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Investigating how outdoor environmental education programmes in South Africa respond to the needs of visually impaired learners via inclusive practices

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Abstract

Outdoor environmental education programmes in South Africa are conducted at campsites and centres owned by the government, non-profit organisations and private owners. People suffering from impairments are often disabled by society because of their handicap. More than three percent (3%) of young people in South Africa aged between 10 – 19 years are disabled. This study investigates the status of inclusion of outdoor environmental education programmes for disabled young people; what is offered and what practices are working in the industry in South Africa. It also investigates barriers to inclusion. Though many disabilities have been identified, visual impairment is the focus of the study. This study also looks at what more can be done from an *Ecological Systems Theory of Human Development* point of view and investigates what underlying mechanisms influence the inclusion of visually impaired individuals in outdoor environmental education programmes in South Africa. What is done and what is not done to promote inclusion for visually impaired learners in these programmes is also investigated.

This study aims to answer the question; What is the current status quo concerning the inclusion of visually impaired learners in outdoor environmental learning programmes in environmental education centres and campsites in South Africa?

An initial focus group conducted informally prior to the study, helped me to understand the context. In this study, key-interviews and questionnaires were used as research tools. I also ran a photo narrative project throughout the research project which was used as a participatory activity and provided further insight into practices.

Inductive, abductive and retroductive analysis approaches were used to identify emerging themes, and I applied method triangulation using all research tools in order to address the research questions.

Some of the most important findings are that:

- There are many barriers, some intrinsic others extrinsic, that hinder inclusion of visually impaired individuals in outdoor environmental education programmes in South Africa.

- Although there are many things done in the industry to promote inclusion, there is much more that could be done.
- The visually impaired individual him/herself influences inclusivity in outdoor environmental education programmes.
- Interactions and influences in the mesosystem (between different microsystems and ecosystems) have an impact on the inclusivity of visually impaired individuals in outdoor environmental education programmes.
- Dispositions of people have an impact on the inclusion of visually impaired individuals in outdoor environmental education programmes.
- The diversity of generative mechanisms (drivers to events), that interact at the level of the real, influence the inclusion of visually impaired individuals in outdoor environmental education programmes.

Disability/impairment is a much-neglected area of environmental education research in South Africa. This study has contributed scholarship to this area and has also identified possible further areas of study in creating awareness, creating an opportunity to reflect on practices, and finding possible solutions to the barriers of exclusion.

INVESTIGATING HOW OUTDOOR ENVIRONMENTAL EDUCATION PROGRAMMES IN SOUTH AFRICA RESPOND TO THE NEEDS OF VISUALLY IMPAIRED LEARNERS VIA INCLUSIVE PRACTICES
Hendrik Christiaan (Chris) Eksteen

Cover Picture

A great art friend of mine's daughter created this as a painting to emphasise the silenced voices of those in need. The eyes are a focal point for me and the broken hourglass shows time not only running out but being lost. Voices are not being heard of those in need, including impaired individuals. The hands are the barriers holding back those in need. Andria Du Toit, (she signs her artworks Jemima), I would like to thank you for the evocative picture I have used as a cover page for my research document. The picture speaks more words than I could ever put to paper.

Note: Jemima was the name of a very powerful female leader in biblical times; she was the eldest daughter of Job, described as more beautiful than all other women in the land.

Acknowledgements

I want to dedicate my work to all differently-abled youth in South Africa. I pursued this study to create awareness and insight to inform programmes for expanding inclusion for those visually impaired individuals that are being disabled by society. This reflects my view that we cannot sit in silence whilst some are excluded from education. Also, for us to solve environmental problems, we need overall inclusivity with zero discrimination against race, language, gender, religion, age or ability. For people to experience care for the environment, they need to be able to experience and create a bond with nature. Outdoor environmental education programmes are a huge asset in providing this experience, and it is in this sphere that I strive to see inclusive practices in environmental education enhanced.

I once saw a t-shirt in New York City with a very fitting quote from Dan Wilkins, "a community that excludes even one member is no community at all".

I would further like to dedicate my work to my sons Hendrik C Ostwald and Christiaan Isaac, I thank the Lord, God Almighty, that my children are perfect in every way. I cannot imagine my life without my wife, Delana, and sons; they are my anchor and inspiration. To my parents, sisters and in-laws thank you for your support during this process. I want to thank my fellow students, the faculty and department for their support. To the university and library, without you, this would not have been possible. Lastly, but certainly not least, to my supervisors Prof Heila Lotz-Sisitka & Ms Bev Moore my thanks for your support, guidance and drive.

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Acronyms and abbreviations

CAPS	Curriculum Assessment Policy Statement
CCSA	Christian Camping Southern Africa
DESTEA	Department of Economic, Small Business, Development, Tourism and Environmental Affairs
DPI	Disabled Peoples International
EE	Environmental Education
EEASA	Environmental Education Association of Southern Africa
FEE	Foundation for Environmental Education
NEMA	South African National Environmental Management Act
NGO	Non-Governmental Organisation
NPC	Non-Profit Company
NPO	Non-Profit Organisation
QR	Quick Response
SALB	South African Library for the Blind
SANBI	South African National Botanical Institute
SANParks	South African National Parks
SDGs	Sustainable Development Goals

SIC	*Sic erat scriptum* (As it was written)
UN	United Nations
UNEP	United Nations Environment Programme
UNESCO	United National Educational, Scientific and Cultural Organisation
VI	Visually Impaired
WESSA	Wildlife Environmental Society of South Africa
WHO	World Health Organisation
WWF	Worldwide Fund for Nature

CHAPTER 1: INTRODUCTION TO THE STUDY

1.1 Introduction

The purpose of this chapter is to introduce the research study. This chapter introduces the key concepts necessary to understand the purpose of this study and to touch on the rationale for the study. The research aims, goals and questions are discussed whereafter an overview of the thesis chapters is provided to help navigate the reader through the investigation of how outdoor environmental education programmes in South Africa respond to the needs of visually impaired learners.

1.2 Introducing the research sample

The definition of environmental and outdoor education (see section 1.3.1 below and section 2.2.1) has been debated, researched, re-examined, expanded, shortened, amended and pondered on for many years. The one thing that set environmental education apart from broader outdoor education is the fact that it seeks to equip people with the knowledge, mindset, skills and attitude to think about and solve environmental issues. Both outdoor and environmental education programmes are offered in campsites and centres across all nine provinces of South Africa. These sites and centres are owned by the government, non-governmental organisations as well as those in the private sector. Structured outdoor environmental education has been a part of South African history since the early 1970s (the history is discussed at length in section 2.2.1.1).

This study is a critical realist analysis of a selected small research sample bounded by the outdoor environmental education programmes that are presented at an array of different contextual entities at governmental, non-governmental and non-profit organisations as well as privately owned outdoor environmental education centres in South Africa.

The Republic of South Africa is a country covering most of the southern tip of the African continent, divided into nine provinces (see Figure 1.1 below), with a coastal plain extending 2,798 kilometres. According to Aliprandini (2013), the republic covers 1,214,470 square

kilometres of land. South Africa has a number of environmental education and outdoor education centres, which I refer to as 'the industry' in this study.

