as informing them that they had the right to refuse or to discontinue the study at any time (Katz, 2015:108).

The researcher informed the participants that the information provided would be disseminated and that it would be kept a secret (Katz, 2015:112). The participants were assured that they would remain anonymous. After clarifying the procedures, participants were requested to sign consent forms in which they indicated their willingness to participate. The researcher used the assigned codes to identify the participants instead of using their actual identity. The researcher made sure that the information provided would not harm them directly or by implication. Participants were not exposed to any harm. The researcher strove after honesty, and being respectful to all participants. Participants were informed about how the information collected was going to be used; they were informed that there was no payment for their involvement in this study (Katz, 2015: 144).

1.12 OUTLINE OF THE STUDY

The study comprises the following chapters:

Chapter 1: This chapter contains the introduction and rationale for the study and sets the scene for the nature of the research. It is followed by the problem statement that outlines the educational needs and assets of visually impaired undergraduate students at universities. The purpose and objectives of the study, definition of key concepts, research methodology, research design, population and sampling, data collection, data analysis techniques, trustworthiness of the study, significance of the study, limitations of the study and ethical considerations are outlined.

Chapter 2: In this chapter the literature review that informs and supports the objectives of the study is presented.

Chapter 3: This chapter describes the research methodology that includes the research design, population and sampling, data collection and data analysis strategies.

Chapter 4: This chapter deals with the educational needs and assets of the visual impaired undergraduate students at a Rural-Based University in South Africa.

Chapter 5: The final chapter consists of discussions, recommendations and suggestions for future research.

CHAPTER 2

LITERATURE REVIEW

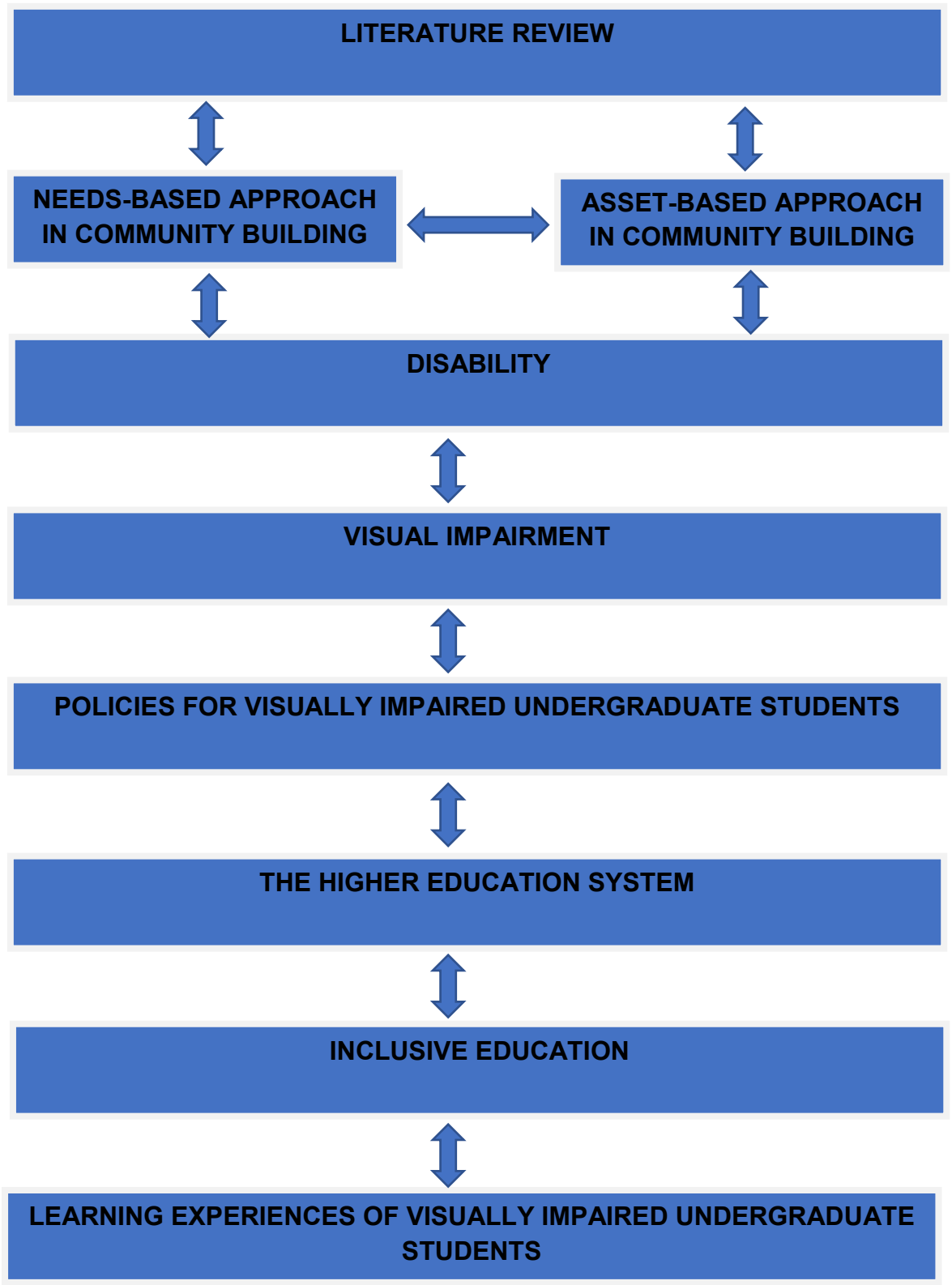

Figure 2.1. Diagram of the literature review

2.1 INTRODUCTION

This chapter presents the literature review related to the educational needs and assets of visually impaired undergraduate students across the globe.

2.2 A NEEDS-BASED APPROACH TO COMMUNITY BUILDING

A needs-based approach is also known as a traditional approach to community building. It is generally understood as a deficit model that focuses on the community's needs, deficiencies and problems (Kretzmann & McKnight, 1993:2). This approach often defines poverty as the absence or lack of the basic elements required for human survival and has been the preferred approach to community development by Non-Government Organisations in Africa throughout the 1950s and 1960s (Nel, 2015: 67).

Needs-based development projects start and end with a negative map of a given area that defines it according to its difficulties, needs, limitations and dysfunctional attributes (Kretzmann & McKnight, 1993:3). Debilitation starts when local people begin to absorb the maps created by such a needs-based analysis, and use these to navigate their villages. People believing in this type of approach no longer see the capacities that are endemic to the real landscape but instead they see only what they lack. They do not see the community that possesses numerous assets and untapped growth potential, but a place of real deprivation (Kretzmann & McKnight, 1993:4).

A needs-based approach is often top-down, starting with what is not available in the community, and outside-in, relying heavily on the efforts of external agents such as technical assistants (Krertzmann & McKnight, 1993:3). It can be argued that a needs-based approach not only teaches local people that they cannot shape their own future, but also that they require services as an answer to their problems, and that such an assessment of the community may internalise a negative picture of itself that thus becomes powerless (Patel, 2015: 110). Consequently, many lower-income communities become environments of service where behaviour is affected by the residents' belief that their well-being depends upon being clients (Kretzmann & McKnight, 1993:4). Therefore, a

needs-based approach encourages both residents and professionals who deliver services to bypass available assets and resources in the community. In essence, a needs-based paradigm deprives communities the capability to solve their own problems (Kretzmann & McKnight, 1993:5).

A needs-based approach does not afford the community control over its own development processes. The community turns to outside assistance because the members believe their issues or problems are too complex for local residents to solve (Reece, 2017:104). A needs-based approach is important in establishing the existing challenges and deficiencies to mobilise the community to address them themselves. The starting point for a needs-based approach is always the needs analysis of the community to enable them to find the relevant assistance. Needs identification helps the community to understand its deficiencies and to be able to plan accordingly (Reece, 2017:210).

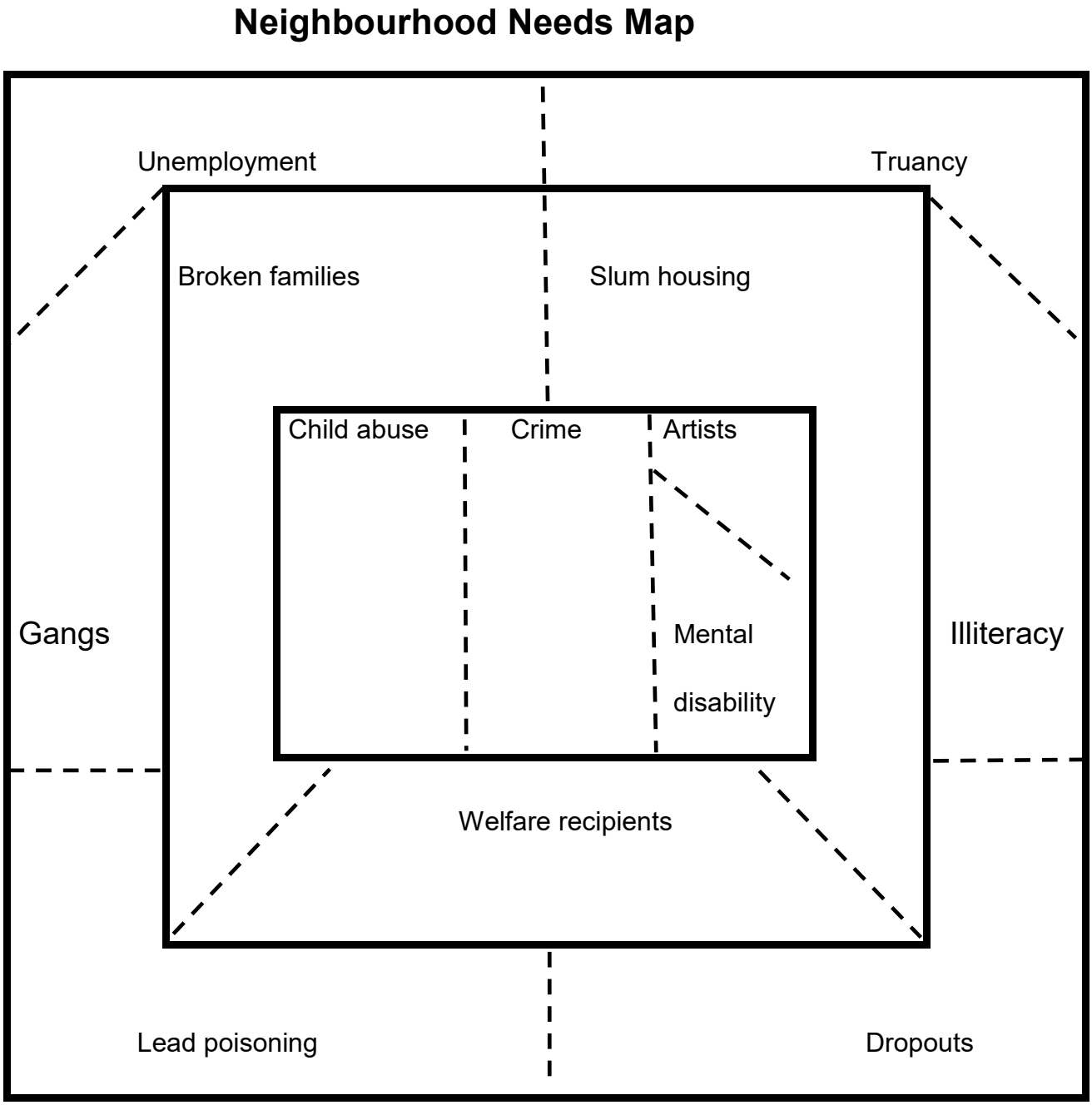

Figure 2.2. Community needs map (Adapted from Kretzmann & McKnight, 1993:3).

2.3 THE ASSET- BASED APPROACH TO COMMUNITY BUILDING

In contrast to a needs-based approach to community building that addresses perceived deficiencies and problems through the use of outside experts and resources, the asset-based approach genuinely empowers citizens, and strengthens government and agency effectiveness by drawing on local residents' resources, abilities and insights to solve their own challenges (Kretzmann & McKnight, 1993:6). It is an approach that regards community members as active change agents rather than passive beneficiaries or clients; it starts with what is already present within the community – not only the capacities of individuals, but also the existing commercial, associational and institutional foundations (Kretzmann & McKnight, 1993:6).

The appeal of the asset-based approach to community building is based on the premise that communities can drive the development process themselves by identifying and mobilising existing, but often unrecognised assets, and thereby responding to and creating local economic opportunities. It builds on the assets that are already found in the community and mobilises individuals, associations and institutions to unite to build on their assets, not on their needs. The asset-based community building approach develops policies and activities based on the capacities, skills, and assets of local people. It recognises the capacities of local people and their associations to build powerful communities (Patel, 2015:115).

Every community has assets in its individuals and families, local associations, local institutions of business, of non-profits and of government, as well as economic assets. Furthermore, every community has natural space and physical resources, and identifying and recognising these assets is the basis for this approach. It is when these assets are connected that their capacities become stronger. Kretzmann and McKnight (1993:8) refer to asset mapping as the documentation of all available assets in the community to discover the community's capacities and potential. The key in the process of discovering a community's assets is a system that is asset-based, internally-focused, and

relationship-driven (Kretzmann & McKnight, 1993:8). According to Kretzmann and McKnight (1993:8) the following are four basic components of the assets of a community:

- Individuals − every single person has capacities, abilities, and gifts.
- Associations − groups of citizens working together.
- Institutions − the formal representation of many associations.
- Economic assets − money generated by local and regional economic activities.

Building a stronger community is about bringing the various assets into relationship since community building is about relationships among people. The process of identifying capacities and assets, both individual and organisational, is the first step on the path towards community regeneration. It is also important to note that not all community assets are equally available for community-building purposes (Kretzmann & McKnight, 1993:9). Kretzmann and McKnight (1993:9) identify three types of accessible asset:

- *Primary building blocks*: These are the most easily accessible assets, which are those that are located in the community and controlled by those who live in the community.
- *Secondary building blocks*: They are the next most accessible assets, which are those assets that are located in the community but controlled elsewhere.
- *Potential building blocks*: They are the least accessible and are those potential building blocks located outside the community and controlled by those outside the community.

2.3.1 Implementation of the Asset-Based Community Approach.

Kretzmann and McKnight (1993) outline five basic steps that summarise the process of the asset-based community approach:

- Mapping completely the capacities and assets of individuals, citizen associations and local institutions.

- Building relationships among local assets for mutually beneficial problem-solving in the community.
- Mobilising the community's assets fully for economic development and information-sharing purposes.
- Convening as broadly representative a group as possible for the purpose of building a community's vision and plan.
- Leveraging activities, investments and resources from outside the community to support asset-based, locally-defined development.

Kretzmann and McKnight (1993:53) underscore a key point that strong communities are basically places where the capacities of local residents are identified, valued and used. As Kretzmann and McKnight (1993:53) argue, this is a result of the phenomenon that when an individual uses his or her capacity, both the person and the community become more powerful. The authors point out that personal well-being depends on whether one's capacities can be used, abilities expressed and gifts given. The same applies to the assets of associations and institutions. (Patel, 2015:150) recommends that the best way to address the challenges of any community is to assess their available resources accurately, and suggest exposing and expanding the knowledge and skills existing in the community.

The first step, therefore, is looking at the glass as half full to build the community beyond its deficiencies or needs; the community must take an inventory of all of its strengths (Kretzmann & McKnight, 1993:56). The analysis of community-based development organisations by Patel (2015:152) found their main objective was the identification of material and social assets of communities due to their significant socially empowering effects.

Once these strengths have been identified, the next step is to make connections between local capacities. In some cases, there is a natural process that will connect capacities. According to Kretzmann and McKnight (1993:64) neighbours often have a tradition of connecting through the trading of skill sets: one fixes the front step while the other watches the children. In other cases,

more active efforts are required to make a connection between the identified capacities and the individuals, groups or institutions that could use them. Faherty and Gaulton (2017:26) emphasise the importance of this step as it provides the opportunity for residents to learn the value of cooperation and civic worth. When connections are made in this way, local residents and groups are encouraged to collaborate on how to respond to relationships. This is the core of the asset-based approach in community development.

Kretzmann and McKnight (1993:82) indicate that although the building of relationships is an ongoing process, once relationships have begun to form, the next step involves beginning to mobilise the community's assets. This step involves encouraging local associations and institutions to contribute to the local economy as well as identifying the locations where public communication is likely to occur. This includes finding local leaders and gathering sites that could be validated, strengthened or expanded to increase the capacity of community exchanges. Kretzmann and McKnight (1993:82) believe that this capacity is strengthened when a community acts as a network of informal and formal associations. These relationships provide the foundation for mobilisation.