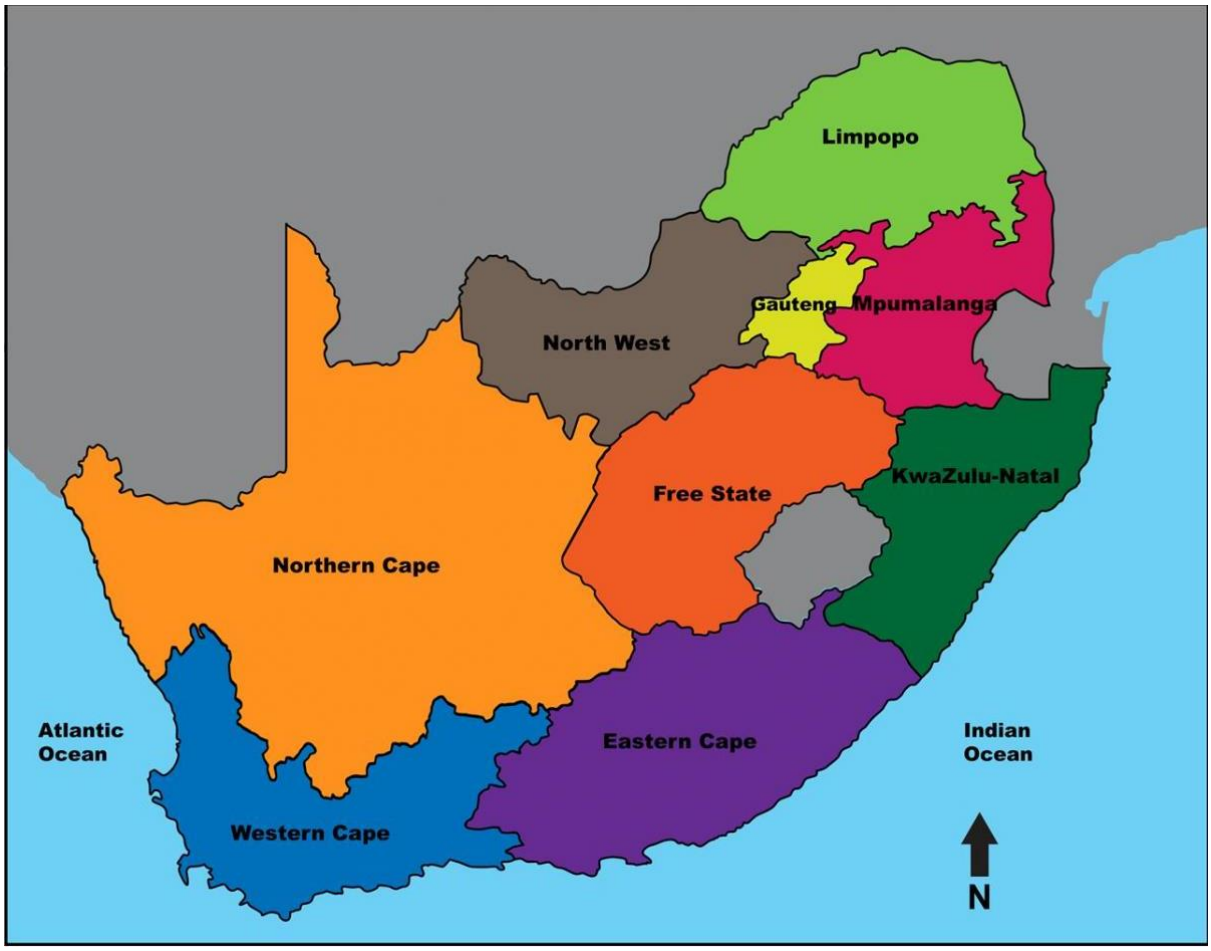


Figure 1.1: Provinces of South Africa

(Sawyoo, 2018)

Key people, across all sectors in the industry, were identified for interviews, each with well over 10 years' experience in the industry and a combined total of over 130 years' experience between the five interviewed participants (see section 3.4.2.1).

A total of 33 responses were captured through questionnaires using an online surveying platform after numerous invitations to participate were sent across an array of channels including, social media, direct emails and indirect communications (see section 3.4.2.2).

Participants were also invited to partake in a photo narrative activity by sending photographs of inclusive practices via WhatsApp or email (see section 3.4.2.3).

During the preliminary contextual profiling for this study an initial focus group (see section 3.4.1.1 and Appendix A) was run to help identify key role players in the industry, present the study to the industry, invite people to participate in the study and to identify the disabilities that are prevalent in the industry. Though many disabilities were identified, this study will have an emphasis on visual impairment. Visually impaired learners can range from having low vision (partially blind) to complete blindness (see section 2.2.2.2).

1.3 Key concepts reviewed

1.3.1 Outdoor environmental education

As noted in the study title, I am particularly interested in campsites as a site of outdoor environmental education praxis. Many people think that the terms 'outdoor education' and 'environmental education' can be used interchangeably, but they have different meanings. Carol Adkins and Bora Simmons (2002) provide a rich review of the converging and diverging definitions of outdoor, experiential, and environmental education. These authors further note, in their history regarding the definition of outdoor education, that outdoor education has been defined in a variety of ways throughout history. As early as 1943, L.B. Sharp (1943) said, "That which can best be thought inside the schoolrooms should there be thought, and that which best be learned through experience dealing directly with native materials and life situations outside the school should there be learned" (p. 363), pointing to the different possibilities for learning that outdoor education offers. Donaldson and Donaldson (1958) define outdoor education as "education in, about, and for the out of doors" (p. 63) while Priest (1986), similar to Sharp's definition, notes that "outdoor education is an experiential process of learning by doing, which takes place primarily through exposure to the out-of-doors" (p. 13). Hammerman, Hammerman and Hammerman (2001) simply state that outdoor education is "education which takes place in the outdoors" (p. 5).

Though the thoughts above reflect a view that outdoor education is mainly concerned with nature, experiences in nature, and studies about nature, we can today say that even language studies, history or mathematics can be presented outside or out-of-doors.

Adkins and Simmons (2002) state further that although environmental education can be seen as outdoor education or share the same trends, it is considered a distinct field (Disinger, 2001). They cite the early landmark event of the 1987 United Nation Educational, Scientific and Cultural Organisation (UNESCO) - United Nation Environment Programme (UNEP) final report on the conference on environmental education held in Tbilisi, noting that the conference adopted the *Tbilisi Declaration* as a foundation document for framing environmental education. This document suggests that the essence of environmental education is to assist individuals and communities to understand the multifaceted nature of the natural and the built environments. This involves the interaction of biological, physical, social, economic and cultural aspects, and the knowledge, values, attitudes and practical skills to participate in an accountable and effective way in solving environmental problems (Adkins et al., 2002; Disinger, 2001; UNESCO & UNEP, 1978). According to Loubser and Ferreira (1992), "the Tbilisi conference suggested that environmental education should be aimed at every level of the population including non-specialist – professionals whose activities may have a significant impact on the social aspects of the environment" (p. 32).

See section 2.2.1 for a further discussion of literature regarding outdoor and environmental education in South Africa.

1.3.2 Experiential learning

Experiential learning has a rich history found in ancient Greek and Chinese philosophy but, according to Weinstein (2013), it was after the release of John Dewey's book *Experience and Education* in 1938 that the term was set in the field of education. As experiential learning has formed part of the history of outdoor environmental education, it is important to share a few thoughts and definitions of what experiential learning is.

Experiential learning is an umbrella term used to describe the action of using real-world experiences to achieve learning goals (Hammerman et al., 2001). Ford (1981) simply called it "learning by doing or experience". Ford (1986) suggests that "outdoor education may be viewed as experiential, especially when the learning takes place through experiences" (p. 1). Itin (1999) adds that experiential education/learning requires "the learner to take initiative, make decisions, and be accountable for the results" (p. 93).

The Association for Experiential Education (2018) states that experiential learning is when learners have direct experiences focused on increasing knowledge, develop skills, clarify values, and develop people's capacity to contribute to their communities.

1.3.3 Disability

Many people in the world live with impairments. According to Stats SA (2014), in 2011 there were 2,870,130 people (above five years of age) with impairments out of the total 38,084,876 people (above five years of age) in South Africa. This shows a national impairment prevalence rate of seven point five percent (7.5%) (subject to the limitations as set by Stats SA).

In the 10-19 year age group, Stats SA (2014) identifies 270,566 differently-abled youths who could possibly be excluded from outdoor/environmental education and discriminated against due to their disability. That is three point three percent (3.3%) of the total 8,191,724 young people in this age group.

According to *The Constitution of South Africa* (1996), everybody has the basic right to education, and specifically in section 9, points 3, 4 and 5, state that no person may unfairly discriminate against anyone on the grounds of race, gender, sex, pregnancy, marital status, ethnic or social origin, colour, sexual orientation, age, religion, conscience, belief, culture, language, birth and **disability**. Therefore, I believe seven point five percent (7.5%) of South Africans cannot be discriminated against in the field of outdoor environmental education.

There are many definitions of what is classified as a disability or impairment, one of such definitions is that of the World Health Organization (WHO), in its *International Classification of Impairments, Disabilities and Handicaps* (2001), makes a distinction between impairment, disability and handicap. The WHO defines these three concepts as follows:

(a) Impairment is "any loss or abnormality of psychological, physiological, or anatomical structure or function" (p. 29).

(b) Disability is a "restriction or lack of ability (resulting from an impairment) to perform an activity in the manner or within the range considered normal for a human being" (p. 28).

(c) A handicap is a "disadvantage for a given individual, resulting from an impairment or disability that limits or prevents the fulfilment of a role that is normal (depending on age, sex and social and cultural factors) for that individual" (p. 28). The term is also a classification of circumstances in which disabled people are likely to find themselves.

Other definitions given by the Disabled Peoples International (DPI) organisation (2013) in their constitution, defines the following terms:

(a) Disability is "the functional limitation within the individual caused by physical, mental, or sensory impairment" (p. 1).

(b) Handicap is "the loss or limitation of opportunities to take part in the normal life of the community on an equal level with others due to physical or social barriers" (p. 1).

Morris (2001), an impaired individual herself, writes "We [disabled people] don't use the term disability to mean impairment. Instead, we use it to refer to prejudice and discrimination, just as racism and sexism refer to the prejudice and discrimination experienced by black people and by women" (p. 3). Morris refers to the British Council of Disabled People which defines disability as the disadvantage or prohibition caused by a society which takes no account of people with impairments. They state that disability is discrimination and social oppression. Impairment, on the other hand, is "a characteristic, feature or attribute within the individual" (p. 2). In short, disabled people are those individuals with impairments who are disabled by society (Morris, 2001). Similarly, Crow (2003) defines impairment as "the functional limitation(s) which affect(s) a person's body" (p. 57) and disability as "the loss or limitation of opportunities resulting from direct and indirect discrimination" (p. 57).

Some people may not like the word 'disabled' as it can have a negative connotation. Harris and White (2013) table an interesting more inclusive point of view (in the *Dictionary of Social Work and Social Care*) and suggest the use of "an alternative to 'disabled' or 'disability', as in 'a differently-abled person' instead of 'a disabled person', that seeks to move away from the notion of deficit that can be imputed to 'disabled', and towards a more positive connotation of difference between people". Though it seems like it is not a description that is being used as an official term, it is still valid to note that there are other ways of thinking and that we should be careful in using a term that could possibly be offensive to others.