The next step is building upon the relationships, and the identification and mobilisation of assets. Specifically, it aims to assemble the community to develop a mutually held identify and commonly shared vision for the future; it asserts that the plan should be based on the assets and work to solve community problems creatively. Although the asset-based community approach is true to its belief that development must start from within, there should be no limitations to how far the developments can go. This includes using community-driven initiatives and expanding them with the support of external activities, investments and resources.

The implementation of the asset-based approach in community building must begin with a positive outlook. Depending on the community, this could present the first big challenge. The alternative capacity-focused approach to community

development provides residents with the opportunity to take ownership and celebrate their gifts. From mapping the community strengths, to building relationships and capacity comes the occasion to develop leadership skills, mobilise assets and create a shared vision (Patel, 2015:155).

Community Assets Map

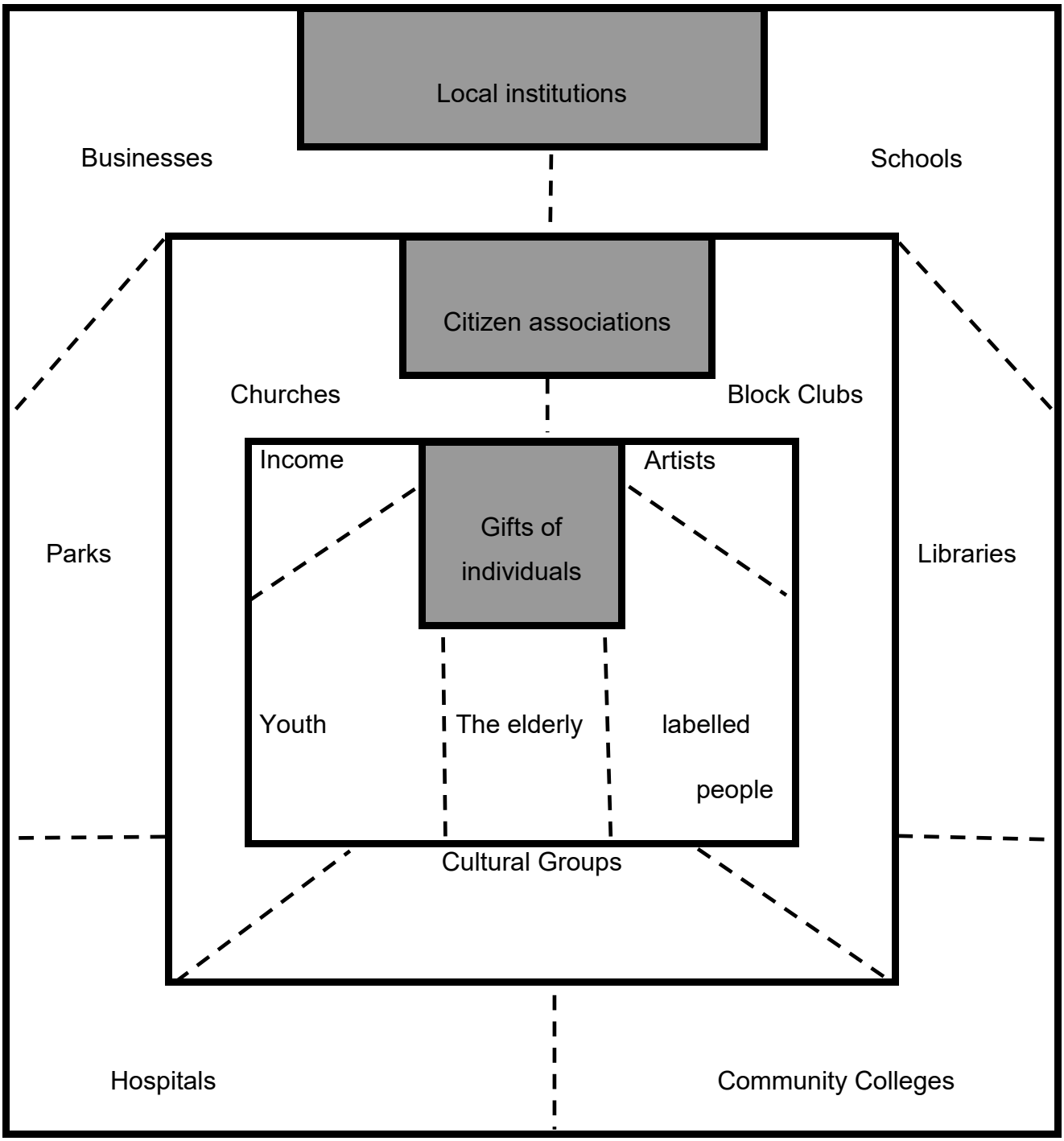

Figure 2.3 Community assets map (Adapted from Kretzmann & McKnight, 1993:7)

2.4 VISUAL IMPAIRMENT

2.4.1 Understanding visual impairment, blindness and low vision

Since this study is concerned with the visual impaired undergraduate students at a Rural-Based University in South Africa, it is imperative to examine issues related to visual impairment. In this section, issues most pertinent to visual impairment are discussed to explore the educational needs and assets of the visual impaired undergraduate students at a Rural-Based University in South Africa and it is necessary to point out that visual function is an important aspect in understanding visual impairment (Conner et al, 2016:198-207).

Visual impairment is a low incidence disability Ferrell et al (2014: 35-63) and therefore affects a relatively small proportion of the world's population. Individuals referred to as visually impaired form a diverse group of people, ranging from those who are completely blind `to those who have some vision (Ferrel et al 2014:38, World Health Organisation (WHO, 2011a:56).

A person can be considered blind if he or she cannot perceive light at all, or if he or she can perceive light but is unable to use his or her other vision in any meaningful way (Burge et al, 2016: 40). Most blind people are able to perceive light (Ferrel, 2014: 59). Indeed, Lane et al (2015:15-16) and Scholl (2009:56) estimate that as many as ninety per cent of all those persons labelled as blind have light perception, whereas only ten per cent are totally without vision.

A person with low vision is one who has difficulty accomplishing visual tasks, even with prescribed corrective lenses, but who can enhance his or her ability to accomplish these tasks with the use of compensatory visual strategies, low vision and other devices, and environmental modifications. To put it differently, a student with low vision experiences significantly greater difficulties than a student without visual impairment when performing tasks that require the use of sight. These difficulties may be slightly alleviated by the use of devices such as eye glasses or contact lenses. Given the proper modifications to the environment, good use of the student's remaining vision, and other devices such as the spectacles mentioned above, a person with low vision can perform a variety of tasks using his or her vision. This is especially true when one

considers the fact that 20/20 (visual) acuity is not needed for visual function for most tasks or for orientation and mobility in most environments (Kisanga, 2017:50).

Visually impaired people can be further categorised into two distinct groups, depending on the age of onset of the impairment. Those with congenital visual impairment are either born with the condition or acquire it early in life. Thus, they have no knowledge or recollection of normal vision. People with congenital blindness are sometimes said to have early-onset blindness. Those with adventitious or acquired visual impairment lose their sight at a later age and are therefore able to remember what it is like to have normal vision. This makes the experiences of those people with acquired visual impairment different in some ways from those of people with congenital visual impairment. It is difficult to make an accurate estimate of the prevalence of visual impairment worldwide. One reason for this is the fact that different countries use different definitions of terms such as *blindness* and *low vision*, so that there is no common understanding of the concept of visual impairment worldwide (Tomas et al, 2015:6).

2.4.2 Visual impairment and access to information

Students with visual impairment have various options to access information. These include alternatives for access to information in all formats and media, including print, digital images, and any other representations of information. Visual impairment greatly affects a student's ability to read printed material, thus reducing his or her ability to gain information and thereby making him or her more dependent on others (Wang, 2017:22). In the case of students, this impacts their ability to access educational material. Therefore, the teaching of students with visual impairment requires that they be taught how to read and write Braille as well as the use of computers to enable them to access information (Griebel, 2016:111).

For visually impaired students to be able to read, the material must be presented to them in one of two forms: auditory and tactile. Auditory media includes, among others, a friend reading printed material to a visually impaired student, a hired reader, or the use of technology, such as tape recorders,

compact disks or specialised computer software. Braille is the most common form of representing text in tactile form (Ferrel et al, 2014:61) and is the basic literacy tool for blind people (Schiro, 2015: 88).

Braille is used widely by visually impaired people as a means of accessing the written word. Visually impaired students with additional difficulties may be unable to use it efficiently and therefore a less complex system known as Moon is used for such students. Moon, unlike Braille, is based on the print alphabet and was originally invented for people who lost their sight in adulthood; some words can be represented as abbreviated forms. This kind of Braille is said to be contracted and is known as Grade 2 Braille (Bhowmicka & Hazarila, 2017:149).

Whereas a lot of research efforts have been expanded in trying to understand the spelling abilities of sighted students (Bourne & Flaxman, 2017:210), relatively little research has been directed towards understanding spelling development among visually impaired students or that compares the literacy skills of the visual impaired with that of sighted peers (Bourne & Flaxman, 2017:215). Some of the existing research about the use of Braille, literacy and spelling among visually impaired students was reviewed by Koch (2017:300), who concluded that only about nine per cent of all legally blind students in the United States of America used Braille as their principal reading method.

Large print for those with low vision, audio cassettes and other voice recording media, word processors and screen reading software are some of the other options used by the visual impaired to access information (Kija, 2017:61). This is despite the assertion that visually impaired people who use Braille achieve better educational levels, have higher employment opportunities and better financial prospects, and have higher levels of self-esteem. Reading and writing are very important functions in the modern world as they provide opportunities for social and economic development (Reece, 2017: 510). After analysing research findings concerning the literacy development of Braille users, Bourne and Flaxman (2017:300) concluded that research evidence appears to show that literacy skills of the visual impaired students are the same as those of

sighted students. Bourne and Flaxman (2017:302) reached the same conclusion in their own analysis of existing research.

Bourne and Flaxman (2017:305-310) conducted research to compare the spelling skills of 23 Braille-using students with those of their print-using peers. The conclusion of this study was that the spelling abilities of students using Braille were generally similar to those of print-using peers. In his study, however, Kisanga (2017:58) found that the Braille notes taken by students with low vision had many errors because they had to depend on their colleagues to read for them as there were practically no textbooks in Braille in the university where the study was done. In this finding Kisanga (2017:64) echoed what had been found almost two decades earlier, namely that there was a general lack of Braille texts for students using this mode. The lack of access to reading material for the visual impaired people means that they find it more difficult to develop adequate writing skills.

Although the significance of Braille as a means of accessing the written word for students with visual impairment is generally recognised, computers and assistive technologies are becoming increasingly important in helping students with visual impairment to access information (Kija, 2017:63). The use of computers and assistive technology can greatly enhance a visually impaired student's independence and improve his/her educational and employment opportunities (Bhowmicka & Hazarila, 2017:156; Kija, 2017:89). This is especially true, given that the use of information technology, including the internet, is a common phenomenon in institutions of higher learning (Bower, 2016:91).

Bhowmicka and Hazarila (207:170) mentions devices that can be used by visually impaired students to access information: Scanners for scanning printed materials such as books so that visually impaired students can access them using a computer; refreshable Braille displays that can be used instead of a computer screen; portable note-takers designed specifically for visually impaired students; screen-reading computer software that can read aloud what is displayed on a computer screen, thus enabling a student with visual impairment to use the computer and surf the internet. The high prices of these

applications, however, mean that they are beyond the reach of many people who need them. In the context of this discussion, however, technology should be considered as subsuming but not limited to computers and computer-based technologies. The simple tape recorder and cassette tape is an example of an audio tool that can be used by visually impaired students to access information (Kisanga, 2017:90).

Braille and the assistive technologies discussed above can be used both by individuals with low vision and by blind people. In a study conducted in Greece to determine the use of various kinds of reading media by university students and graduates, Kija (2017:77) found that 53,8% of the participants used Braille. Similarly, 73,1% of the participants used audio cassettes. In addition to the options discussed above, there are other means available for individuals with low vision to access information. They can benefit from using large print material, as well as low vision media (Ferrel et al, 2014: 62). Ferrel et al (2014:63) gives examples of low vision media, including hand-held and stand magnifiers; hand-held and spectacle-mounted telescopes; overhead projectors; closed-circuit televisions; appropriate lighting; colour filters; reading stands and computer packages to adapt text. For students with low vision some modifications may have to be done either to the print or to the environment he or she is working in (Kisanga, 2017:89; Bhowmicka & Hazarila, 2017:172) to use print effectively,

As most visually impaired students have functional vision, the most likely medium used will be print. The kind of print material used by the student depends on several factors, including eye condition, cognitive and conceptual functioning, age, and task being performed. Depending on these factors, the print size can be made larger or smaller, the density of the print line can be increased, the layout of the printed document can be altered, and so on (Kisanga, 2017:94; Bhowmicka & Hazarila, 2017:172).

Nisbet (2017: 266-273) suggested using assistive technologies to make printed information resources accessible to visually impaired students. Xie et al (2017:162) suggested that implementing help features in the design of a digital library environment for effective digital library interaction with visual impairment.

Sono and Ibrahim (2016:154) identified architectural barriers limited financial and human resources accessibility and utilisation of information as the primary challenges restricting effective information service delivery for the visually impaired students.

2.5 POLICIES FOR THE VISUAL IMPAIRED

South Africa has some of the most impressive policies that promote and protect the rights of the visual impaired. These are some of these policies:

2.5.1 South African Constitution (1996)

The Constitution of the Republic of South Africa (1996) states:

Everyone has the right to basic education and to further education which the state through reasonable measures must make available all forms of organised education and training that meet the basic learning needs including literacy and numeracy, as well as the general knowledge, skills, values and attitudes that they are required to survive, develop their capacities, live and work in dignity, improve the quality of their lives, make informed decisions and continue learning.

Section 29 of the Bill of Rights in the Constitution of the Republic of South Africa (1996) ensures the right to basic education, which the state must make progressively available and accessible.

It is visually impaired undergraduate students' constitutional right to receive education just like any other person in South Africa. The University should afford the visual impaired undergraduate students the right to education. They should not be denied access to education on the basis of their visual impairment.

2.5.2 National Education Policy Act (1996)

The Education Policy Act No 27 of 1996 protects the rights to basic education and in particular the rights of every person to basic education and equal access to education institutions. The right to basic education means the right to good

quality learning programmes with high quality learner support material, teaching practice and appropriate learning sites.

According to the policy, every person has the right to education, including the visual impaired undergraduate students at a Rural-Based University in South Africa. Visually impaired undergraduate students should be afforded learning support material, such as assistive devices. They should be given concessions. Their assignments and tests should be enlarged and converted to Braille Academic staff should consider the needs of visually impaired undergraduate students when planning their lectures. The university should provide equal access to education to visually impaired undergraduate students like to their normal peers.

2.5.3 South African Qualifications Act (1995)

The government established the South African Qualification Authority (SAQA) in 1995. SAQA's key functions are to develop and implement the National Qualifications Framework (NQF) that:

- created a national framework for learning achievements;
- facilitated access to and mobility and progression within education, training and career paths;
- enhanced the quality of education and training;
- accelerated the redress of past discrimination in education, training and employment opportunities; and
- contributed to the full personal development of the nation at large (Tricco, 2016:224).

The visual impaired undergraduate students at a Rural-Based University in South Africa also have the right to quality of education and training so that their qualifications should be accredited with the South African Qualifications Authority (SAQA). It is the responsibility of the university to afford visually impaired undergraduate students with quality education and training. This can be done if the university adopts the principle of Inclusive Education. The university should consider visually impaired students when preparing the budget to accommodate them in the budget.

2.5.4 National Skills Development Act (1998)

The National Skills Development Act (1998) emphasises Government's commitment to promoting overall human resource development, which includes education reforms. The Act stipulates that, for South Africans to participate meaningfully in the country's economic and social development as well as in their own advancement, they must have competencies, including the ability to read, write, communicate efficiently and solve problems in their homes and workplace.

The Government should provide universities with enough funds to be able to implement Inclusive Education. Visually impaired undergraduate students need resources to be able to learn successfully. They should be supplied with resources such as assistive devices. It is Government's responsibility to afford visually impaired undergraduate students' skills so that they are able to solve problems on their own.