See section 2.2.2 where disability and visual impairment is further discussed.

1.4 The rationale, significance and need of the study

Whilst working with children from all socio-economic backgrounds at a variety of campsites in Southern Africa as an environmental educator over the past ten years, I came across children with all sorts of disabilities. The way moved me that nature inspired these young people and with what passion each and every one of them experienced nature. I developed a deep concern for these children and fear that they might be excluded from outdoor environmental programmes due to barriers that could easily be accommodated. I developed an interest in finding out more about whether there are barriers and what the factors are that hinder the inclusion of differently-abled young people in the practice of outdoor environmental education in South Africa (see section 3.3.2).

Many barriers can hinder the inclusion of students in outdoor environmental education; some come from within the impaired individual (intrinsic) and some from the individual's environment (extrinsic) (see section 2.2.3).

Outdoor and environmental education programmes, as mentioned above, have a unique strength in engaging in experience-based learning (Sankoff, 2017; Weinstein, 2013), which is particularly important in addressing attitudes and behaviours. Inclusive education systems, like these programmes would, according to Mittler (2000), entail a "reconceptualization of values and beliefs that welcomes and celebrates diversity and not only a set of practices" (p. 10) (see sections 2.2.4 and 2.3.2).

Urie Bronfenbrenner (1979) developed a theoretical framework to explain the relationship between an individual and the context that shapes their lives. His *Ecological Systems Theory of Human Development* (see section 2.4) is used in this study to explain the environment around the impaired individual. His theory proposes that there are embedded system domains which are influential in the development of a person. These system domains are centred in the individual (section 2.4.1). The domains are the microsystem (section 2.4.2), mesosystem (section 2.4.3), exosystem (section 2.4.4), macrosystem (section 2.4.5) and chronosystem (section 2.4.6). The theory assists in answering the research questions set below.

1.5 Research aims, goals and questions

My study has a mix of methods and involves something Danermark, Ekström, Jakobsen and Karllson (2002) call "critical methodological pluralism" involving the following in this study: realist ontology, interpretivist epistemology and an axiological position involving empathy and compassion for inclusivity and care (see section 3.3.2).

With this study I investigated how outdoor environmental education programmes in South Africa respond to the needs of visually impaired learners via inclusive practices by answering these questions:

- **Main research question:** What is the current status quo concerning the inclusion of visually impaired learners in outdoor environmental learning programmes in environmental education centres and campsites in South Africa?

- **Sub-question 1:** What are the barriers to inclusion for visually impaired learners in outdoor environmental learning programmes in environmental education centres and campsites?

- **Sub-question 2:** What is being done and what is not being done in order to promote inclusion for visually impaired learners in outdoor environmental learning programmes at environmental education centres and campsites?

- **Sub-question 3:** What more can be done to improve inclusion for visually impaired learners with an *Ecological Systems Theory of Human Development* view?

- **Sub-question 4:** What underlying mechanisms influence the inclusion of visually impaired individuals in outdoor environmental education programmes?

To address the research questions and to align my study with wider studies in the field of inclusivity and, because of its relevance to the study interest, I am working with the *Ecological Systems Theory* of Bronfenbrenner (1979). The *Ecological Systems Theory* (see section 2.4) is based on two principals: the theory assumes that an individual interacts within five different environments, each environment functioning as a system. Each one of these systems affects the individual's life and relationships. As mentioned above, the *Ecological Systems Theory* was

developed by the Russian born American psychologist Urie Bronfenbrenner and was published in 1979.

It is important to note from the beginning that I am using an earlier version of the theory as the foundation of my research as the overarching system of time (Chronosystem) and *proximal processes* (Bronfenbrenner & Ceci, 1994; Bronfenbrenner, 1994; Bronfenbrenner & Morris, 1998; Bronfenbrenner, 1999) in human development, were only added later (1990s) to the theory, are not used in my research.

1.6 Overview of the thesis chapters

Chapter 1 introduces the study and the key concepts used in the study, including outdoor environmental education, experiential learning and disability. The rationale of the study is discussed, and the research aims, goals and questions are presented.

The thesis then moves on to **Chapter 2** which is a literature review, visiting key concepts in more depth. The chapter also delineates outdoor environmental education in South Africa, the programmes that teach environmental education and the policies that guide environmental education. Disability is construed by looking at the historical perspective and then focusing specifically on visual impairment and what causes visual impairment. Barriers are discussed as well as inclusion possibilities. The chapter also looks at care, ethics and values before discussing the importance of this study. The theoretical framework is looked at next before moving on to Chapter 3.

In **Chapter 3** the methodology of the study is presented, the orientation of the study discussed and the research site described. The chapter then looks at the methods used to collect the data and what processes were followed, how the data was managed and analysed. Validity, trustworthiness and ethics are also dealt with whereafter the methodology is critiqued.

The next chapter, **Chapter 4**, is the presentation of data derived from all the data generating techniques. This chapter looks at the participants and a few statistics relating to them, the barriers found and what is currently done, what is not being done and what more can be done to improve inclusivity of visually impaired learners in outdoor environmental education programmes. The chapter further looks at why campsites, centres, schools and the government should care about inclusivity and what the benefits are of having inclusive outdoor

environmental education programmes available to the individual, the community, the school and schooling system. Generative mechanisms are highlighted along with a data map that puts this study and its findings in perspective via the metatheory of critical realism.

Chapter 5 synthesises the findings of the study. Here a deeper discussion of the data is engaged with, informed by insights from the literature. This chapter is structured around analytical statements which share the main findings of the study. Recommendations are made as part of the analytical statements but also summarised before the study is concluded.

1.7 Conclusion

This chapter, Chapter 1, introduces the study and shares the rationale for the study, the research aims, goals and questions. The next chapter, Chapter 2, presents the literature review, which deepens understanding of the concepts and theoretical framework that are used in this study.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

In this second chapter of the study, the concepts of this study are elaborated, and literature is used to deepen the understanding of these concepts. This chapter will look further at outdoor environmental education, disability and the barriers associated with especially visual impairment in outdoor education. A section on policies is included to provide insight policy expectations for inclusion. Included is a short discussion of the national Curriculum Assessment Policy Statements (CAPS), South African National Environmental Management Act (NEMA) and the Sustainable Development Goals (SDGs). AI also discussed are barriers to inclusion and an interpretation of care is offered, as the study is also interested in axiological aspects of inclusion. The importance and relevance of this study are looked at and there is a discussion on recreational therapy and inclusive education. The theoretical framing of the study follows, looking at the *Ecological Systems Theory* of Bronfenbrenner, and how this theory is used in practice.

2.2 Key concepts elaborated

The key concepts relevant to this study are presented here to set a base for the rest of the study. The discussion of the concepts expands the brief introduction to some of the concepts offered in Chapter 1.

2.2.1 Outdoor and environmental education construed

As noted in the introduction sections 1.2 and 1.3.1, initial definitions for outdoor and environmental education have been debated, researched, re-examined, expanded, shortened, amended and pondered on for many years. The one thing that sets environmental education apart from the broader concept of outdoor education is the fact that it seeks to equip people with the knowledge, mindset, skills and attitude to think about and solve environmental issues. According to Loubser and Ferreira (1992), due to South Africa having such magnificent natural environments, one would expect the country to be at the forefront in the field of environmental education. It is important to look at the history of outdoor environmental education in South Africa to understand how it is today and where it is heading.

2.2.1.1 History of outdoor environmental education in South Africa

Outdoor and environmental education has been a part of South Africa's history for many years. According to Irwin (1990), environmental education as we know it now first reached South Africa in the early 1970s. Prior to this, 'conservation education' was taught focussing on the use of natural resources and basic ecology and rarely concerning itself with the broader picture of the inclusion of society and politics. Writing in 1990, Irwin stated: *"*Conservation education today continues to constitute a significant and integral part of environmental education but is clearly only a part of it" (Irwin, 1990, p. 4).