2.6 THE HIGHER EDUCATION SYSTEM

The National Plan for Higher Education in South Africa (Ministry of Education, February 2001) committed higher education institutions to increasing the access of students with special education needs. Therefore, the Ministry of Education expects institutions to indicate in their institutional plans the strategies and steps they intend taking to increase the enrolment of students with special needs. They should also indicate how they are going to accommodate and support these students. This section discusses themes that have major implications for inclusive curriculum practices in Higher Education institutions in South Africa.

2.6.1 Massification of Higher Education

Starting from the 1980s there has been a huge expansion of Higher Education that manifested in a rapid increase in the number of students joining Higher Education and in the establishment of new universities (Gaby, 2017:923). It was reported that the increase in student population at universities has been particularly intense since the turn of the century, with 51,7 million new enrolments, including visually impaired students around the world in just seven

years. This trend in Higher Education expansion is highly evident in the South African situation as well. The number of students enrolled in undergraduate programmes, including the visual impaired students increased. However, these developments have serious implications for the quality of education and the provision for students with disabilities.

The inclusion of visually impaired students in Higher Education has been facilitated by regulatory policy documents, inclusive physical and social environment, innovative technologies, inclusive program design and delivery, and a shared belief among students with special needs regarding the positive influence of higher Education in their future employment and well-being (Majoko, 2018: 1-17). Study shows that the visually impaired students face many barriers to higher education and this poses various challenges for the future, both for students and academic staff (Mutanga & Walker, 2015:501-517).

2.6.2 Addressing students' diversity in Higher Education

With the massification of Higher Education, the composition of students who are entering universities, including students who are visually impaired is becoming increasingly diverse. These diverse students may come to the university, as Kuh et al (2017:8) notes, *"*with different levels of preparation for traditional styles of university study, they may have different expectations and concerns, ask different questions, bring different perspectives and experiences to the classroom and respond differently to classroom activities*".* This diversity and these differences, although a big challenge to the academic staff, should not be considered a problem. Rather, creating an inclusive classroom atmosphere should enrich the learning experiences of all students. The development of a student responsive curriculum encourages a closer engagement between the students and their university's experience in instruction and learning. Kuh et al (2017:11) identified the following strategies with which curriculum could develop in response to students' needs:

- The introduction of alternative instruction, learning and assessment approaches.

- The development of more relevant curricular content and tasks to make them better related to student lives and future plans.
- The integration of study skills into the core instruction and learning.

These strategies, if properly implemented, are effective mechanisms to help all learners at universities, in all situations, including those who are visually impaired, to be successful in their learning.

2.6.3 The role of Information Communications Technology for visually impaired undergraduate students

Information Communications Technology (ICT) helps to expand access and improve the quality of instruction and learning. The increasing role of ICT in university curricula has positive implications for the participation of visually impaired undergraduate students in the instructional process. If proper consideration is made by universities, ICT can be a useful resource to provide proper accommodation for the needs of visually impaired undergraduate students (Rayini, 2017:98).

Koch (2017:88) lists some ways in which technology can be beneficial to visually impaired undergraduate students. These include maximising their independence in completing academic tasks, participating in the classroom, gaining access to the full range of educational options, succeeding in work-based learning experiences, mastering academic tasks that they cannot master otherwise, and entering high-tech career fields. Oira (2016:213) explain that ICT can enhance the learning of visually impaired undergraduate students by reducing barriers resulting from the physical environment as well as the teaching strategies utilised by supporting independent learning, facilitating communication with their instructors and peers, and helping with the flexibility of assessment mechanisms.

Visually impaired students use a combination of ICT to enhance their learning experience. Most participants carry their laptops and smartphones and in some cases tablets to their lecture theatres. They download and access via Blackboard the PowerPoint file of the lecture slides. Occasionally they use the computer labs provided by the university when they needed to do some printing.

Depending on the personal vision needs they enlarge the content of the PowerPoint on their devises while following the presentation of the lecturers (Gurung & Rutledge, 2014: 91-100).

2.6.4 Assessing student learning

Assessment of student learning is important; it informs students about what they should emphasise to be successful in their studies and serves as a basis for feedback (O'Donnel, 2015:256, Bourke,2016:97). Kuh et al (2017:14) points out that assessment is a significant lever for change and improvement in students' learning experiences in higher education. Despite this, many educators, including McNair (2017:100) and Bourke (2016:220) claim that assessment of students in Higher Education has been treated as an additional task, separate from the curriculum design process. It is considered only after decisions have been made on the selection and organisation of curriculum content and learning experience. Assessment should be an integral part of the curriculum design process. Bourke (2016:225) argues that, once what students should have learned at the end of a certain course, programme or unit has been decided, the next concomitant question that should be asked is how to determine whether students have actually learned the material.

Andrade and Brookhart (2016:293) stress the importance of formative assessment and feedback for students' self-regulated learning and claim that the changes in formative assessment and feedback are too slow in relation to the shift in the conceptions of instruction and learning. The right students are not given enough responsibility in the assessment processes as compared to other aspects of instruction and learning. Kuh et al (2017:16) discusses the new situation, calling for a change in the assessment practices of higher education. The new situation can be summarised as follows:

- The increased student population in higher education has created pressure for cost effective assessment.
- The increasing diversity of the student population has forced universities to reassess accepted ideas about what can be expected from students and to provide greater support for students from diverse backgrounds to achieve assessment standards.

- Demand from stakeholders that education be relevant to working life and for universities to produce work-ready graduates have contributed to a focus on assessment of generic skills as well as disciplinary content and greater attention to authentic assessment.

Bourke (2016:297) claims that assessment is the most controversial issue in today's Higher Education. It is reported to be the area in which educators have the most divided opinions and the area with which students are least satisfied. This is especially true with regard to students with disabilities who have expressed their dissatisfaction in different research studies. Some of the problems that students with disabilities face in current assessment practices are caused by the environment where the assessment takes place, the modes of assessment used, and terminal, written, once-off, summative examination (Tinklin, 2015:267). Many assessment practices are reported to have focused on measuring what students have learned rather than on improving their learning.

It is believed that assessment and feedback are key instruments for enhancing student learning. In this regard, Hawe (2014:210) argues that the way students experience and approach assessment may negatively or positively influence their learning outcomes. Therefore, if assessment is to play this role effectively, there is a need for making changes in the way students are assessed. Hawe (2014:216) suggests a move towards a participatory form of assessment where learners are involved and share a responsibility in the assessment process. This is important in that it provides students an opportunity to get learning experiences that ultimately will help them to be employees who are intellectually confident and able to take responsibility for their personal development of knowledge and skills.

2.6.5 Professional development of academic staff in Higher Education

It is widely believed that at any level of education the role of academic staff in facilitating student learning is important. Teaching needs to respond to widening student diversity, including students with different types of impairment as well as to prepare students for the world of work. In this changing and complex environment, therefore, the professional development of academic staff is

becoming vital throughout the world. A report written in the early 1990s about British Higher Education (Bourke, 2016:300) emphasised the necessity of developing the professional competence of academic staff as follows:

University academic staff have not been trained as teachers. Hence, they tend to teach in a manner similar to that in which they were taught − a very conservative process. Training is therefore needed not only to improve academic staff's current performance, but to enable them to respond to changing circumstances, which will require of them substantial changes in role.

The responsibility of academic staff is further complicated by their role of meeting the learning needs of students with disabilities. If students with disabilities are to participate fully in the instruction and learning processes, academic staff members need to have an understanding of the needs of students with different disabilities and gain the skills to facilitate the learning needs of such students. There are different strategies that universities could use to develop the professional capacity of their academic staff, including peer review, induction, monitoring and offering specialised courses. Academic staff can also develop professionally through less formal strategies such as professional working with one another, talking to one another and investigating their own work (Linder & Felten, 2015:2).

Academic staff should be armed with the knowledge and skills they need to implement in teaching the visually impaired students. Adequate training, adequate support and resources as essential tools to support the academic staff to implement inclusive education (Fakolade et al, 2017:155-169). There should be training workshops intended for the academic staff where they could share their experiences and receive support with diverse students (Danohue & Bornman, 2014:14).

2.7 INCLUSIVE EDUCATION

The successful education of students with and without special educational needs, including disabilities, in the same environment will depend on the adoption and implementation of inclusive practices in education. It is, therefore, imperative to discuss the concept of Inclusive Education.

Inclusive Education is part of the wider philosophy of inclusion (Hardy & Woodcock, 2015:141). Inclusion started gaining ground as part of the wider movement towards increased human rights and democracy (Cologen, 2016:84). In the words of Nel (2015:110), inclusion involves an approach to society concerned with increasing the participation of all and reducing all forms of discrimination and exclusions. The spirit of inclusion is also reflected in such seminal United Nations declarations as the United Nations Declaration on Human Rights (1948), the United Nations Convention on the Rights of the Child (1989), the Standard Rules on the Equalisation of Opportunities for Persons with Disabilities (1994), and UNESCO's Salamanca Statement on Inclusive Education (1994) (Cologon, 2016:88).

The Salamanca Statement emphasises, inter alia, the right of all students, including those with special needs, for educational adjustment for them to attend school, the right of all children to attend school in their home communities in inclusive classes and to receive a child-centred education meeting individual needs, and the belief that Inclusive Education would ultimately lead to inclusive societies (Nilholm, 2017:30).

The latest and perhaps most important document on the rights of people with disabilities to education in an inclusive setting, according to the UNESCO (2017:260), is the United Nations Convention on the Rights of Persons with Disabilities (CRPD) (2014:98). The CRPD's Article 24 binds signatories to, among other things, promote Inclusive Education at all levels and ensure that persons with disabilities are not excluded from the general education system on the basis of their disability; provide reasonable accommodation, meeting individual needs; facilitate the learning of Braille and sign language; ensure that education for blind, deaf and deaf blind individuals is provided in the most appropriate language and mode; ensure that persons with disabilities have equal access to general tertiary education without discrimination (Hughes, 2015:119).

Inclusion is based on the premise that everyone, even though they may be different from the majority, belongs to the same community. It results from a realisation that, "We have been created equal though different. No matter

gender, looks, ability, health or function, we have been created into one society. A normal society is characterised by its multiplicity and diversity not by sameness" (Kisanga, 2017:114). Inclusion, therefore, stems from an appreciation of differences between people and the understanding that these differences should be accommodated, that they should be a source of unity and not disunity, that diversity should be celebrated and not viewed as an obstacle. It thus advocates the inclusion into society of groups of people who have previously been excluded on the basis of such differences as gender, race, religious beliefs, and ability (Boroson, 2017:18). Consequently, inclusive practices promote inclusion as opposed to exclusion.

Boroson (2017:19) view Inclusive Education as a process that should lead to the integration of people and groups marginalised on the basis of religion, race, ethnicity, gender, ability, social background, culture, language, class, and so on into the mainstream education system. It involves a wide range of practices aimed at ensuring access to education by sections of the population whose ability to access education would otherwise be jeopardised. Inclusive Education should prepare individuals to be active participants in all aspects of life in their communities, be they political, social, or educational. This gives a holistic view of Inclusive Education, where it is viewed in wider terms than just an educational process that occurs at universities and involving only students with disabilities, and which has no relationship to the broader society in which it occurs. Training should be provided to lecturers to equip them with special skills in teaching visually impaired students (Lalvani, 2015:86).

2.8 ACCESSIBILITY OF THE CURRICULUM TO VISUALLY IMPAIRED UNDERGRADUATE STUDENTS

For Inclusive Education to be a reality, curriculum is the central focus where appropriate interventions should be made. In any academic discourse related to Inclusive Education, there will be discussions on curriculum policies and practices. In this section, curriculum accommodation for the visual impaired undergraduate students is reviewed.

2.8.1 Curriculum accommodation for visually impaired undergraduate students at universities

Ensuring the accessibility of the curriculum requires an understanding of learner needs in implementing all adjustments in the curriculum as to address those needs, to make the curriculum on any educational level accessible to visually impaired undergraduate students. The academic staff members are required to design and implement instruction and learning methods and materials appropriate for diverse students in the classroom (Ferrell et al, 2014:58). An inclusive curriculum requires of academics who differentiate their instruction in a way that all students, including those with disabilities, will have multiple options for obtaining and processing information. Differentiated instruction requires instructors to use flexible approaches of instruction and learning and adjust their presentation styles in accordance with the needs of students, rather than the students adapting themselves to the curriculum.

According to Ferrell et al (2014:60) and Bake and Scanion (2016:108) different strategies can be used by academic staff to make the teaching process accessible to visually impaired undergraduate students. The following are some of these strategies:

- Making sure that what is visually displayed is verbally explained.
- Providing students in advance with a printed outline of what is going to be presented.
- Allowing students to take notes on their Braille, electronic Braille note-taker, computer or use a cassette recorder.
- Making students touch tactile items being presented, either during or before presentations.
- Providing Braille text for all materials that visually impaired undergraduate students need.
- Making sure that all directions are clearly communicated to visually impaired undergraduate students.

Tiwari and Sharma (2015:136) provide the following guidelines for adapting teaching strategies and the learning environment for visually impaired students:

- Provide material of a lecture or tutorial in advance in the student's preferred format.
- Encourage visually impaired undergraduate students to use paper or pen substitutes, such as tape recorders or laptops during lectures.
- Give thought to verbal and non-verbal communication, trying to eliminate background noise, speaking clearly, and avoiding inaccessible gestures such as a nod of the head and expression such as, *it is over there*.
- Allow examinations especially for the visual impaired, and give such students additional time, if required, for assignments.
- Substitute courses that do not pose disability-related barriers.

These strategies and guidelines are crucial in the effective implementation of Inclusive Education at universities. Therefore, the current research explores the needs and assets of the visual impaired undergraduate students at a Rural-Based University in South Africa. Providing assistive technology to visually impaired students will make the curriculum more accessible. Assistive technology refers to a range of equipment that enables students with disabilities to interact with information. WHO (2016:88), and Koch (2017:86) provide suggestions for the types of assistive technology that can be used in relation to the visual impaired students. They include the following:

- **Screen reader software:** This software helps visually impaired students to access information displayed on the computer screens by speaking aloud through computer screens.
- **Scanners:** Software that helps to change printed text into digital text so that it can be read by a screen reader.
- **Braille display:** This is a lightweight electromechanical device that is attached to a keyboard of a standard computer that presents the information as Braille on a computer.
- **Braille note-takers:** These are portable devices through which text can be entered, edited and read back via speech or Braille and printed on Braille and on ink.

It can be concluded that for visually impaired undergraduate students to engage fully in the instruction and learning process, they require the following:

- Flexible instruction and learning
- Appropriate seating arrangements
- Adaptations to university policies and procedures
- Provision of tactile or kinaesthetic materials
- Time allowance
- Alternative assessments

For all these accommodations to be realised at universities, it is necessary that all concerned bodies have the awareness and commitment to address the rights of visually impaired undergraduate students. It is also important to understand that it is the full right of visually impaired undergraduate students to get the same quality education as that of their sighted peers.

2.9 LEARNING EXPERIENCES OF VISUALLY IMPAIRED UNDERGRADUATE STUDENTS AT UNIVERSITIES

In this brief review of related literature, research outputs in the area will be examined at an international level, followed by an examination of research conducted in Africa.

2.9.1 Global perspectives on visually impaired undergraduate students

Visually impaired undergraduate students at universities have a variety of experiences in the instruction and learning processes. According to Datta and Palmar (2015:74) some encounter significant barriers, others are not aware of any, some find support they receive highly praiseworthy, others find it does not meet their needs. There are differences between visually impaired student experiences in different institutions because of the differences in the level of provision and support these students get in their respective universities.

Collin (2015:29) produced a research report on students who are visually impaired at United Kingdom (UK) universities. The research reported on visually impaired undergraduate student experiences regarding departmental provision, accessibility of the library, examination arrangements and support they get from academic staff. In general, students in this study related both positive and negative experiences. The negative experiences reported were

related to a limited understanding of the needs of these students and a lack of effective support systems at departmental level. The research further found that the support departments were providing to visually impaired undergraduate students tended to be based on the perception that disability is an individual problem and hence requires an individualised response.

Visually impaired undergraduate students are provided with Visual Impairment Service Support. It advises the University about the educational implication of eye conditions; offers appropriate instruction and learning material; provides equipment and assistive technology and access to curriculum. The University has a Disability Centre that makes special arrangements for examinations and assignments.