Another concept Irwin (1990, ibid) pointed out is that of 'outdoor education' which was confused with environmental education until 1980, and he (Irwin, 1990) noted that "The two ideas do overlap to some extent*".*

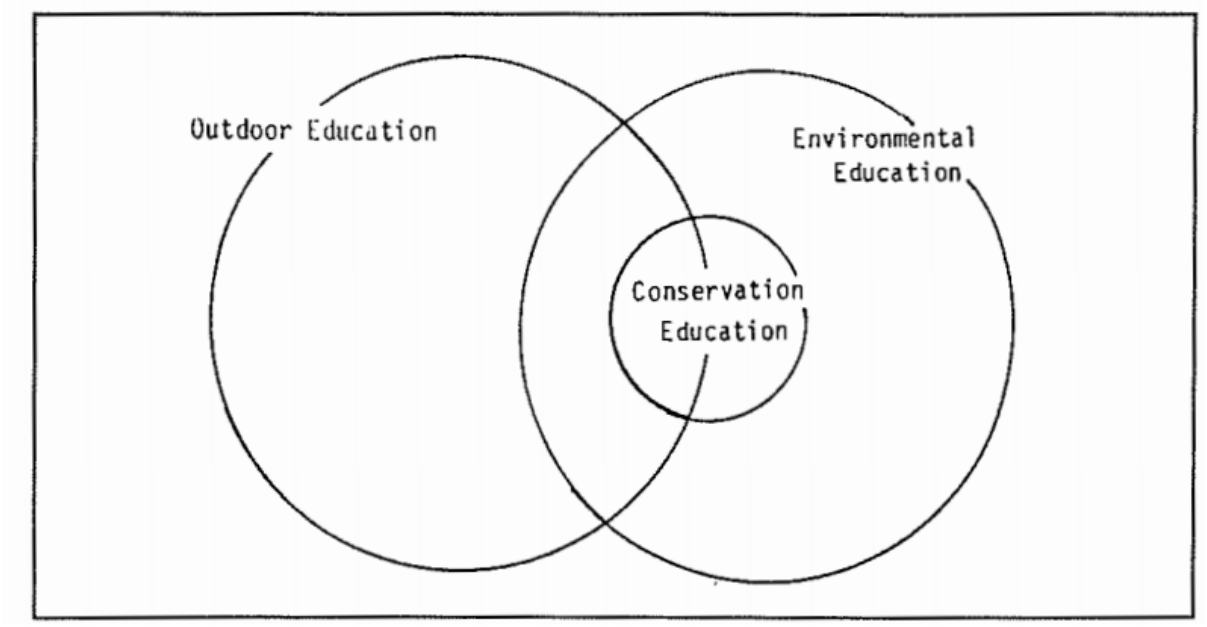


Figure 2.1: A representation of the three concepts by Pat Irwin (1990, p. 5)

This representation (Figure 2.1) of the three concepts as set out by Irwin (1990) provides a good insight of what the terms meant for people in South Africa and how they defined their actions in the late 1900s.

The first international conference on environmental education in South Africa took place at Treverton College in Mooi River, KwaZulu Natal in 1982. This was a landmark for environmental education in South Africa where South African and international delegates could draw strengths together on a common concern. It is also where the Environmental Education Association of Southern Africa (EEASA) was formed, which has later played a significant catalytic, developmental and coordinating role. Even today EEASA still has regular workshops and conferences working to build environmental education in Southern Africa.

Ground-breaking roles in the practice of environmental education in South Africa have been played by non-government organisations (NGOs) and state agencies with a conservation focus. Organisations such as the Wildlife Society of South Africa (known as WESSA today) and others whom by the 1960s already recognised the value of educating people about and in the environment. They had begun to set up programmes to put these ideas into effect. Another company, Christian Camping Southern Africa (CCSA) was formed in 1978. Although Christian based, they have a focus of a temporary community where children can be taught values and skills including those of environmental education in a natural setting. Others concerned with educating youth about the environment set up their own internally controlled 'outdoor' education programmes such as the 'Veld Schools Camps' which formed part of the previous government's life skills programmes under the education ideology of Christian National Education.

Environmental education at tertiary level for teachers and decision makers was introduced at several universities in South Africa in the early 1980s, and 1989 saw the Department of Environmental Affairs tabling a *White paper on environmental education* to parliament (Mosidi, 1997) which differentiated interventions for formal, informal and non-formal environmental education.

Apartheid in South Africa (1948-1994) constituted legislated racial segregation where the population of South Africa was classified into different racial groups, who were forced to reside in designated areas (Baldwin-Ragaven, London, & De Gruchy, 1999). Apartheid also resulted in segregated education in South Africa (Roos, Hoffman, & van der Westhuizen, 2013). Much has changed since 1994 when the first democratic election took place and South Africa now has a national curriculum with a centralised education system (Jita & Mokhele, 2013) and new national environmental policies (see section 2.2.1.3.1 below). According to Jita and Mokhele

(2013), environmental education instructional guidance seems mostly decentralised. Environmental education is not featured as a separate subject but is rather integrated thematically in various subjects. They (Jita and Mokhele) further argue that environmental education is not clearly defined in the curriculum of South Africa which needs to guide teachers what to teach, how to teach and what teacher resources to use.

The Eco-Schools South Africa programme has been increasingly used by teachers and schools as a conduit to support environmental education in schools (Rosenberg, 2008). According to Rosenberg (2008), the Eco-schools programme was launched in 2003 by the Wildlife and Environment Society of South Africa (WESSA) with the help of the World Wide Fund for Nature (WWF) and supported by the Foundation for Environmental Education (FEE).

Post-apartheid curriculum policies in South Africa, according to Le Grange (2012), mandates that both indigenous knowledge and environmental concerns be integrated into all school learning areas. The Department of Education (2003, p. 4) further mandates that the environmental focus in the curriculum is guided by the promotion of "human rights, inclusivity and environmental and social justice" as this features as a principle of the post-apartheid national curriculum (since 1996). According to Rosenberg (2008), since 1994 the new government in South Africa has adopted many progressive policies that provide orientation to environmental education (some of these policies are discussed in section 2.2.1.3.1).

As briefly shown above, the idea of outdoor environmental education and environmental education programmes in classroom settings or temporary camp settings, is not a new idea. It is a well-developed industry in South Africa supported and presented by numerous programmes in the government, non-governmental, parastatal and the private sectors.

2.2.1.2 Outdoor environmental education programmes

There is literature, including the work of Kals, Schumacher and Montada (1999), Kellert (2002) and Berk (2007), that argue that childhood is a very crucial time in an individual's life to develop a bond with nature. This indicates that outdoor environmental education programmes for learners are an important means of creating a connection with the natural environment. There are also numerous researchers that report on the benefits of youth developmental outdoor environmental education programmes around the world, see for example: Hattie, March, Neill, and Richards (1997), Anderson, Schleien, McAvoy, Lias, and Seligmann (1997), Neill and

Richards (1998), Dettman-Easler and Pease (1999), Quay, Dickinson, and Nettleton (2002), Wang, Liu, and Kahlid (2006), Thurber, Scanlin, Scheuler, and Henderson (2007), McLeod and Allen-Craig (2007) and Beams and Atencio (2008).

Smith, Steel and Gidlow's (2010) study reports that students who spent time together in unusual physical settings resulted in a change in social perceptions and behaviour that were originally formed at school. Similarly, the studies of Loeffler (2004) and Lynch (2000) report that outdoor programmes create a unique social environment for developing friendships.

In another study, Sable (1995) found that desegregated outdoor programmes had a substantial impact on increasing positive attitudes toward peers with disabilities. Similarly, Anderson, Schleien, McAvoy, Lias, and Seligmann (1997) found that not only were attitudes positively changed on a global level but learners, after experiencing a camp programme, made active choices to include people with disabilities into their lives as friends. These authors also found a significant gain of skills during the programmes by both impaired and non-impaired learners. For those participants with impairment, social activity and interpersonal relationships were most impacted.

2.2.1.3 Outdoor and environmental education programmes in South Africa

Environmental education and outdoor learning programmes in South Africa are incorporated at environmental education and outdoor centres and campsites. These sites and centres are owned by the government, non-governmental organisations, parastatal institutions as well as those in the private sector. While having a long history, the camping sector in South Africa is mostly unstructured, there being no official governing bodies and no government departments enforcing laws on this part of the industry. For the outdoor/environmental education sector/industry as a whole, there is, however, a professional association, EEASA (Environmental Education Association of Southern Africa), and there are numerous guiding policies (as noted in 2.2.1.1) that support environmental education practice. Some examples of these policies are the National Environmental Management Act (NEMA), the Curriculum Assessment Policy Statements (CAPS) and the Sustainable Development Goals (SDGs) which are discussed below.

2.2.1.3.1 Policies

Post-apartheid policies, including those in education, focus heavily on redressing past inequalities. As such the policies promote active participation in communities in a new democracy and global economy (Rosenberg, 2008). According to Rosenberg (2008), teachers are encouraged to conduct environmental education and they have policies to guide them, environmental policies such as NEMA, SDGs and curriculum documents such as CAPS which put forward the principles of a healthy environment, social and environmental justice and human rights in all learning areas and subjects.

2.2.1.3.1.1 Curriculum Assessment Policy Statements (CAPS)

In 1996 the Department of Basic Education started a process of curriculum review, with the most recent curriculum policy being the Curriculum and Assessment Policy Statement (CAPS). The CAPS document, according to the South African Department of Basic Education (2018), "is a single, comprehensive, and concise policy document, which has replaced the Subject and Learning Area Statements, Learning Programme Guidelines and Subject Assessment Guidelines for all the subjects listed in the National Curriculum Statement Grades R – 12" (South Africa. Department of Basic Education, 2018). The policy, like earlier versions of the curriculum, is guided by the principle statement that requires all subjects to include a focus on human rights, inclusivity, a healthy environment and social justice. This has led to the integration of environmental concepts and activities across the curriculum.

An example of how the CAPS document (2011) responds to environmental education can be found on page 8 of this document, where the specific aims for the subject of Life Skills are summarised and five different areas are cited that might be strengthened. One of these, namely area 4, is relevant to environmental education where it promotes "understanding of the relationship between people and the environment" (South Africa. Department of Basic Education, 2011, p. 8). Other subjects that carry strongly articulated environmental content and processes are Geography, Science and Agriculture (Lotz-Sisitka, 2011). While there is a connection between inclusivity, social justice, human rights and a healthy environment, this is seldom developed conceptually or practically in the curriculum. While this study is not focussing on the CAPS curriculum, it focusses on this relationship, especially as it relates to visual impairment inclusivity in the field of environmental education.