A similar study conducted in England and Scotland (Scottish Sensory Centre, 2015:17) underscores the same findings, declaring that the emphasis in the provision for visually impaired undergraduate students remains too much on providing them with individual support to get around institutional barriers, rather than on more fundamental institutional change. This situation led Collini (2015:33) to conclude that it was the practice arising from the medical model that prevailed and determined student experience. Thus, in spite of the fact that the social model has gained acceptance as a policy in countries all over the world, the legacy of the medical model seems to influence the practice at universities.

A review of existing literature from the United States of America suggest that attitudes of the academic staff towards the visually impaired students seem to be influenced by the severity of disability and the lack of facilities to support inclusion (Bailey et al, 2015:99). Generally, the academic staff find it difficult to meet the needs of the visually impaired students (Avramidis et al, 2015:84).

Chimwaza (2015:214) report that academic staff members across different departments differ in their willingness to adjust their teaching to meet student needs. Their study indicates that visually impaired students are provided with new technologies; there are independent funders that provide financial assistance to visually impaired students; there are special mobility training and rehabilitation services. A number of charities provide mobility and training to

support visually impaired students to get out of their rooms and access the campus and engage with the community. There is a Disability Unit at the university that supports visually impaired students.

A study conducted in Ireland by Cullen et al (2015:100) draws the similar conclusion that support to students who are visually impaired is generally conceived as the provision of assistive technology. Visually impaired undergraduate students have described the difficulty they have in using such resources, claiming that they are given little support and training on how to use the materials (Tinklin, 2014:215). With regard to visually impaired students' relations with academic staff members, research findings show that in general the academic staff are reported to be sympathetic and supportive, except in situations where they have little awareness or specific knowledge of the disability and available support. The negative experiences of visually impaired undergraduate students resulting from academic staff's lack of awareness are also reported in research conducted by Datta (2015:84)) who point out that visually impaired students have major problems to inform the academic staff about their impairment and their need for reasonable adjustments in the instructional process.

Another study conducted by Scottish Sensory Centre (2015:20) on eight British universities indicates that from the perspective of the disability officers, the difficulty in influencing the academic staff to make all necessary accommodations is the cause of the problem; academic staff members consider such an order, coming from the support staff, as an intrusion into their exclusive domain. In general, little awareness among academic staff members of their responsibilities for the learning of all students and limited knowledge of how to accommodate the visual impaired is the cause of the problem. The study discovered that visually impaired students did not receive learning materials in an appropriate format. In a follow-up interview, one of the research participants expressed his frustration in the following way:

I found everything has been done in PowerPoint; you probably know I am blind, and that isn't a problem in itself but you find the handouts are condensed onto six slides on one page of A4 so I couldn't even scan them because the scanner

can't cope with that to get into a text format. All these are very simple things that if I would have sat down with the lecturer beforehand, and said what do you do? How do I present it? Half an hour or hour's chat would have made a massive difference.

There is a Disability Centre at the university that provides assistive technology to visually impaired students. The academic staff are provided with training to deal with the needs of these students. The government provides disability grants, student fees and research grants. There is an endowment fund in the form of charitable trust that is retained for the benefit of the university.

2.9.2 African perspectives on visually impaired undergraduate students

In a study by Otukile et al (2016:169) conducted in Botswana, visually impaired undergraduate students said that their lecturers were not ready to accommodate their needs. One student, for example, reported:

When I told one of my lecturers that I can't see, he did not understand what I was talking about. He did not pay any attention to my concern and continued to teach the same way that he was teaching for the entire semester. I find it very difficult to keep up with the pace. It took me long time to adjust with the pace of learning in this university. I came from a senior secondary school where people knew how to deal with people like me who have a visual problem. The students also voiced the difficulties they face as a result of the absence or shortage of available curricular materials such as Braille.

In the words of one student (Mutanga, 2017:154) the unavailability of Braille material puts the visual impaired students at a disadvantage. She said, “In an academic institution, you cannot have people read for you. How many times was I late with assignments, not because I am visually impaired, but because there is no material? More needs to be done to increase access*".*

According to research conducted by Chikwature and Oyedele (2016:11) in Zimbabwe, there is shortage of equipment and materials such as Perkins Braille machines, tape recorders, and textbooks in Braille at universities. The majority of the academic staff members have had no formal training in handling mobility problems, as information of changes in the environment, like digging of

trenches is not communicated to them. Cars also park in undesignated areas; obstacles on the visual impaired' s path and open doors in corridors present everyday challenges to their mobility − hence the need for able-bodied student sensitisation programmes. Visually impaired undergraduate students also have a challenge accessing communication displayed in print on notice boards. All visually impaired students expressed a lack of adequate sporting facilities, equipment and trained manpower. Games are limited to athletics, goal ball, soccer and chess. The centre has a library even if it does not have enough resources.

A study conducted by Otyola et al (2017:75) on the use of Web-Technologies for visually impaired students in Nigerian universities revealed that these students have low access to assistive technology devices, such as screen reader software and other refreshable Braille displays that enable those with severe visual impairment to access the internet. This finding confirms the results of previous studies by Fakoya (2015:223) that visually impaired students may not have full access to internet facilities and therefore may not benefit maximally from internet services. It was also noted that most web pages are graphically oriented and these pose difficulties to the students.

Other impediments to the use of internet by the visual impaired students are constant power outages as well as a lack of specialised academic staff who have knowledge of software and who can train the students. There are also inadequately trained support staff in cyber cafes. Operating such a complex would be difficult for people who are technologically frail. It becomes more difficult because the computing environment is complex and using the software is equally complex. There is a Disability Centre at the campus that serves as a support system for the visual impaired students. The centre has a library with inadequate resources. The library staff are trained in providing information to visually impaired students.

A study carried out by Kaijange (2016:30) at the University of Dar es Salaam in Tanzania, *the accomplishments and challenges facing the visual impaired undergraduate students at the University of Dar es Salaam* revealed that the visual impaired undergraduate students did not have books in Braille. They

depended on readers who read for them since the library did not have books in Braille. The study also revealed that a negative attitude to disability is still evident. For example, one visually impaired undergraduate student narrated how he was taken for a beggar and sent away before he even opened his mouth to say what he wanted when he went to see his professor about the academic problem. The student said the following:

One morning I went to my professor's office because I had an academic problem. I knocked at the door and he told me come in, when he saw that I am visually impaired his face changed and said, "Sorry I have nothing to give you today. Can you get out because I am busy, please"? I took some time to let him know that I was his student and that I needed some academic help and I was not there to beg. Only after that did the professor listen to me" (Koch, 2017:13).

Another study carried out by Matonya (2016:30) at the University of Dar es Salaam in Tanzania on *Assessment of library and information services for visually impaired undergraduate student's* highlights that visually impaired students fail to gain maximum access to and use of the available services. It was also revealed there is a lack of properly trained staff who may be in a position not only to consider and understand people with visual impairments and their information needs but who may be able to provide them with quality service. There is an organisation called The Tanzanian League for the Blind that supports the academic needs of visually impaired students. There is a Disability Unit for the visual impaired students. The library is available and it accommodates the needs of the visual impaired students. The students are provided with assistive devices that are sponsored by Non-Governmental Organisations and the private sector.

It appears most studies into attitudes to inclusive education in Ghana failed to consider the perception of students without disabilities, visually impaired students and academic staff simultaneously (Kuyini et al, 2016:210). In Ethiopia the visually impaired students are supported. However, lack of adequate training and resources pose a challenge to the visually impaired students (Franck & Joshi, 2017:167).

A study conducted by Seyama et al (2014:80) on *Information seeking of students with visual impairments at the University of KwaZulu-Natal in South Africa* revealed barriers to the use of services provided by the university's library. Visually impaired students indicated that access to information was a problem. The students mentioned that if a partially sighted user needed to consult an information source, such as a book from the library, he or she would need help to get the book off the shelf and then use it. The book then had to be scanned, edited and then emailed to the student to access it through Job Access with Speech (JAWS). When addressing the problem of accessing information, in the respondent's words "accessing information was a nightmare". One added that *"*everywhere where information is involved is a barrier*".* A consequence to this was not being able to read the information item immediately, which had a serious limiting factor on their learning activities.

Seyama et al (2014:86) indicates that on trying to identify barriers to the provision of the Disability Unit, the response from the Disability Unit was that the primary barrier was the assumption that the Disability Unit was the sole agent responsible for services provided to students with disabilities, whereas all faculties and schools should be taking responsibility to support them. Appiah (2017:281) gathered evidence from South African reports that students who are visually impaired at universities are denied access to certain courses if those courses involve practical activities. It has been revealed in South Africa that the lack of needed resources and proper management questions the implementation of inclusive education (Mphongoshe et al, 2015:66-71)

2.10 CONCLUSION

This chapter outlines the literature review on major issues under investigation, underscoring the educational needs and assets of the visual impaired undergraduate students at a Rural-Based University in South Africa. On the basis of the reviewed literature, the following ideas can be forwarded as the conclusion to the review.

Literature has revealed that massification of Higher Education, caused by the vast expansion of Higher Education institutions and the massive enrolment of students, have been two of the phenomenal developments in Higher Education

in the past two decades. Although this development has provided students with disabilities a better opportunity to enter Higher Education, the quality of education received by visually impaired students is at risk.

The chapter indicates that although Inclusive Education, endorsed by UNESCO, has received widespread acceptance as a policy base, in practice much remains to be realised. The problems students with disabilities face in Higher Education Institutions can be generalised as curriculum inaccessibility, poor provision of facilities and poor attitude and skills of academic staff. The overall situation with disabilities across all institutions and countries shows some similarities, although there are also differences in terms of what students with disabilities experience from country to country, and institution to institution.

CHAPTER 3

RESEARCH METHODOLOGY

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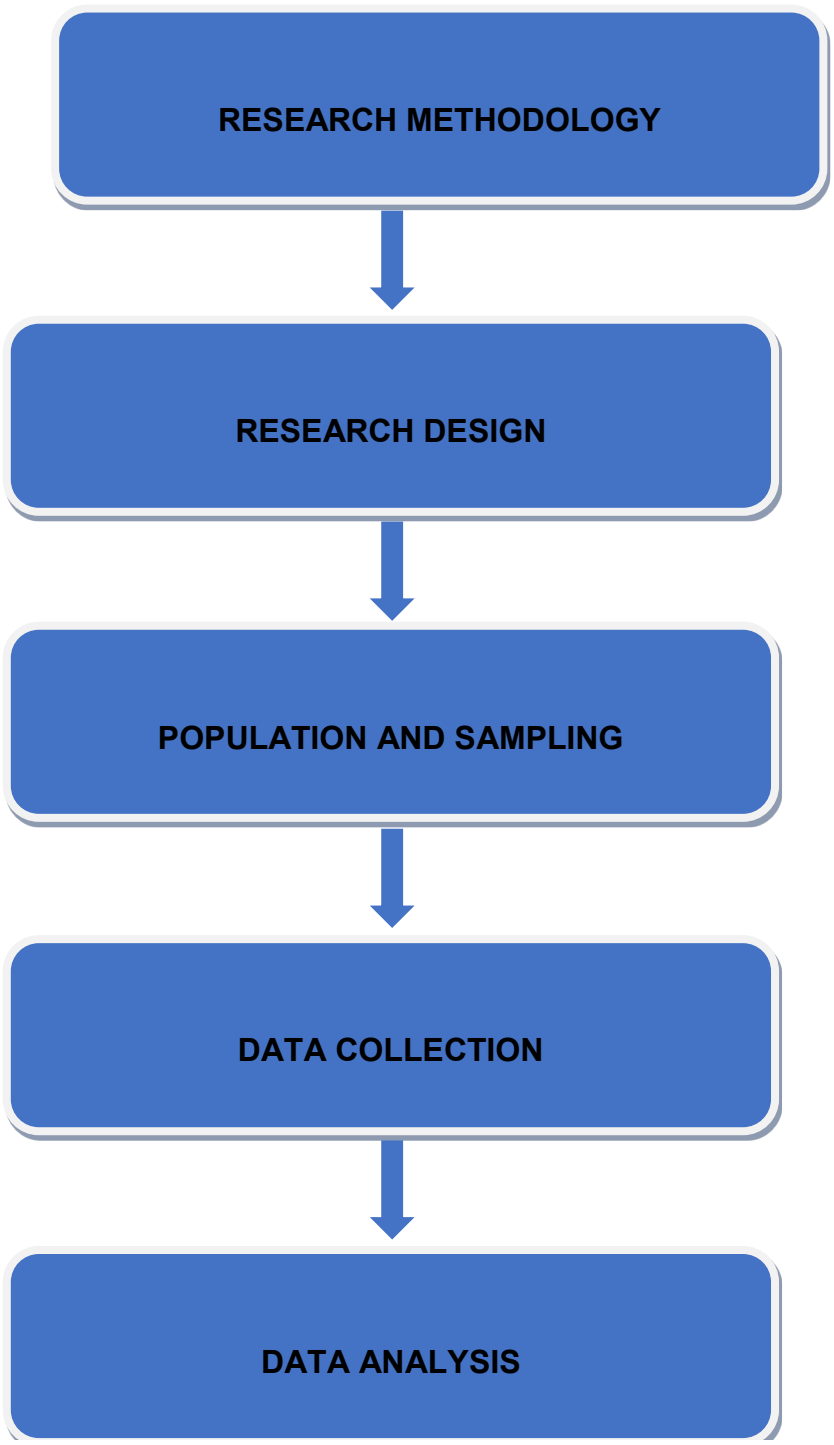

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Figure 3.1. Diagram of the methodological design

3.1 INTRODUCTION

This chapter describes the research methodology, which includes the research design, population and sampling, data collection and data analysis.

3.2 RESEARCH DESIGN

The study is aligned with an interpretive paradigm; as such a qualitative research approach was adopted through the use of a case study design. Interpretivism is concerned with construction of reality by the individuals who participate in it (McMillian & Schumacher, 2014:26). The researcher interacted with the participants directly in their natural settings, and dealt with data in the form of words. Data was analysed inductively through the process of coding and categorisation (Ary et al, 2014:451). The use of qualitative research in this study provided the in-depth and detailed understanding of the educational needs and assets of the visual impaired undergraduate students at the University of Limpopo. It allowed for the probing of issues that lie beneath the surface of presenting behaviours and actions (Cohen, Manion & Morrison, 2018:14). As such the use of a qualitative research approach enabled the researcher to understand the phenomenon under study and interpret the meaning that the participants assigned to it (Creswell, 2014:77).

A qualitative case study design was used to understand the educational needs and assets of the target students at the University of Limpopo. Since a case study design affords an opportunity of examining a phenomenon in its real-life context, the researcher understood the meaning of the phenomenon under study to explore the educational needs and assets of the target students at the University of Limpopo (Johnson & Christensen, 2017:418). The researcher interacted with the target students to understand the challenges that they grapple with, as well as the talents, knowledge and skills they possess (Johnson & Christensen, 2017:420).

3.3 POPULATION AND SAMPLING

The study was conducted at the University of Limpopo. This university is situated in Limpopo Province in a township called Turfloop, about 40 kilometres east of the city of Polokwane. The University of Limpopo was formed in 2005

by the merger between the University of the North and the Medical University of South Africa (MEDUNSA). In 2015 the MEDUNSA campus split and became the Sefako Makgatho Health Sciences University. The University of Limpopo comprises the following four faculties: Humanities, Management and Law, Science and Agriculture, and Health Sciences. Information rich participants were sampled purposively (Johnson & Christensen 2017:340). The process of gaining access to the research participants was as follows: The researcher wrote a letter to Turfloop Ethics Research Committee to request for authorisation to conduct research at the University with research participants. The Ethics Committee issued a Clearance Certificate giving permission to conduct research. Request to conduct research was also sent to the Director at Reakgona Disability Centre to conduct a research at the Centre. Permission was granted and four visually impaired undergraduate students were invited and given consent forms.

The study sample was composed of four visually impaired undergraduate students from the Faculties of Humanities, Management and Law, and Science and Agriculture; and four academic staff members who teach the sampled visually impaired undergraduate students, and the Director of Reakgona Disability Centre. The sampled students shared their educational challenges, abilities, talents and strengths. The academic staff also shared their experiences in teaching visually impaired undergraduate students. The Director of Reakgona Disability Centre shared his experience of the educational needs and assets of the target students from a managerial point of view. The total study sample consisted of nine participants.