2.2.1.3.1.2 National Environmental Management Act 107 of 1998 (NEMA)

The National Environmental Management Act 107 (NEMA) was published in 1998 and implemented "to provide for co-operative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote cooperative governance and procedures for coordinating environmental functions exercised by organs of state; to provide for certain aspects of the administration and enforcement of other environmental management laws; and to provide for matters connected therewith" (Republic of South Africa, 1998).

The NEMA endorsed environmental education, and an example of this can be seen under the National Environmental Management principles, number 4(h): "Community wellbeing and empowerment must be promoted through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means" (p. 16). This policy governs some of the government led environmental education centres and their activities. They also seek to align their programmes with the CAPS and to support teachers in their environmental education work; see, for example, the *Environmental Sector Skills Plan* of the South African Department of Environmental Affairs (2010).

2.2.1.3.1.3 Sustainable Development Goals

In September 2015, the seventeenth United Nations (UN) General Assembly adopted the *2030 Agenda for Sustainable Development* that included 17 Sustainable Development Goals (SDGs), with 169 targets to reach (United Nations Division for Social Policy and Development, 2016). South Africa has endorsed these principles, and a number of policies in the country are being oriented towards achieving these goals.

The 17 Sustainable Development Goals (SDGs) to transform our world as set out by the UN General Assembly (2015) are:

GOAL 1 No Poverty

GOAL 2 Zero Hunger

GOAL 3 Good Health and Well-being

GOAL 4 Quality Education (Target 4.7 emphasises the inclusion of Education for Sustainable Development into all education and training programmes and sees this as a feature of quality education)

GOAL 5 Gender Equality

GOAL 6 Clean Water and Sanitation

GOAL 7 Affordable and Clean Energy

GOAL 8 Decent Work and Economic Growth

GOAL 9 Industry, Innovation and Infrastructure

GOAL 10 Reduced Inequality

GOAL 11 Sustainable Cities and Communities

GOAL 12 Responsible Consumption and Production

GOAL 13 Climate Action

GOAL 14 Life below Water

GOAL 15 Life on Land

GOAL 16 Peace, Justice and Strong Institutions

GOAL 17 Partnerships to achieve the Goals

A framework was developed by Waage, Yap, Bell, Levy, Mace, Pegram, Unterhalter, Dansandi, Hudson, Kock, Mayhew, Marx and Poole (2015) that places these 17 goals in three concentric circles (see Figure 2.2 below). The inner circle gives the people-centred goals that aim at the well-being of all. These wellbeing goals are supported by the second-level goals that represent the infrastructural goals that relate to the production, distribution, and delivery of goods and services including food, energy, clean water, and waste and sanitation services in cities and human settlements. The outer circle contains the goals focused on the natural environment which relates to the governance of natural resources and public goods in the air,

ocean and on land, including biodiversity and climate change. On the outside of these circles is the overarching goal of strengthening the means of implementation and revitalising the global partnership for sustainable development.

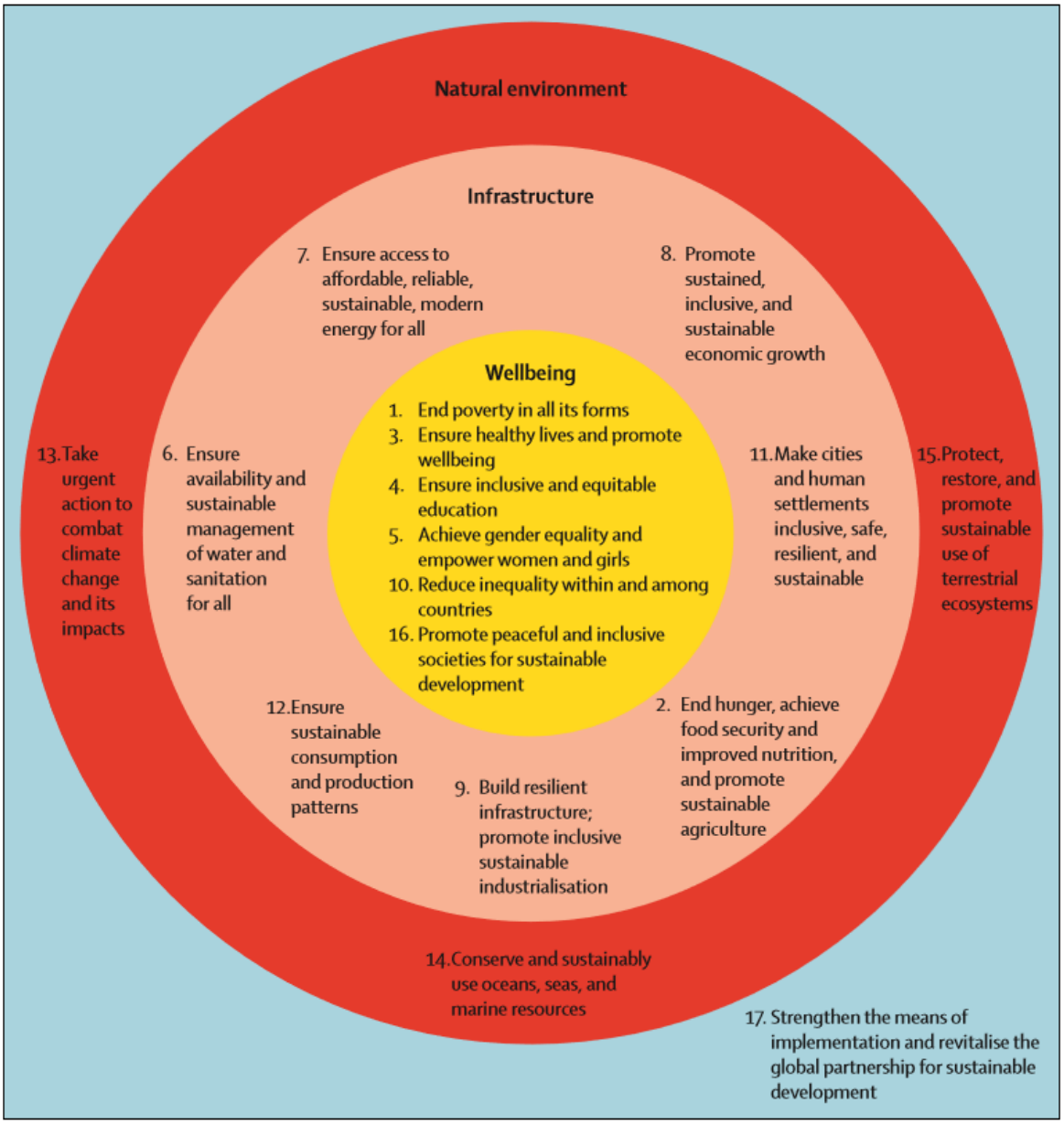


Figure 2.2: Model of the interconnectedness of the Sustainable Development Goals

(Waage et al., 2015, p. 251)

Building on the principle of "leaving no one behind", the new agenda stresses an all-inclusive approach to achieving sustainable development for **all**. The SDGs overtly include disability and persons with impairments eleven times throughout the goals. Although the words

“disability” and “impairment” are not cited directly in all the goals, the goals ensure the inclusion and development of persons with impairments. Disability is referenced throughout the goals but is prominent in parts relating to education, growth, employment, inequality as well as in the parts related to accessibility of human settlements. Here are a few examples from the United Nations Division for Social Policy and Development (2016):

Goal 4 Quality Education This goal concentrates on providing inclusive and reasonable quality education for all while promoting life-long learning opportunities. A further focus of the goal is to eliminate gender inequalities in education and ensure equal access to all levels of education for the vulnerable, including people with impairments. The goal also promises that education facilities should be purposefully made sensitive towards people with impairments, including children and adults. Education facilities should furthermore be gender sensitive. Safe, non-violent, inclusive and effective learning environments must be provided for all. This goal also emphasises education for sustainable development and global citizenship education as a core feature of quality education.

Goal 8 Good Jobs and Economic Growth This goal encourages sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all women and men, including for impaired persons, and equal pay for work of equal value.

Goal 10 Reduced Inequalities This goal is closely linked to Goal 8, as it strives to reduce inequality within and among countries by empowering and promoting the social, economic and political inclusion of all, including impaired individuals.

Goal 11 Sustainable Cities and Communities This goal is focused on making cities and human settlements inclusive, safe and sustainable. For this goal to become a reality, it calls for the provision of safe access, affordable, accessible and sustainable transport systems for all, improved road safety, particularly regarding expanding public transport, with a special focus on the needs of those in vulnerable situations, such as persons with impairments. Furthermore, the goal also calls for providing universal access to safe, inclusive and accessible, green and public spaces, particularly for disabled individuals.

Goal 17 Partnership to achieve the Goals This goal stresses that, in order to strengthen the means of implementation and invigoration of global partnerships for sustainable development, the collection of data and monitoring and accountability of the SDGs are critical. This goal also

calls to enhance capacity-building support to developing countries, including the least developed countries which would greatly increase the availability of high-quality, appropriate and dependable data that is also available to the disabled.

2.2.1.4 The 'place' you find outdoor environmental education programmes

Woodhouse and Knapp (2000) acknowledge that environmental education can occur both inside and outside the classroom. When it occurs outside the classroom, at a campsite or education centre, they term it as "place-based environmental education". The idea of place-based education has been advocated well in the history of environmental education. An example of this was by John Dewey (1907) when he wrote about "learning in the local environment" (p. 91). Haymes (1995), similarly to Woodhouse and Knapp, wrote of a "pedagogy of place" when he writes about learning cultural studies in specific places. Woodhouse and Knapp (2000) cited some essential characteristics of "place-based education" namely:

- it arises from the specific qualities or characteristics of a specific place
- the content of education is specific to the ecology, geography, sociology and other dimensions of the place
- it is multidisciplinary
- it is experiential
- it is reflective of an educational philosophy and
- it connects place with self and community.

These definitions and characteristics are fitting when applied to education programmes run at camps, education centres, nature reserves, botanical gardens, municipal parks, zoos, aquariums, etc. as they [the programmes] are place-based environmental education and sometimes specific to that place, multidisciplinary and experiential.

Campsites, outdoor environmental education centres and other forms of residential camping, like many found in South Africa, are conceptualised by Tom Slater (1984) as the creation of a temporary community. Smith, Steel and Gidlow (2010) note that, though this concept does not

often appear in literature, it is a useful way to understand the residential camping experiences of participants. “It is useful because the juxtaposition of these two words emphasises the short-term, sharply delineated duration of residential camps and the sense of community that can result even in a relatively brief time” (p. 137). It is important to note here that a camp is not defined by its time frame but rather the unique physical setting and the way it interacts with its context.

A camp is different from your day to day classroom as noted by Smith, Steel and Gidlow (2010), although it still has a unique opportunity for education. Slater (1984) argues that three major attributes occur in one way or another in the study of organised camping.

He places these attributes in a model where they can be seen as equally important, but relatively independent of each other, see Figure 2.3 below.

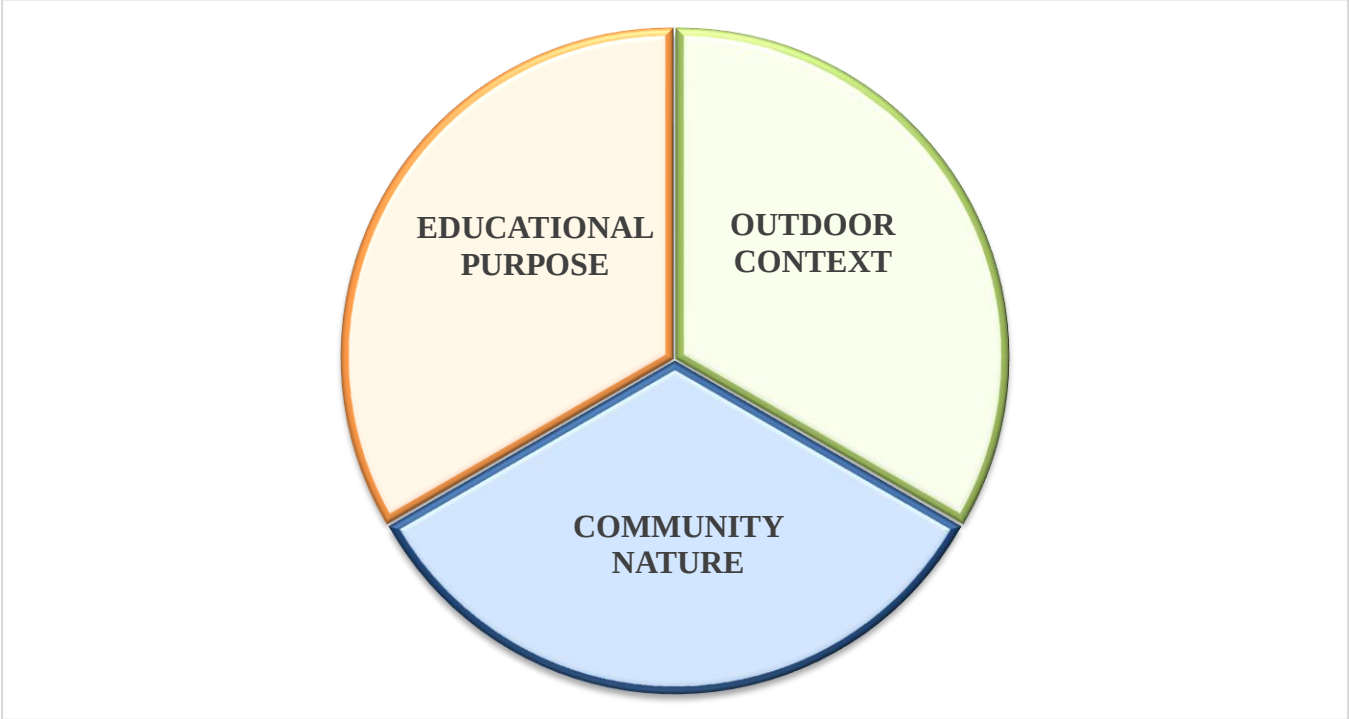


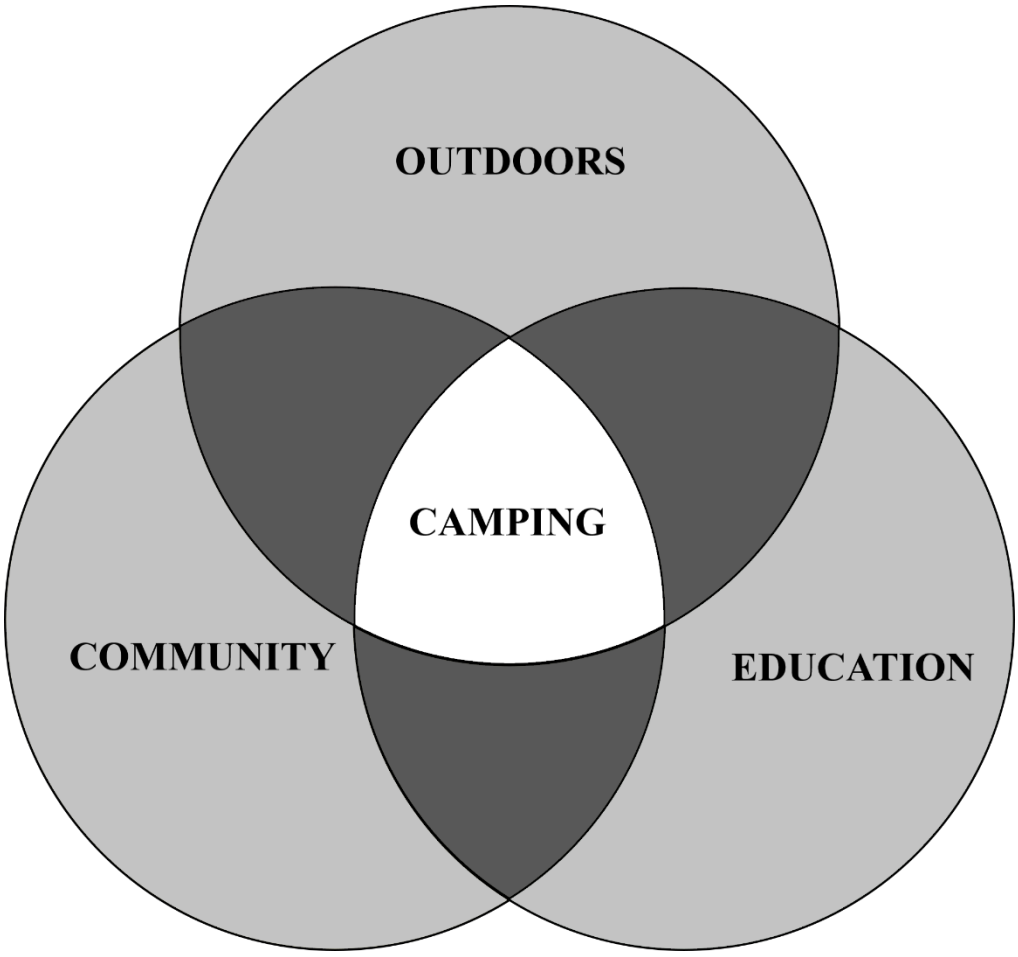
Figure 2.3: A model of camping

(Slater, 1984, p. 43)

Camping can be seen here as an outdoor activity. When we are in nature, we learn about nature. When we are together in one place, we have a chance to learn how to live together.

However, Slater later critiques this model as the attributes are seen as independent and alongside each other and there is little or no interaction between them other than being together in the same space in time. Rather Slater (1984) puts further a reworked model of what camping is, see Figure 2.4 below:

Figure 2.4: An integrated model of camping



(Slater, 1984, p. 46)

In this model, the attributes are all seen as important but this time there is interaction. There is a common ground, camping, in a model where the attributes complement each other. “Instead of structuring a camp programme proceeding from education activities to community-developing activities, then to outdoor pursuits, each attribute is interrelated” (Slater, 1984, p. 46).

2.2.2 Disability construed

Some definitions for disability and impairment have been offered in section 1.3.3; here the concepts are further elaborated and a look at the historical perspective on disability provides a starting point.