3.3.1 PROFILE OF PARTICIPANTS

Table 4.1. Profile of visually impaired undergraduate students

Codes for the visual impaired undergraduate students	**Type of visual impairment**	**Gender**	**Age**	**Ethnicity**	**Faculty**	**Year of study**
P1	Totally blind	Female	19	Black	Management and Law	Second year
P2	Totally blind	Female	18	Black	Humanities	First year
P3	Totally blind	Male	20	Black	Science and Agriculture	Second year
P4	Partially blind	Male	19	Black	Management and Law	Second year

Table 4.2. Profile of academic staff members

Codes for the academic staff member	**Faculty**	**Number of years being a lecturer**
P5	Humanities	10 years
P6	Science and Agriculture	6 years
P7	Management and Law	8 years
P8	Management and Law	15 years

Table 4.3. Profile of the Director at Reakgona Disability Centre

Code	**Experience in managing at Reakgona Disability Centre**
P9	7 years

3.4 DATA COLLECTION

Data collection techniques were triangulated in order to seek convergence and corroboration of the results from data collection techniques (Johnson & Christensen, 2017:340). The following data collection techniques were employed in order to enhance the richness and quality of the research findings

- *Phase 1: Document analysis*

Documents such as students' portfolios, tests and examination scripts, attendance registers, timetables and academic reports were collected and analysed. The documents were provided by the academic staff from the four faculties. The information obtained was recorded in the researcher's field notes.

The researcher gained clear knowledge in terms of the challenges, abilities and strengths of the visually impaired undergraduate students at the University of Limpopo (Johnson & Christensen, 2017:340).

- *Phase 2: Semi-structured interviews*

The researcher conducted semi-structured interviews in October 2017 with the four sampled visually impaired undergraduate students, the Director from Reakgona Disability Centre and four academic staff from the University of Limpopo. Semi-structured interviews were vital as they allowed for probing and clarification on answers (Cresswell, 2014: 79). This involved questions that required more thought and more than a simple one-word answer that were not many, and aimed to prompt the perspectives of and ideas from the participants (Moser & Korstjen, :2017:271). The interviews enabled the researcher to understand the participants' sentiments, thoughts and intentions regarding the educational needs and assets of the visual impaired undergraduate students at the University of Limpopo.

The interviews afforded the participants an opportunity to narrate in detail. This was an advantage of accessing first-hand information because it offered the researcher direct contact with the participants (Ary et al, 2014:524). To comprehend how the participants were making sense of the situation, the researcher recorded what took place in the situation regarding the educational needs and assets of visually impaired undergraduate students at the University of Limpopo (Moser & Korstjens, 2017:279).

- *Phase 3: Observations*

Observation was the last technique employed to gather data. The data obtained through observations helped the researcher to support facts accessed during the interviews and document analysis (Ary et al, 2014:236).

Observation data from the visually impaired undergraduate students and the Director was collected at Reakgona Disability Centre, for the academic staff it was collected at their offices. Observation data was also collected in the classrooms and at the library at Reakgona Disability Centre. Data was collected for four weeks. Observation schedule was followed. Aspects observed included

instruction and learning methods, learning resources for the target students, support from academic staff, use of the library and peer support. Observer field notes were kept (McMillian & Schumacher, 2014:377).

3.5 DATA ANALYSIS

Inductive analysis was used to synthesise and make meaning from the data collected (Johnson & Christensen, 2017:342). Data was analysed separately in accordance with the data collection techniques. Individual opinions were later compared and integrated to form one research report to ensure the trustworthiness of the research results. Data collected from document analysis was analysed through content analysis. Content analysis involves the subjective interpretation of the content of the text data. This was achieved via the systematic classification process of coding and identifying themes from semi-structured interviews and relating them to the documents analysed and the observations. The process of data analysis was continuous throughout the research process to avoid losing meaning and focus (McMillian & Schumacher, 2014:399).

The data from semi-structured interviews was transcribed and read carefully and coded into themes and sub-themes (Ary et al. 2014:560). Data analysis involved the transcription and categorising of the audio-recorded data. The aim was to explore the various elements of data through an inspection of the relationships between concepts, to see whether there were any patterns or trends that could be identified to establish the themes (McMillian & Schuimacher, 2014:400). The categories of themes and sub-themes, spontaneously presented by the participants, were fully considered. They were analysed and interpreted in the context of the research questions and the assumptions about the educational needs and assets of visually impaired undergraduate students as laid out in Chapter 2. Questions in the interview guide were structured in alignment with the thematic and relevant information around the problem statement and related assumptions, making it easier for such themes to be identified.

Data obtained from the observations was analysed inductively, where field notes were coded into main themes and sub-themes. The analysis involved

verifying and confirming the educational needs and assets of the visual impaired undergraduate students at the University of Limpopo against the responses from the participants and document analysis.

3.6 CONCLUSION

This chapter presents the methodology that was used to identify the educational needs and assets of the visual impaired undergraduate students at the University of Limpopo. The chapter details the techniques that were used to gather data as well as the manner in which it was analysed.

CHAPTER 4

FINDINGS OF THE STUDY

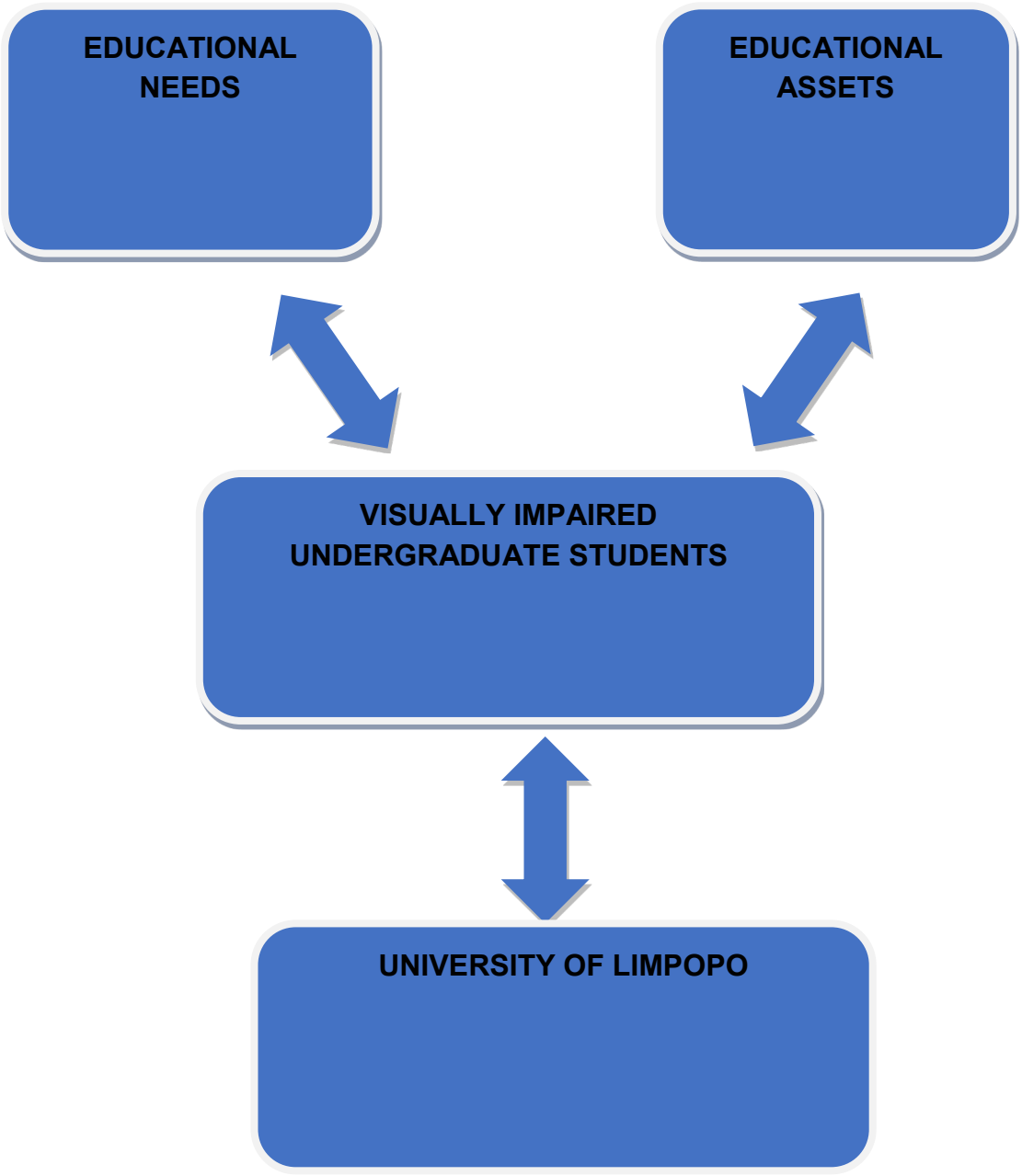

Figure 4.1. Diagram of the findings of this study

4.1 INTRODUCTION

The findings of this study, which reflect on the educational needs and assets of the visual impaired undergraduate students at the University of Limpopo, are discussed in this chapter.

4.2 EDUCATIONAL NEEDS OF THE VISUALLY IMPAIRED STUDENTS AT THE UNIVERSITY OF LIMPOPO

As defined in Chapter 1 and in the context of this study, educational needs are the existing state of affairs of the visual impaired undergraduate students at a Rural-Based University in South Africa and their desire to get proper allocation and effective utilisation of available educational resources. Categorised themes that emerged from the researcher's initial readings and through the process of re-reading of the interviews transcripts, document analysed and observational notes were considered. The findings are supported by extensive verbatim quotations of the responses of the research participants.

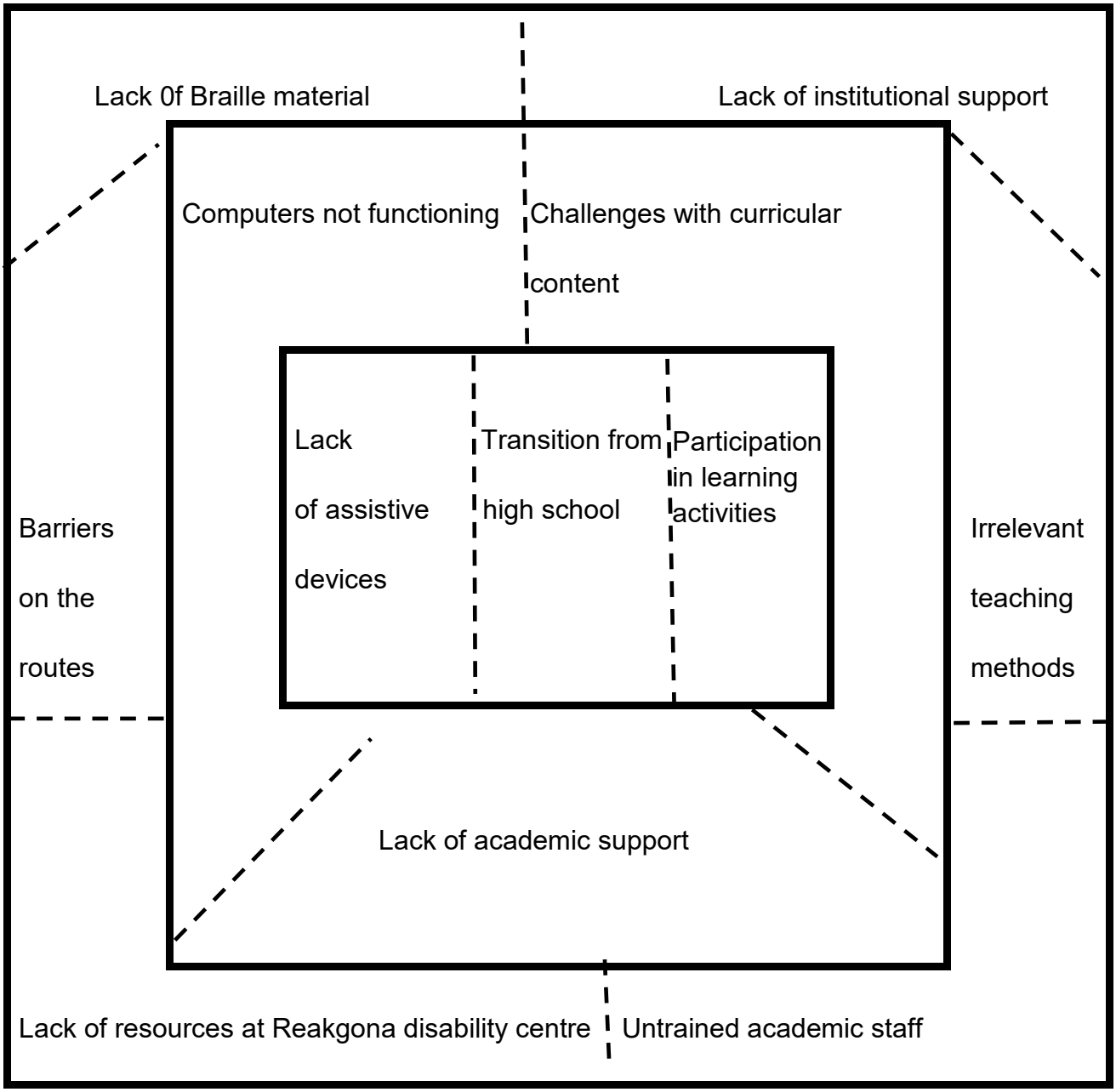

Figure 4.2. A needs map for the visual impaired undergraduate students at the University of Limpopo (Adapted from Kretzmann & McKnight, 1993:3)

4.2.1 Findings from the document analysis.

The following documents were analysed:

- Attendance registers reflected a total enrolment of eight visually impaired undergraduate students from the faculties of Humanities, Management and Law, and Science and Agriculture. Attendance registers showed that visually impaired undergraduate students attended classes regularly.
- Copies of tests papers and assignments were available both in print and in Braille format.
- Students' portfolios were kept in the academic staff members' offices with the assignments and tests enlarged for the partially sighted students and in Braille for the totally blind students. This served as evidence that the assessment needs of the visual impaired undergraduate students were recognised.
- Personal timetables were important as they helped both visually impaired undergraduate students and academic staff in knowing the times they would be attending lectures. The timetables for the visual impaired undergraduate were in Braille, and thus reader-friendly to them.

4.2.2 Findings from semi-structured interviews

4.2.2.1 Being a visually impaired undergraduate student at the University of Limpopo

Visually impaired undergraduate students were asked about their feelings of being university students. Two of them expressed their unhappiness. The following are sample excerpts from the visual impaired undergraduate students' interviews that expressed their unhappiness:

> P3*: It is difficult to cope. There are so many people at the university. People don't understand my disability. Sometimes you just bump someone by mistake and the person will be angry at you. Some just move away if they see you coming.*

4.2.2.2 Transition from high school to university

Visually impaired undergraduate students experienced difficulty when transiting from high school to university. This affected their academic performance negatively. They attended secondary schools where all the learners were disabled. Their study material was available in Braille. They received the necessary attention and support from the school community. When they joined the university, they were expecting a similar, if not better support system and facilities. However, the conditions they faced were disappointing:

> *P1: I have observed that here I have to be independent with regard to how I reach the facilities. When I came here I had an experience of doing things on my own because I have been doing mobility from high school.*

Others expressed their dissatisfaction with what they found in their university environment. For instance, P3 claimed the following:

At high school we all had disabilities and were not so many. It is difficult to cope if we are many. Sometimes if we are doing group work I don't have a group because people think I am not like them. Some lecturers don't understand my disability. You will find that if I ask for the notes they think I want special attention. They always assume many things about me. Who is cooking for her, who is doing the washing for her, who dresses her? It is difficult.

> P2. *In high school everyone lived with disabilities. When I came here things were very different because the academic staff don't prepare notes on time for us and send them to the Disability Centre so that they can be Brailed. Yesterday I wrote a test without notes. The lecturers expect us to go to their offices to ask for notes. To me it is a challenge to go to their offices because I am still new on this campus and I have to be orientated to go to their offices. What I was focusing on was to know the route from my room to the classes. The lecturers are ignorant. Even if the university has organised the Disability Awareness Campaign they don't attend. Only one or two would attend. If I compare the university and high school, there is a big gap.*

P4: *At first, I had to attend my classes. I couldn't see on the projector because I am partially sighted and could not follow.*

The visual impaired undergraduate students claimed that the support they received from secondary school teachers was much better than that from the university staff. The students said that what contributed to the effectiveness of their learning was their individual efforts, not the help from academic staff.