2.2.2.1 Historical perspective on disability

Looking back into the history of disability, from the 1800s to the late 1970s it was the norm all over the world to separate those who had physical, cognitive or psychiatric differences. Governments maintained schools for deaf and blind individuals and institutions for people with mental illness and those who had cognitive impairments. It was also common to institutionalise and isolate those with physical disabilities. Along with, and because of these historical practices, came a host of misleading assumptions, such as: people with impairments or disabilities should be judged differently from society; they should be provided with separate services; they require only therapeutic programmes; and they can only engage in activities with "their own kind" (Braddock & Parish, 2001).

Governments, individuals and organisations have worked hard to inform the general public that these practices and assumptions are incorrect. I too would like this research to inform and reflect that, by understanding disabilities and impairments, inclusivity in outdoor education programmes is made possible.

2.2.2.2 Visual impairment

There are many forms of disability. As discussed earlier (see section 1.3.3), in this study, the focus is on learners with a visual impairment. The World Health Organisation's (2016) *International Statistical Classification of Diseases, Injuries and Causes of Death* describes visual impairment as including low vision as well as blindness in either monocular (one eye) and binocular (both eyes). Landberg, Krüger and Nel (2005) concur by writing that people who experience visual impairment are a diverse group ranging from slightly impaired to totally blind.

Table 2.1 below, drawn from the *International Statistical Classification of Diseases, Injuries and Causes of Death* (2016), provides a classification of severity of visual impairment by rating

the severity of the impairment to the distance visual acuity, which measures the ability of the eye to distinguish shapes and the details of objects at a given distance.

By way of example of the tabled distance visual acuity number, a person with 6/60 vision would mean that the person can see at 6 meters what other people can see at 60 meters.

Table 2.1: Classification of severity of visual impairment

(World Health Organisation, 2016)

CATEGORY	**PRESENTING DISTANCE VISUAL ACUITY**	
	Worse than:	**Equal to or better than:**
0 Mild or no visual impairment		6/18 3/10 (0.3) 20/70
1 Moderate visual impairment	6/18 3/10 (0.3) 20/70	6/60 1/10 (0.1) 20/200
2 Severe visual impairment	6/60 1/10 (0.1) 20/200	3/60 1/20 (0.05) 20/400
3 Blindness	3/60 1/20 (0.05) 20/400	1/60 1/50 (0.02) 5/300 (20/1200)
4 Blindness	1/60 1/50 (0.02) 5/300 (20/1200)	Light perception
5 Blindness	No light perception	

There are many causes of visual impairment and most of them derive from the eye. Below is a presentation of the eye which provides a reference point to some of the causes of visual impairment as discussed in section 2.2.2.2.2 below.

2.2.2.2.1 Structure of the eye

Figure 2.5 below shows the anatomy of the eye. This picture will aid in understanding the part of the eye that is explained in section 2.2.2.2.2.

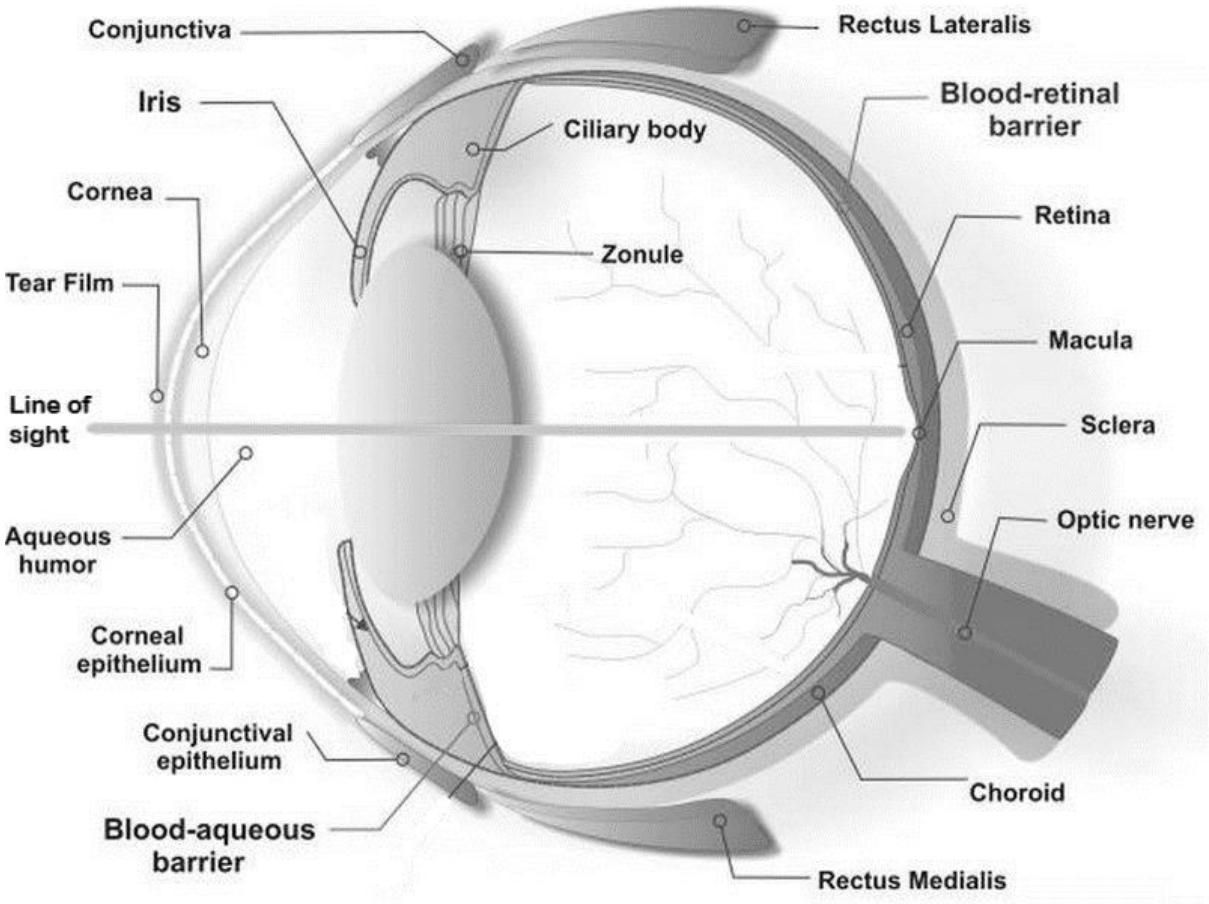


Figure 2.5: The anatomy of the eye

(adapted from Barar, Asadi, Mortazavi-Tabatabaei and Omidi (2009) Figure 1)

The **sclera** is the tough outer layer of the eye; it protects the two inside layers, the **choroid** and the **retina**. The **retina** is a very important thin layer which covers approximately two-thirds of the eye and consists mainly of nerve cells, the rods and cones, which contain pigments that

convert light into electrical impulses. The electric pulses are conveyed via the **optic nerve** to the brain where they are interpreted. The cones are spread around and throughout the **macula**. The **macula** is the point of sharpest vision where the lens focuses the images. The line of vision runs through the middle of the **pupil** to the **macula**. Six eye muscles located on the outside of the eye work together to move the eyes up and down and sideways. The muscles of the two eyes work together to focus on an object, so the brain receives only one message. The **cornea** is the transparent outer circular part of the eye. Along with the **lens,** it acts as converging lenses and focuses the images onto the **retina**. The **aqueous humour** is a clear watery fluid which fills the anterior chamber, between the **cornea** and the **iris** and the post chamber between the **iris** and the **lens**. The conjunctiva is a mucous membrane that covers the front of the eye and lines the inside of the eyelid (Landsberg et al., 2005).

2.2.2.2.2 Causes of visual impairment

Landsberg et al. (2005) point out the following regarding the causes of visual impairment: aside from accidents, trauma and genetics, there are a few eye conditions and eye problems that can cause visual impairments such as (refer to section 2.2.2.2.1 and Figure 2.5 above):

a) Refraction errors

The most frequently seen eye problem. The eye has three refraction structures: the cornea, the lens and the aqueous humour. Three of the most common refraction errors seen are:

- Myopia (nearsightedness): light rays do not focus on the macula but fall in front of it
- Hyperopia (farsightedness): light rays fall behind the macula instead of on it
- Astigmatism (often linked with myopia or hyperopia, it is caused by an uneven cornea): light rays do not fall on the macula but in front and behind it.

b) Cataracts

A cataract is a cloudy spot on the normally transparent lens of the eye.

c) Strabismus

When the muscles of the eyes do not function together, one eye will look at the object and the other eye will be drawn to a side and thus not be looking straight at the object, this causes a double vision as each eye sees separately.

d) Nystagmus

Nystagmus is an involuntary swaying of the eyes from side to side. The individual has extreme difficulty to focus on an object or word.

e) Albinism

An individual with albinism is noticeable due to white skin and white hair. The eyes and pupils are reddish due to the lack of colour pigments. The individuals are very light sensitive.

f) Trachoma

Trachoma is a bacterial infection caused by a micro-organism on the inner surface of the eyelids. Trachoma is very infectious and is spread by flies.

g) Conjunctivitis

Conjunctivitis is an infection on the conjunctiva membrane and can be caused by bacteria, viruses, parasites, allergic reactions or chemical irritations.

h) Glaucoma

Glaucoma happens when there is too much aqueous humour fluid in the front chamber of the eye and there is little or no outflow thereof. Painless pressure builds up within the eye and damages the optic nerve.

i) Macular degeneration

When the macula gradually degenerates, the individual will progressively lose their vision as a blank area in the middle of their field of vision will form as the central part of the retina is destroyed.

j) Retinitis pigmentosa

When there is too much pigment in the retina of the eye the individual's vision will gradually deteriorate from the outside inwards until only central vision is left. It is accompanied by night blindness as the rods in the retina are affected.

k) Retinal detachment

When the rods and cones (sensory retina) separate or detach from the pigment epithelium layer, this will most often result in a hole or tear in the retina.