P1: *At secondary school, teachers supported us at an individual basis. We were given notes on time*.

4.2.2.3 Teaching and learning methods

The academic staff's efforts to make proper adjustments in their teaching to accommodate visually impaired undergraduate students included the considerations they made during their lecture preparation. This involved the teaching strategies they could use to consider the learning needs of visually impaired undergraduate students. When asked about the instruction and learning methods, the academic staff used in their lectures, the visual impaired undergraduate students indicated the following:

P2: *What I have seen so far is this, while others engage in different activities, we are limited only to recording what can be recorded.*

P3: *Sometimes the lecturer just sets a test where we are supposed to draw, knowing very well that I cannot draw. This becomes a challenge to me. I am always frustrated.*

P2: Sometimes the academic staff members do not remember that they have visually impaired students in their class.

P4: *I always have to remind my lecturers to enlarge the paper and font for me.*

When asked about the instruction and learning methods the academic staff used in their lectures to accommodate visually impaired undergraduate students the director noted:

P9: *There are some academic staff who do not accommodate visually impaired undergraduate students in their lectures. They always point in the chalkboard while teaching and the visual impaired undergraduate students cannot see the chalkboard. Sometimes they include aspects such as symbols in their lectures and that becomes a challenge to the visual impaired undergraduate students.*

The academic staff noted the following when asked about the instruction and learning methods they used in their lectures to accommodate visually impaired undergraduate students:

P6: *Sometimes I forget that I have visually impaired undergraduate students in my class. I forget to interact with them to check if they understand my lecture*

4.2.2.4 Assessment

Assessment of student learning is important. The assessment tasks that the academic staff provide to visually impaired undergraduate students are designed to provide feedback and enrich students' learning. The visual impaired undergraduate students indicated that there were no enough computers at RDC; the computer room was always full of students working on the computers, they had to wait for others to finish using the computers, the computers were not working always, there were no references in Braille to use for the assignment.

Visually impaired undergraduate students indicated that when writing their tests, they were not given enough extra time, especially in winter because then their hands were cold and they took time to type. Sometimes they were given wrong question papers, or they were given drawings and signs in a test and they could not draw, and they lost their scripts due to system failure:

P4: *When we wrote tests, I would find that the lecturer didn't bring my enlarged paper. He would say he forgot and I have to wait for my enlarged paper while the other students are busy writing. When they finish I will be intimidated and I will just be writing to finish.*

P3: *The academic staff members forget to take assignments and tests to the Reakgona Disability Centre for Brailling.*

The director indicated that visually impaired undergraduate students experienced challenges when doing their assignments due to a lack of material in Braille. There was shortage of sufficient electronic books that come ready for students who rely on speech-ready software.

When asked about the assessment strategies they used to accommodate the visual impaired undergraduate students academic staff noted the following:

P5: *There are challenges concerning the assignments and examination format of the visual impaired undergraduate students. You have to set the paper and take it to Reakgona Disability Centre for Brailling. It becomes a challenge because sometimes in forget to take the papers to Reakgona Disability Centre. You need to prepare your question papers on time.*

P7: *Visually impaired undergraduate students are facing challenges when doing their assignments. They do not have references in Braille to do their assignments. When marking their assignments, you need to take that into consideration.*

4.2.2.5 Learning resources for visually impaired undergraduate students

The students identified a number of barriers that affect their learning. One was the lack of resources. They indicated that if you lost a recorder, or damaged it, you had to replace it. According to them it was difficult to work under such conditions as they could not afford to replace the recorders. The centre did not have books in Braille. The students also complained that they did not get the notes on time. In addition, they claimed that the computers at RDC were not enough. If they wanted to do their assignments, they had to wait for other students to finish working on the computers.

The visual impaired undergraduate students indicated that some academic staff members denied them permission to record their lectures. Some classes were allocated on second and third floors. Sometimes the lift was not working

and they had to use the stairs, which became a challenge to them. Visually impaired undergraduate students revealed that they were not provided with the necessary assistive devices:

> P2: *There is no support from the university. We have* been *asking for the assistive devices from February. We were even forced to strike because the university was not listening to us. The university does not care about visually impaired undergraduate students. We are not performing well because of the lack of devices and that some of the computers at RDC are not working well.*

> P1: *Although the notes we are provided with are helping us to prepare for examination, we do not have opportunities to enrich our learning through reading additional material like the sighted students. We do not have any reference material in Braille.*

The director pointed out that the lack of resources was a challenge to the visual impaired undergraduate students. He indicated that there were not enough computers, no material such as books in Braille or electronic books in accessible formats at RDC.

When asked about the learning resources for visually impaired undergraduate students, the academic staff indicated the following:

> P6: *Sometimes you will find that the visual impaired undergraduate students lost a recorder and cannot record the lecture. It becomes a challenge to you as a lecturer because at times you are forced to go an extra mile and explain the lecture to the student until he understands. This affects your time because an hour lecture ends up taking one and half hours.*

> P8: *We have a challenge because sometimes when you take the assignments or tests to Reakgona Disability Centre for Brailing the computers are not working and this delays the submission of assignments and the writing of tests by the visual impaired undergraduate students.*

4.2.2.6 *Support from academic staff*

The support that visually impaired undergraduate students get from the academic staff is one of the deciding factors in their academic progress and success. This study revealed that there are limited efforts by academic staff to address the needs of visually impaired undergraduate students.

When asked about the support they get from academic staff, this is how they responded:

> P3: *They forget our presence in the classroom. We should get the same level of attention and support as all other students at the university.*

> P1: *Some lecturers are not supportive. They do not show that they are willing to help. You have to push them to help you. Sometimes if you ask for help they think you are trying to be special, you always need attention.*

The director indicated that academic staff members experienced challenges in providing the necessary support to visually impaired undergraduate students due to a lack of knowledge on how to deal with them:

> P9: *It is difficult for the academic staff to support visually impaired undergraduate students. They are trained to teach the sighted students not the visual impaired undergraduate students.*

Academic staff members were asked about the challenges they faced in providing the necessary support to visually impaired undergraduate students. They raised the following concerns: The large class size limited their capacity to understand and support individual students' needs; time limitations did not allow them to address visually impaired undergraduate students' needs and give tutorial support; they were unable to finish a lecture meant for one hour if they had to take time explaining to visually impaired undergraduate students. They indicated a lack of awareness and understanding of visually impaired undergraduate students. They did not have full knowledge or understanding of the extent of the challenges visually impaired undergraduate students faced in their learning process, and their responsibilities in supporting them:

P7: *It is difficult to give your full attention to the visual impaired undergraduate students during a lecture because if a period is allocated one hour and you take time explaining to visually impaired undergraduate students you do not finish your lecture. I do not understand their problems so it becomes a challenge as I am not trained to teach the visual impaired undergraduate students.*

4.2.2.7 Training of academic staff

The study revealed that academic staff lack facilitation skills and proper understanding of the educational needs of visually impaired undergraduate students. When asked about how the university should capacitate them for their professional development and better understanding of the educational needs of the visual impaired undergraduate students, the academic staff indicated the following:

P8: *The University should train and support the lecturers because as lecturers we are often blamed for not taking care of visually impaired students. The work of visually impaired students should be promoted and celebrated.*

P5: *The University should train lecturers who have visually impaired undergraduate students in their classes. Give them seminars so that we don't leave them behind.*

When asked about the support the University gave to the academic staff to understand the needs of the visual impaired undergraduate students, the visual impaired undergraduate students responded as follows:

P4: *The University doesn't care whether our lecturers are trained to know how to deal with our needs.*

Regarding the support the university provided to the academic staff to deal with the needs of the visual impaired undergraduate students the director said:

P9: *The University is not doing enough to make sure that the needs of visually impaired undergraduate students are taken care of. The*

academic staff are not developed to understand the problems of visually impaired undergraduate students.

4.2.2.8 Use of the library

The library plays a critical role in the academic life of students. However, visually impaired undergraduate students indicated that they hardly went to the library due to the lack books in Braille. The other challenge they faced was that if the information was in Portable Document Format (PDF), it presented a problem to them because JAWS could not read PFD:

> P3: *There are no books in Braille in the library; no newspapers; no editors.*

They indicated that they visited the library only if they had assignments to do:

> P3: *The librarian takes her time to find information for us. We wait for information for a long time.*

Both the director and academic staff concurred that there was a shortage of enough computers and a lack of material in Braille. This made it difficult for visually impaired undergraduate students to visit and use the library when they had assignments:

> P6: *It is a challenge to them to go to the library since the library does not have the reference material in Braille.*

4.2.2.9 Peer support

Visually impaired undergraduate students were asked about the support they got from their sighted peers. They indicated that there were peers who were not willing to help them because they did not understand their impairment:

> P3: *Few sighted peers are giving us support. Some are not interested in helping us.*

> P2: *Some do not understand our disability and they do not care.*

The director pointed out the following regarding the support of visually impaired undergraduate students:

P9: *Some sighted students still have an attitude to visually impaired undergraduate students. They still believe that visually impaired undergraduate students deserved to be in their special school and they cannot cope at the university. Some sighted peers are scared of visually impaired undergraduate students. The sighted peers feel sorry for them instead of supporting them.*

The academic staff indicated that there were sighted peers who did not support the visual impaired undergraduate students:

P6: *Sometimes you will see a visually impaired undergraduate student struggling to find his or her way on campus and the sighted peers passing and not helping the student.*

4.2.3 Findings from observations

4.2.3.1 Instruction and learning methods

Four classes were observed. The classes observed were in the faculties of Humanities, Management and Law, and Science and Agriculture. During class observation, the researcher noted that the academic staff were not accommodating visually impaired undergraduate students in the presentation of their lectures. The lectures followed a similar pattern, predominantly using the lecturing method. In one instance, the academic staff member did not have material on hand, except a duster and a piece of chalk, nor did he seem to think of any modifications. In another instance, the academic staff member printed the handouts he needed for the lecture and forgot about the visual impaired undergraduate students. When presenting the lecture, some academic staff used the word “these” pointing at the chalkboard, disregarding the visual impaired undergraduate students. Visually impaired students struggled to record the lecture due to noise from outside caused by the students who were passing their lecture halls.

4.2.3.2 Instruction and learning resources for visually impaired undergraduate students

The study revealed the shortage of learning material and books in Braille. The classes had chalkboards, and white boards that did not accommodate visually

impaired undergraduate students. They could not see the chalkboard or the whiteboard. Some lecturers used PowerPoint presentations in their lectures, which was frustrating to the visual impaired undergraduate students.

4.2.3.3 Support from academic staff

It was observed that academic staff did not prepare the notes in Braille for the visual impaired undergraduate students. In one of the classes the visual impaired undergraduate students were told that the notes were still at the centre waiting to be converted into Braille.

4.2.3.4 Use of the library

It was found that there was no digital library that could provide a satisfactory service to visually impaired undergraduate students. For a digital library to function, there should be enough computers with appropriate software and softcopy material. There were computers with JAWS at the library, even though the number of computers was limited. The number of available computers was not in proportion to the users.

4.3 EDUCATIONAL ASSETS OF THE VISUAL IMPAIRED UNDERGRADUATE STUDENTS AT THE UNIVERSITY OF LIMPOPO

As defined in Chapter 1, educational assets are those skills, strengths, talents or potential that visually impaired undergraduate students at a Rural-Based University in South Africa possess.

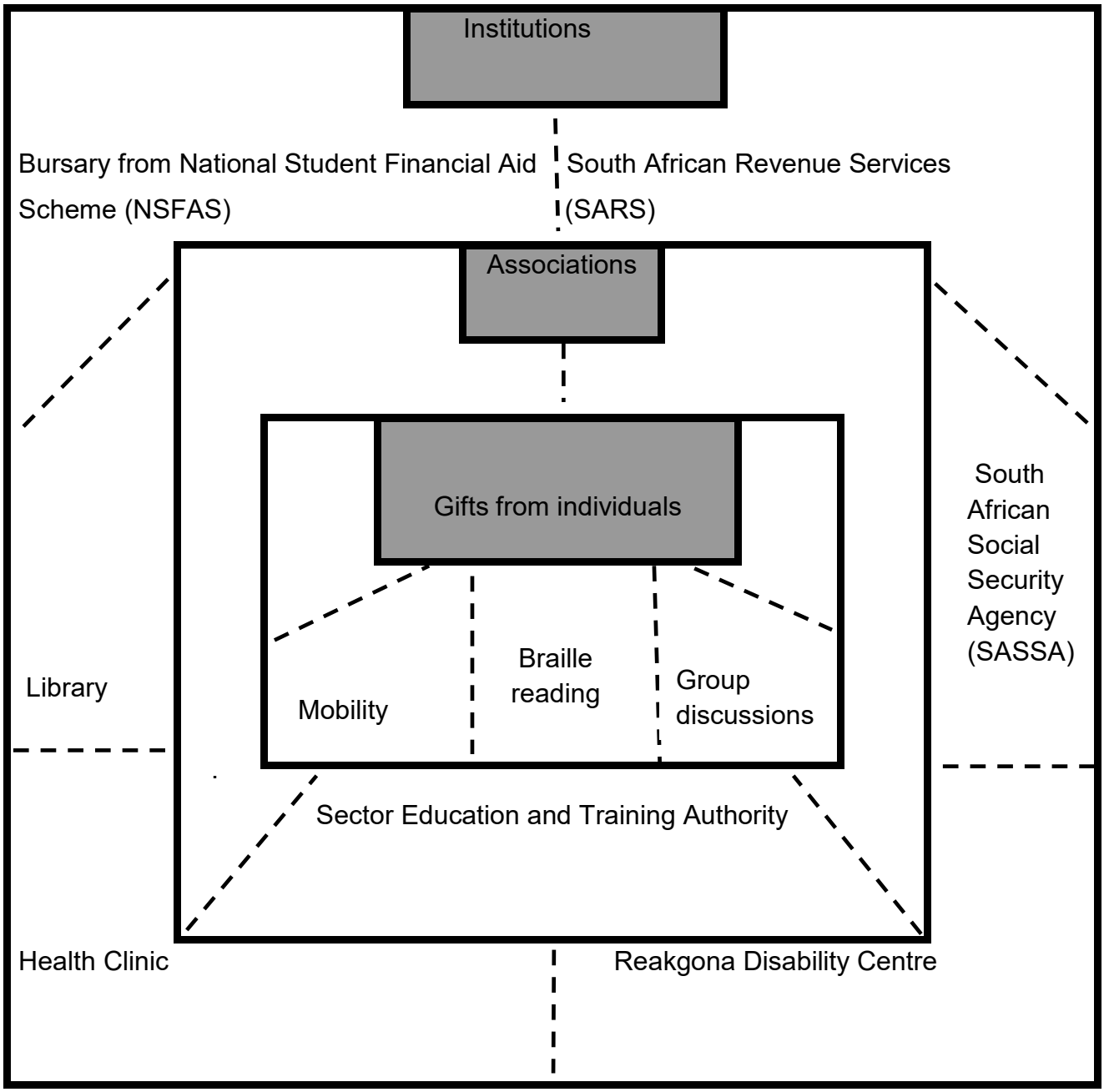

Figure 4.3. An asset map of the visual impaired undergraduate students at the University of Limpopo (Adapted from Kretzmann & McKnight, 1993:7)

4.3.1 Findings from the document analysis

The following documents were analysed:

- Attendance registers analysed reflected a total enrolment of eight visually impaired undergraduate students from the sampled classes. These documents showed regular attendance of classes by visually impaired undergraduate students.
- Assignments, tests and examination papers were filed in portfolios. They were safely kept in the academic staff members' offices, in Braille format for totally blind students and with font enlarged for the partially sighted students.
- Both visually impaired undergraduate students and academic staff had their personal timetables, which indicated the times at which lectures were attended.

4.3.2 Findings from semi-structured interviews

4.3.2.1 Being a visually impaired undergraduate student at a Rural-Based University in South Africa

When asked about being a visually impaired undergraduate university student at the target university, they indicated that when they first arrived at the campus they had some uncertainties. They had a feeling that the curriculum would be difficult and they were concerned about how they would deal with it. When they started with their classes they started enjoying the university. They noted the following:

> P1: *I am feeling well because even the environment is captured for me.*
>
> P4 *It gives me a lot of happiness. Reaching this level after passing through a lot of challenges is a big opportunity".*

4.3.2.2 Transition from high school to university

> P4 was satisfied with the assistance provided to visually impaired undergraduate students:

P4 *We were received with good preparation at the university and we did not face any serious problems. Even after our registration, we were getting all the necessary information from RDC. For about a week the centre coordinator made the settlement his priority task.*

4.3.2.3 Teaching and learning methods

When asked about the instruction and learning methods they used in their lectures to accommodate visually impaired undergraduate students, the academic staff noted the following:

P7: *I encourage the totally blind students to record my lectures. I also try by all means to avoid pointing the chalkboard because visually impaired undergraduate students cannot see what I am pointing at.*

P8: *I try to encourage students to work in groups. I also encourage presentations in class. I get them to do role play. I encourage them to come to my office because there I have enough time to attend to their problems because I won't be rushing. I provide course outlines and encourage them to keep reading. I also have an open-door policy.*

P7: *I verbalise almost everything to them. Sometimes I go to an individual to explain what I am talking about. My lectures include aspects that have symbols and you cannot describe a symbol. I go to a degree of saying "Give me your hand" and I draw a symbol in the hand. I take extra effort to explain.*

P5: *I try ways of interacting with these students in the way that I think it is going to be helpful for them. I always avoid graphs and tables when setting assignments and tests.*

When asked about the instruction and learning methods the academic staff used in their lectures, visually impaired undergraduate students indicated the following:

P3*: They try to make sure that we understand their lectures by encouraging us to ask questions. They ask us about how we want to be*

supported. They encourage us to come to their offices if we need help or we didn't understand the lecture.

Regarding the instruction and learning methods the academic staff used in their lectures, the director indicated the following:

P9: *There are some academics who try their level best to explain the lectures to visually impaired undergraduate students until they understand. They interact with them and encourage them to come to their offices if they did not understand their lectures in class*

4.3.2.4 Assessment

When asked about the assessment strategies the academic staff used in their lectures to accommodate them, the visual impaired students said:

P2: *When we do group assignments the academic staff group us with sighted peers. We do not face any serious problems and we contribute ideas.*

P1: *There are some academic staff members who give us extra time when we write the tests. This makes it easier for us to finish writing our tests.*

Academic staff indicated that they sent assignments and tests for conversion into Braille at RDC. They allowed visually impaired undergraduate students to participate actively in group activities and class discussions in order to enhance their confidence and self-esteem:

P6: *I allow them to do assignments in groups, encourage class discussions and make them present in class so that I can boost their confidence and self-esteem.*

P8: *If I am not happy with their marks, I give them a chance to redo the work. It is a challenge to me because I have to remark the work. It creates a problem because of large class size.*

4.3.2.5 Learning resources for visually impaired undergraduate students

The students credited the RDC for providing them with tape recorders. They acknowledged the effort the RDC took in converting their notes to Braille. They also appreciated the availability of computers with Job Access with Speech (JAWS), and enough computer rooms set up specifically for visually impaired students.

The director pointed out that the availability of the Orientation and Mobility Officer at RDC created easy access to learning material and information about technological services. The Orientation and Mobility Officer conducted an environmental audit on a regular basis to create an environment conducive to learning. The Orientation and Mobility Officer achieved this by teaching the visual impaired undergraduate students to find ways around the campus. He noted that this fostered an element of independence for visually impaired undergraduate students. It was beneficial to the visual impaired students since they would be able to walk to classes on their own and avoid missing classes.

In support of the above, the director said:

> P9: *The centre makes the students' life easier in accessing the learning materials and in accessing the environment. It fosters the element of independence, not for the visual impaired undergraduate students to rely on other students to miss classes because they are waiting for someone to come and lead them.*

The director revealed that there was a library at RDC. Visually impaired undergraduate students were provided with assistive devices such as tape recorders and Perkins Braille machines. The tape recorders were loaned to students; if they lost or damaged them, they were expected to replace them. Photocopying facilities were available for visually impaired students at a price determined by RDC from time to time. The director indicated that visually impaired undergraduate students were accommodated in university residences. They were given preference to choose a residence of their choice.

When asked about the type of follow-up on the learning aspects of visually impaired undergraduate students, the director said:

P9: *We want them to be independent. We want to avoid policing the students. We don't want to interfere in the academic performances of the students. We just promote access to information for them.*

The academic staff also credited RDC for assisting the students with tape recorders and of assignments and tests converted into Braille for visually impaired undergraduate students.

P7: *I just imagine how life was going to be if the visual impaired undergraduate students were not given the tape recorders. The recorders are helping the students.*

4.3.2.6 Support from the academic staff

The support visually impaired undergraduate students got from their academic staff was to a large extent determined by the kind of relationship they had. The evidence collected from the students indicated that there were some academic staff members who were supportive to the visual impaired undergraduate students. Visually impaired undergraduate students noted the following regarding the support they got from the academic staff:

P2*: There are lecturers who are very smart, who try their best to help us, who try to understand our needs. When they present lectures that consist of diagrams, they slowly try to explain them so that we can have a clear image of them.*

P3: *He writes notes on the board and while sighted peers are copying, he reads us the notes for recording. After we have finished recording, he explains the notes to us.*

When asked about how they supported visually impaired undergraduate students, the academic staff member said the following:

P5: *I make sure that I enlarge the paper for the partially sighted students and send the notes for Brailling to the RDC.*

Academic staff indicated that they made sure that the visual impaired undergraduate students occupied the front seats. The director appreciated the

support that some academic staff gave to them. He indicated that there were academic staff who went to the extent of giving the visual impaired undergraduate students extra lectures if they did not understand during the lecture. They made sure that they enlarged note paper for partially sighted students and used Braille papers for the totally blind students.

4.3.2.7 Use of the library

The library plays a critical role in the academic lives of students. The visual impaired undergraduate students expressed their gratitude to the University for establishing the RDC, which had a library for students with disabilities. When asked about the support they got from the librarians they indicated that the librarians were supportive because they helped them find information:

> P2: *The librarian is supportive. You don't have to remind him if you ask him find the information for you.*
>
> P4: *The librarian helps me with information for assignments. If I want a book and it is not available in the library, the librarian orders it from the university library.*
>
> P1 said the librarian was supportive since he assisted in converting files in PDF to JAWS. The director indicated that the RDC had a library even if there was still a need to raise funds to have the learning material available in accessible formats. The library had computers that served the visual impaired undergraduate students. They were assisted with assistive devices, such as tape recorders and Perkins Braille machines. The academic staff indicated that the visual impaired undergraduate students visited the library when they did their assignments. They also used the library when they wrote their tests and examinations.

4.3.2.8 Peer support

Visually impaired undergraduate students said that the support they got from their peers was extraordinary. They declared that their peers provided them with all types of support, both in their academic and social lives:

P1: They explain what the lecturer is showing on the board or projector. They help to take me where I want to go.

P4: *They help me in cases where the semester marks are out and they are put on the notice board. I cannot see on the notice board, so when I ask them for help, they help me.*

When asked about the support the visual impaired undergraduate students got from their sighted peers the academic staff said the following:

P5: *I have seen them giving them a lot of support, for example, bringing them to class and making sure that they sit properly. I have seen them explaining assignments to them.*

P7*: There are a limited number of those who feel they are willing to assist, but those who are willing do it with passion.*

P8: *The support they get from their sighted peers is extraordinary. They are always explaining things to them, especially when I am using a projector in class.*

The director was happy about how some sighted peers supported visually impaired undergraduate students:

P9: *I saw some sighted peers helping them recording their study material, walking around with them and being their scribes during the examination.*

4.3.2.9 Institutions and associations for visually impaired undergraduate students

The visual impaired undergraduate students mentioned that there was an association called the Disability Students Organisation (DSO). The organisation represented the students academically. They also mentioned the health clinic that was located on campus. There was an optometrist on site who provided support for visually impaired students. The clinic was a government organisation and it provided treatment, care and support to students and academic staff.

The visual impaired undergraduate students indicated that they appreciated what RDC did for them. RDC is a centre of excellence situated on campus. The centre provided orientation and mobility training for totally blind students; low vision reading facilities for partially sighted students; audio and Braille library services, and a computer laboratory with computers having the JAWS program installed for use by totally blind students.

Participants mentioned that they got financial aid for visually impaired undergraduate students from organisations such as the following:

- The South African Social Security Agency (SASSA) that provided them with disability grants.
- The National Student Financial Aid Scheme (NSFAS) that paid for their studies.
- South African Revenue Services (SARS) that provided bursaries.
- The Sector Education and Training Authority that provided bursaries and skills development for the visual impaired students.

4.3.3 Findings from observations

4.3.3.1 Instruction and learning methods

The researcher visited the classes of visually impaired undergraduate students in the Faculties of Humanities, Management and Law, and Science and Agriculture. Academic staff used group discussions, group presentations, asking questions and responding to questions to accommodate visually impaired students. Visually impaired undergraduate students were grouped with their sighted peers. The target students made their contributions while their sighted peers took notes of what was discussed.

4.3.3.2 Learning resources for visually impaired undergraduate students

There were computers at the library that assisted the visual impaired undergraduate students in doing their assignments. The RDC assisted these students with assistive devices, such as tape recorders that were helpful in recording the lectures. Photocopying facilities were provided by the librarian.

4.3.3.3 Support from academic staff

The researcher observed that visually impaired undergraduate students were occupying front seats. Some academic staff went the extra mile to explain content to the visual impaired undergraduate students. While their sighted peers were copying notes from the board, the academic staff read notes to the visual impaired undergraduate students for recording. When they finished recording, they explained the notes to them. Some academic staff prepared the notes in Braille format for the totally blind students and enlarged them for the partially sighted students.

4.3.3.4 Use of the library

It was observed that visually impaired undergraduate students were doing their assignments in the library. The librarian guided the students with regard to accessing information.

4.3.3.5 Peer support

It was observed that their sighted peers offered assistance to visually impaired undergraduate students by walking with and guiding them to and from classes and offices.

4.4 CONCLUSION

This chapter presented the findings of this study that are categorised in alignment with the educational needs and assets of the visual impaired undergraduate students at the University of Limpopo.

CHAPTER 5

DISCUSSIONS, RECOMMENDATIONS, AND SUGGESTIONS FOR FUTURE RESEARCH

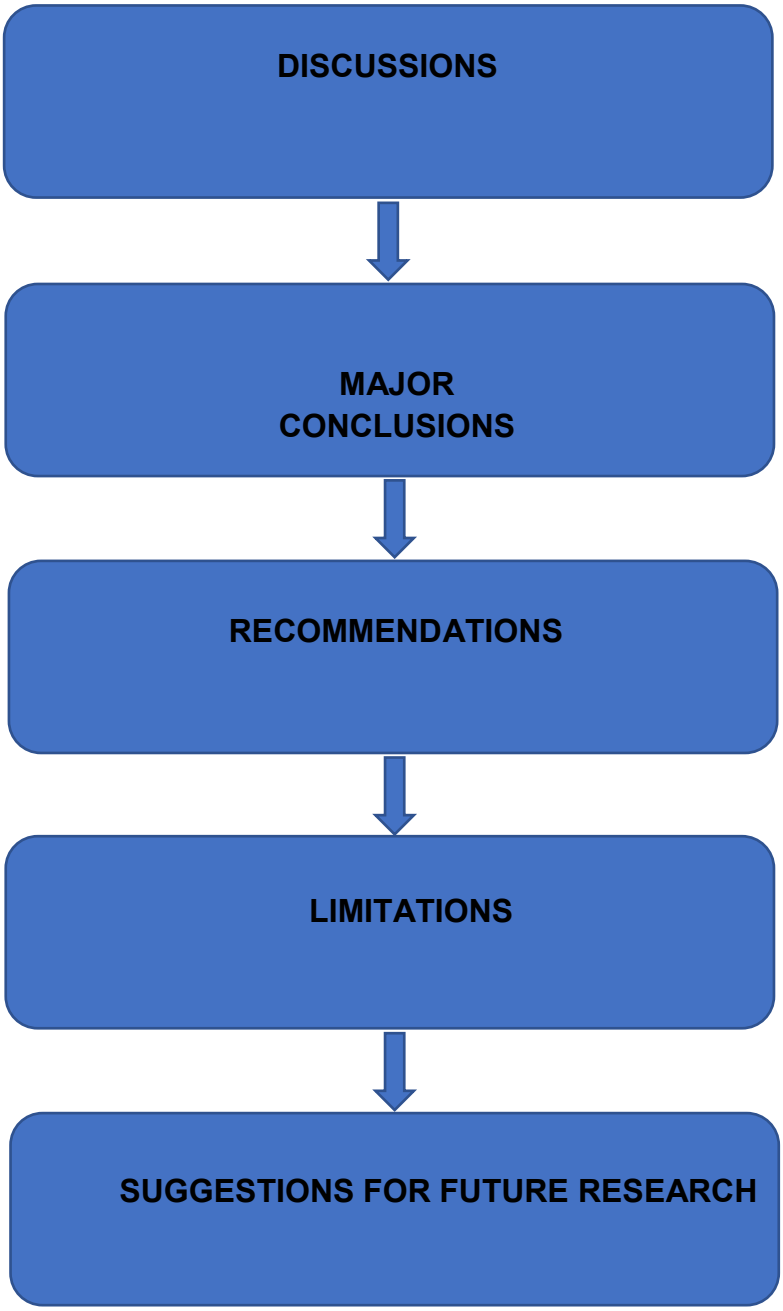

Figure 5.1. Diagram of Chapter 5

5.1 INTRODUCTION

This chapter presents a discussion, the major conclusions, recommendations, limitations, and suggestions for further research. The purpose of this study was to explore the educational needs and assets of the visual impaired undergraduate students at a Rural-Based University in South Africa.

Based on the purpose of this study, the following sub-questions were formulated:

- What are the educational challenges facing the visual impaired undergraduate students at a Rural-Based University in South Africa?
- What are the educational strengths, talents, abilities and potential of the visual impaired undergraduate students at a Rural-Based University in South Africa?
- Which strategies are in place to address the educational needs and assets of the visual impaired undergraduate students at a Rural-Based University in South Africa?

In line with these sub-questions, the following objectives were formulated:

- Identify the educational challenges facing the visual impaired undergraduate students at a Rural-Based University in South Africa.
- Identify the educational strengths, talents, abilities and potential of the visual impaired undergraduate students at a Rural-Based University in South Africa.
- Identify strategies that are in place to address the educational needs and assets of the visual impaired undergraduate students at a Rural-Based University in South Africa.

5.2 DISCUSSION OF FINDINGS

The discussion below provides a summary of the findings of this study.

5.2.1 Conclusions related to Research Objective 1

Identify the educational challenges facing the visual impaired undergraduate students at a Rural-Based University in South Africa

Visually impaired undergraduate students experienced difficulty during transition from secondary school to university. They thought that the university was like secondary school where everyone was visually impaired and everyone received the same treatment.

The academic staff were not trained to teach visually impaired undergraduate students. Some academic staff denied visually impaired undergraduate student's permission to record their lectures. They failed to consider an inclusive teaching practice, and did not give visually impaired undergraduate students' curriculum material in accessible formats. The environment was less conducive to learning for them than for their sighted peers. Many of the assessment techniques the academic staff used were designed for the sighted students. Sometimes the academic staff administered a test that involved drawings.

The main library and the RDC did not cater for the needs of visually impaired undergraduate students. This was due to the shortage of assistive devices, material in Braille, a limited number of electronic resources, including computers with appropriate software. As such, access to the curriculum was a challenge. The visual impaired undergraduate students' use of library services was very limited.

5.2.1 Conclusions related to Research Objective 2

Identify the educational strengths, abilities and potentials of the visual impaired undergraduate students at a Rural-Based University in South Africa

Visually impaired undergraduate students showed appreciation for Orientation and Mobility training, low vision reading facilities, audio and Braille library services, and a computer laboratory with the JAWS program at the RDC. They indicated that life would not be easy without the centre because it provided them with easy access to information. They mentioned that the campus-based health clinic and optometrists provided treatment, care and support for both students and staff. Participants cited the extraordinary academic and social support that visually impaired undergraduate students received from their sighted peers. The study also revealed that visually impaired undergraduate students received

a disability grant from SASSA, bursaries from NSFAS and SARS, and bursaries and skills development from SETA.

5.2.1 Conclusions with regard to Research Objective 3

Identify the strategies that are in place to address the educational needs and assets of the visual impaired undergraduate students at a Rural-Based University in South Africa

The study revealed that some academic staff members prepared assignments, tests and examination papers in Braille format and enlarged font. They engaged the visual impaired undergraduate students in group activities and class discussions. This created a good platform for them to do presentations in class that boosted their confidence and self-esteem. Visually impaired undergraduate students were encouraged to visit the offices of the academic staff in case they did not understand during the lectures. They were encouraged to occupy the front seats. Some academic staff members avoided using the chalkboard because visually impaired undergraduate students could not see the chalkboard. Some avoided using graphs and tables when setting assignments, tests and examination papers. They gave visually impaired undergraduate students the chance to redo the assignments if they were not happy with their marks. They also encouraged them to record their lectures.

The study revealed that the university had established the RDC that provided services such as computer laboratory with the JAWS programs, Braille production facilities for the conversion of print into Braille, assistive devices to visually impaired undergraduate students. There was Orientation and Mobility training for blind students, and low vision reading facilities for partially sighted students.

5.3 MAJOR CONCLUSIONS DRAWN FROM THE STUDY

The following major conclusions regarding the educational needs of the visual impaired undergraduate students at a Rural-Based University in South Africa were drawn:

5.3.1 Educational needs.

Existing research shows that visually impaired undergraduate students took a long time to adjust to the pace of learning at the university because they came from secondary schools where people knew how to deal with them (Tookie et al, 2016:30). The current study revealed that visually impaired undergraduate students experience difficulty during their transition from secondary school to university. They attended secondary school where all learners were disabled. As such, they expected the same treatment and support they got from secondary schools where their teachers understood their needs. Unfortunately, they did not get the treatment and support they expected.

Furthermore, studies show that academic staff were not ready to accommodate the needs of visually impaired undergraduate students (Tookie et al, 2016:32). They indicate that academic staff paid no attention to the concerns of these students by continuing to teach the same way they had taught previously. This study also revealed that the academic staff did not accommodate the target students when preparing their lectures. These students felt excluded, and indicated that the academic staff forgot their presence in class.

Studies highlight the fact that there is shortage of equipment and material such as Perkins Braille machines, tape recorders and textbooks in Braille (Chiparaushe et al. 2014:67). In addition, these students are often provided with new assistive technologies financed by independent funders. However, they are not trained to use such resources. They depended on readers who read for them since the library did not have books in Braille. This demotivated the target students to visit the library since the material did not address their needs (Cullen et al, 2015:).The literature reviewed further underscores the reality that academic staff lack formal training to address the needs of visually impaired undergraduate students (Otyola et al, 2017:223). The findings of this study reveal that the academic staff were not trained to deal with the needs of the target students.

Chiparaushe et al (2014:70) state that that visually impaired undergraduate students went through frustrating procedures to inform the academic staff of their impediments and their need for reasonable adjustments. Cullen

(2015:100) notes that academic staff were sympathetic and supportive to the visual impaired undergraduate students with regard to such frustrations. The current study shows that academic staff were less supportive since they had a tendency to forget to send their notes to be converted to Braille.

5.3.2 Educational assets

Existing research shows the availability of disability units at universities that address the academic needs of visually impaired students. Special mobility and rehabilitation services are provided by a number of charities. The centres are funded by independent funders (Otyola, 2017:76-86; Koch, 2017:13). Such centres provide Visual Impairment Service Support by advising the universities on the educational implications of eye conditions; offer appropriate instruction and learning materials, equipment and assistive technology and access to curriculum (Collini, 2015:29). A study by Tinklin (2014:657) revealed that the Government provides visually impaired undergraduate students with disability grants, student fees and research grants. Seyama et al (2014:102) indicates that visually impaired undergraduate students receive their disability grants from SASSA.

In line with existing literature, this study found that Reakgona Disability Centre deals with the needs of visually impaired undergraduate students. It provides orientation and mobility training and conversion to Braille services for totally blind students. This study revealed that there are associations such as SARS and SETA that provide bursaries for visually impaired undergraduate students. The target students receive a disability grant from South African Social Security Agency. The Department of Labour provides skills development to visually impaired undergraduate students. Kaijange (2016:16) indicates that visually impaired undergraduate students depend on their peers with normal sight who read for them since the library does not have books in Braille. This study underscores the fact that visually impaired undergraduate students get support from their peers with normal sight.

5.4 RECOMMENDATIONS OF THE STUDY

Based on the findings of the study, the researcher makes the following recommendations:

- It should be recognised that visually impaired undergraduate students have diverse educational needs and assets. Therefore, a system should be in place in an attempt to address such needs and assets. This will create a better platform that will engage the target students in the type of support they require as individuals; organise regular awareness campaigns so that the university community would be informed about visual impairment.
- Visually impaired undergraduate students should be supplied with all assistive devices that will limit their dependence on sighted students and enhance their instruction and learning opportunities.
- The library at RDC should have enough facilities and reference material in Braille.
- Visually impaired undergraduate students should be trained to use computers with JAWS. The RDC should develop empowerment programs that will equip academic staff with knowledge and skills to read and write in Braille. These will also assist the academic staff to improve their teaching methods, attitudes and methods for providing support to visually impaired undergraduate students.
- Continuous professional development programmes are fundamentally essential to ensure that all academic staff for visually impaired undergraduate students are updated on new developments in methodologies and policy issues related to the field.
- Experts on visual impairment should be involved when curricula are designed to give inputs to the preparation of a curriculum that is more accessible and inclusive to the needs and assets of visually impaired undergraduate students.
- Reasonable funding should be considered to ensure that basic instruction and learning support material is procured continuously for students with visual impairment.

- The university management should realise that even if students are visually impaired, they also have talents. They should be given a chance to show their talents. This can be done by including them in sports, debates and leadership in the Student Representative Council.
- The RDC should invite experts in education of visually impaired students to assist and empower the academic staff with the necessary skills and teaching methodologies.

5.5 LIMITATIONS OF THE STUDY

It is important that the limitations of this research be acknowledged:

- This research focused on visually impaired undergraduate students. Visually impaired postgraduate students might have specialised educational needs and assets.
- The findings of the research are based on rich textual descriptions of the research participants' views. As such, these findings cannot be generalised to other universities in the country since they are based on data collected from a small number of participants and from one university.

5.6 SUGGESTIONS FOR FUTURE RESEARCH

This research explored the educational needs and assets of visually impaired undergraduate students at a Rural-Based University in South Africa. As such. The following areas are recommended for future research:

- The educational needs and assets of the visual impaired postgraduate students at a Rural-Based University in South Africa should be explored.
- An exploration on the academic performance of the visual impaired undergraduate students could be conducted.
- This research focused on the educational needs and assets of visually impaired undergraduate students. Further research should pay attention to exploring the social, psychological, economic, and political needs and assets of visually impaired undergraduate students at a Rural-Based University in South Africa.

- This research was conducted at a Rural-Based University in South Africa only. It is recommended that the educational needs and assets of visually impaired undergraduate students from other universities be explored.

5.7 CONCLUSION

This chapter presented the major conclusions drawn from the study, the recommendations, limitations of the study and suggestions for future research.

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APPENDICES

APPENDIX A: RESEARCH PARTICIPANT CONSENT FORM

Research Title: **Educational needs and assets of the visual impaired Undergraduate students at a Rural-Based University in South Africa**

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Department of Education Studies

Supervisor: P. Moloko

I am inviting you to participate in research. For you to decide whether you want to participate in this project, you should understand what the project is about in order to make an informed decision. The purpose of the research is to explore the educational needs and assets of the visual impaired undergraduate students at a Rural-Based University in South Africa. The study will involve document analysis, semi-structured interviews and observations. The semi-structured interviews will be conducted with visually impaired undergraduate students, academic staff members and the Director at Reakgona Disability Centre at the University of Limpopo. The interview will be conducted on an individual basis. The interview will be audio-taped. Following the interview, the recorded material will be transcribed.

The information you provide in the interview will be kept strictly confidential. No data published in this study will contain any information through which any participant may be identified. Your anonymity is therefore ensured. There will be no form of compensation in this study. Participants will be asked to participate on a voluntary basis.

If you have any questions regarding this study, please contact me on 082 714 9045 (or alternatively at marthamashiane09@gmail.com).

I agree/disagree (tick the appropriate) to the terms.

Respondent Date

_____ _____

I agree to the terms:

Researcher Date

_____ _____

APPENDIX B: LETTER TO TURFLOOP ETHICS RESEARCH COMMITTEE

1724 Zone 1
Seshego
0742
02 July 2017.

Turfloop Ethics Research Committee
University of Limpopo
Private Bag X1106
Sovenga
0727

Dear Sir/Madam

Subject: Request for Authorisation to Conduct Research at Your University

I am an educator at Capricorn High School pursuing a master's degree in Community and Continuing Education at your University. I am conducting research on the following topic: **Educational needs and assets of the visual impaired Undergraduate students at a Rural-Based University in South Africa.** My supervisor is P. Moloko. I request your permission to conduct the above research with four academic staff and four visually impaired undergraduate students and the Director at Reakgona Disability Centre in your institution. The research will involve document analysis, semi-structured interviews and observations.

Yours truly

Martha Dimakatso Mashiane

APPENDIX C: TURFLOOP RESEARCH ETHICS COMMITTEE CLEARANCE CERTIFICATE

University of Limpopo
Department of Research Administration and Development
Private Bag X1106, Sovenga, 0727, South Africa
Tel: (015) 268 2212, Fax: (015) 268 2306, Email:noko.monene@ul.ac.za

TURFLOOP RESEARCH ETHICS COMMITTEE CLEARANCE CERTIFICATE

MEETING:	**31 August 2017**
PROJECT NUMBER:	**TREC/217/2017: PG**
PROJECT:	
Title:	Educational needs and assets of the visual impaired undergraduate Students at a Rural –Based University in South Africa
Researcher:	MD Mashiane
Supervisor:	Dr MM Maphutha
Co-Supervisor:	N/A
School:	Education
Degree:	Masters in Education Studies

PROF TAB MASHEGO
CHAIRPERSON: TURFLOOP RESEARCH ETHICS COMMITTEE

The Turfloop Research Ethics Committee (TREC) is registered with the National Health Research Ethics Council, Registration Number: **REC-0310111-031**

Note:
i) **Should any departure be contemplated from the research procedure as approved, the researcher(s) must re-submit the protocol to the committee.**
ii) **The budget for the research will be considered separately from the protocol.**
PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES.

APPENDIX D: A LETTER TO CONDUCT RESEARCH AT REAKGONA DISABLITY CENTRE

1724 Zone 1
Seshego
0742
02 October 2017

The Director
University of Limpopo
Private Bag X 1106
Sovenga
0727

Dear Sir/Madam

Subject: Request for Authorisation to Conduct Research at your Centre

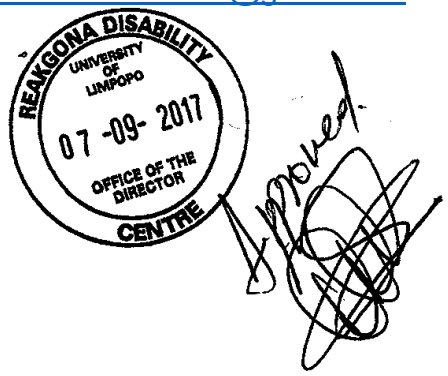
I am an educator at Capricorn High School pursuing a master's degree in Community and Continuing Education at the University of Limpopo. I am conducting research on the topic **Educational needs and assets of the visual impaired undergraduate students at a Rural-Based university in South Africa**. My supervisor is P. Moloko. I have selected your centre to conduct my research. The Director of the Centre will be a participant in the study.

The research will involve document analysis, semi-structured interviews and observations. I therefore request your written response at your earliest convenience to enable me to start with this long process. Thank you for your attention in this matter.

Please contact me on 082 714 9045 or at marthamashiane09@gmail.com

Yours truly

Martha Dimakatso Mashiane



APPENDIX E: INTERVIEW GUIDE FOR THE DIRECTOR AT REAKGONA DISABILITY CENTRE

1. How do you feel to be a Disability Officer at RDC?
2. Can you tell me about your role and responsibilities in relation to students with visual impairment?
3. What is your take on the procedures followed to settle visually impaired undergraduate students at the university?
4. What are the instruction and learning methods the academic staff use in their lectures to accommodate visually impaired Undergraduate students?
5. What assessment strategies are used by the academic staff to accommodate the needs of visually impaired undergraduate students?
6. How do you describe the availability of learning resources for visually impaired undergraduate students at RDC?
7. What kind of support do academic staff members give to visually impaired undergraduate students?
8. What kind of support does the University give to the academic Staff to understand the needs of visually impaired students?
9. What are the challenges that hinder visually impaired undergraduate students from going to the library?
10. What are the common challenges that visually impaired undergraduate students face?
11. What do you do to reduce such challenges?
12. What support does the centre provide to visually impaired undergraduate students?
13. What kind of support do the peers with normal sight give to visually impaired undergraduate students?
14. What are the different talents the visual impaired undergraduate students show?
15. Which associations or institutions are involved in the educational development of the centre?

APPENDIX F: INTERVIEW PROTOCOL FOR VISUALLY IMPAIRED UNDERGRADUATE STUDENTS

1. What is your general feeling as a university student?
2. What things did you observe that differ from your secondary school Years?
3. From your own perspective, how do you describe the instruction and learning process in the classroom?
5. What experiences can you tell me about how lecturers have neglected your specific learning needs?
6. What difficulties do you encounter in your lecture rooms in doing your assignments and during examinations?
7. What would you like to see your lecturers doing to accommodate you better in their lectures?
8. How do you describe the availability of learning resources for the visual impaired students at the University of Limpopo?
9. What kind of support do academic staff members give you?
10. What kind of support does the University give to the academic staff to be able to deal with your academic needs?
11. What challenges do you encounter when using the library?
12. What kind of support do you get from the librarians?
13. What kind of support do you get from your peers with normal sight?
14. What are your talents or abilities as a visually impaired undergraduate student?
15. Which associations or institutions play a role in supporting you as a visually impaired undergraduate student at the University?

APPENDIX G: INTERVIEW PROTOCOL FOR ACADEMIC STAFF MEMBERS

1. Which instruction and learning methods do you use in your lectures to accommodate visually impaired students?
2. What alternative means do you provide if some of the instruction and learning methods you use are not accessible to visually impaired undergraduate students?
3. What assessment strategies afford visually impaired undergraduate students an opportunity to meet the objectives of Your course?
4. What efforts do you make to identify the barriers that? visually impaired undergraduate students face with specific tasks?
6. What adjustments do you make when preparing assignments for Such students?
7. Which part of the course do you consider specifically difficult for visually impaired undergraduate students?
8. What makes these elements of the course difficult?
9. What do you do to make this part of the course easier for visually impaired undergraduate students?
10. How do you describe the availability of learning resources for visually impaired undergraduate students?
11. What kind of support do you give to visually impaired undergraduate students?
12. What kind of support does the University offer you to be able to deal with the needs of visually impaired undergraduate students?
13. What are the challenges that hinder visually impaired undergraduate students from going to the library?
14. What kind of support do peers with normal sight give to visually impaired undergraduate students?
15. Explain the individual talents the visual impaired undergraduate students have shown in your class.

16. Which associations and institutions support visually impaired undergraduate students?

APPENDIX H: DOCUMENT ANALYSIS GUIDE

The following documents will be requested for analysis:

- Attendance registers
- Student portfolios
- Timetables
- Tests
- Assignments
- Examination papers

APPENDIX I: OBSERVATION GUIDE

	Classroom Observation
1	Instruction and learning methods
2	Learning resources for visually impaired undergraduate students
3	Support provided by library staff members
4	Use of the library
5	Peer support

I HATE MISTEAKS

TK LANGUAGE SERVICE
EDITING | PROOFREADING | TRANSLATION
Prof. Dr. Tinus Kühn
+27 82 303 5415 | tinus.kuhn@gmail.com

16 August 2018

TO WHOM IT MAY CONCERN

I, the undersigned, hereby declare that the master's dissertation titled **Educational needs and assets of the visual impaired Undergraduate Students at a Rural-Based University in South Africa** by **Martha Dimakatso Mashiane** has been edited for grammar errors. It remains the responsibility of the candidate to effect the recommended changes.

Prof. Tinus Kühn