(Landsberg et al., 2005)

2.2.2.2.3 Influence of visual impairment on a child's development.

Mealy (2013) writes that we have five sense organs; the eyes (seeing), the ears (hearing), the nose (smelling), the tongue (tasting) and the skin (touching).

According to Landsberg et al. (2005), vision is our most dominant sense, "it is estimated that of all the information reaching our brain via senses, more than eighty percent (80%) comes from the eyes" (p. 334).

If an individual loses sight or becomes impaired, it is only natural to say that his/her development will be impacted.

Many researchers, like Graven (2005), Proulx, Gwinnutt, Dell'Erba, Levy-Tzedek, de Sousa and Brown (2016), are at one with the fact that touch can replace sight as the dominant sense. This is why braille is popular amongst visually impaired people and amongst those seeking to support inclusivity for the visually impaired.

2.2.2.2.4 Braille

Braille is a well-known, unique, reading and writing tactile medium of communication used by the blind (Harmon, 2016; Landsberg et al., 2005; Sadato, 2005). According to Sadato (2005), braille has its roots from the military where, in the early 19th century, a French soldier, Charles Barbier de la Serre, invented a tactile code for sending military messages that could be read without light in the night. His design consisted of twelve raised dots. It was a very complicated system to use in practice. Louis Braille encountered Barbier de la Serre's invention in 1822

and, realising how useful this system could be for the blind community, simplified the complicated twelve dots system to an accessible six dot system.

Braille, as we know it today, uses a series of six raised dots arranged within a unit of space known as a braille cell, see Figure 2.6 below (Harmon, 2016; Hutchinson, Atkinson, & Orpwood, 1998; Landsberg et al., 2005; Sadato, 2005). The braille cell's six dots are arranged in two parallel columns of three dots each with specific spacing. There are sixty-three combinations possible using one or more of these dots. The dots form a code that represents a letter, number, punctuation mark or even a whole word.

Braille is read with the sense of touch, primarily by using the cushion tip of the forefinger (Hutchinson et al., 1998).

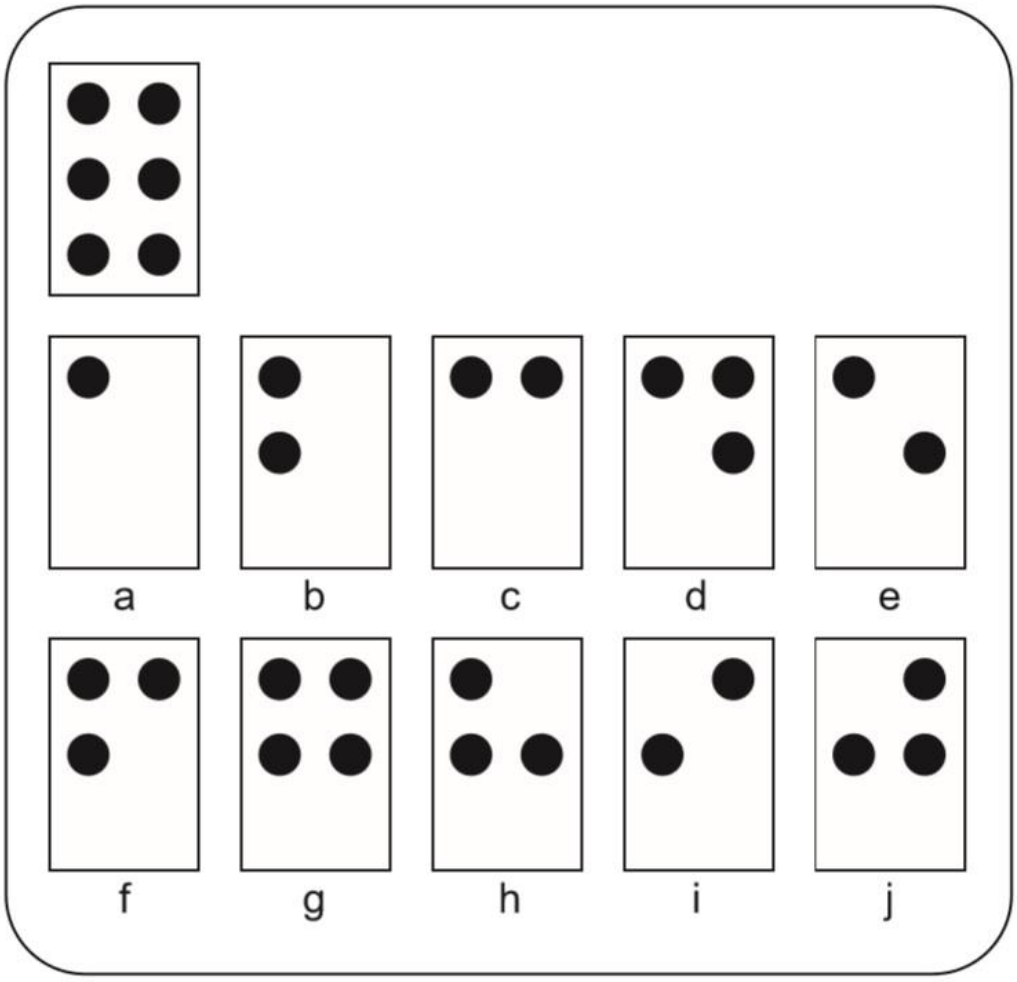


Figure 2.6: Braille cells

(adapted from Landsberg et al. (2005) p. 344)

2.2.3 Barriers

Many barriers can hinder the inclusion of students in outdoor environmental education. There is an array of dictionary definitions, one of which is from the Oxford dictionary (2009) where a barrier is defined as "that problem, rule or situation that prevents somebody from doing something or that makes something impossible". The word "prevents" stands out in this definition.

Pienaar and Raymond (2013) define two categories of barriers:

- Intrinsic barriers refer to those factors that arise from within the learner; these include physical, sensory, neurological and developmental impairments, cognitive differences, chronic illnesses and psychological disturbances.

- Extrinsic barriers are those factors that arise from outside the learner. They may relate to the school, the education system or family dynamics as well as cultural, social, political and economic contexts.

Pivik, McComas and Laflamme (2002) discuss the following type of barriers that prevent inclusion:

- Environmental barriers include categories of access, like doors, passageways, elevators, washrooms, stairs, ramps, and recreational areas.

- Intentional attitudinal barriers include isolation, physical and emotional bullying.

- Unintentional attitudinal barriers include barriers relating to a lack of knowledge, lack of education, lack of understanding and lack of effort.

- Limitation barriers are inherent to the physical disability and include difficulties associated with the person's condition or disability.

According to the *Education White Paper, 6* from the South African Department of Education (2001), learning needs may arise not only from the visual impairment itself but also from some extrinsic barriers. Landsberg et al. (2005), discussed some extrinsic barriers that a visually impaired individual might encounter:

> "inter alia, negative attitudes and stereotyping of differences, an inflexible curriculum, inappropriate communication, inaccessible environments, inappropriate and inadequate support services, non-involvement of parents and inadequately trained educators" (Landsberg et al., 2005, p. 336).

In order for the improvement of inclusivity in the industry, it is necessary to identify the factors and barriers that cause exclusion and understand them in order to find possible solutions.

Ham and Sewing (1988) discussed barriers to environmental education showing what barriers in the 1980s inhibited teachers from implementing environmental education programmes, some of which could still occur today. They categorised the barriers into four broad groups:

Conceptual barriers

These include misconceptions regarding environmental education such as that environmental education was only relevant to science curricula or was seen as a separate subject that had to be added to the curriculum.

Logistical barriers

Here a lack of time, funding, resources and suitable class sizes were seen as barriers.

Educational barriers

Barriers like training and teachers' misgiving about their own competencies.

Attitudinal barriers

These barriers stem from teachers' attitudes toward environmental education instruction, along with teachers' lack of interest in the subject.

Barriers to inclusion are discussed in section 4.3, as it is the focus of the study, but some barriers are preventing environmental education being taught also come to light that can easily be placed in the above categories of Ham and Sewing (1988).

2.2.4 Inclusion

Inclusion is a complex concept, yet it is a buzzword used in policy documents, research articles, newspapers, magazines and other media (Swart & Pettipher, 2005) and, as noted above, is coupled with environmental education in the CAPS curriculum principles.

According to Dyson (2001), inclusivity includes a dedication to building a more democratic society with an unbiased and quality education system which accommodates the needs of all learners. Mittler (2000) states that inclusion can be seen as "an expression of the struggle to achieve universal human rights" (p. 12) and inclusivity is based on a value system that summons and rejoices diversity arising from "gender, nationality, race, language, social-economic background, culture, origin and level of educational achievement or disability" (p. 10). Inclusivity is developing an inclusive community and inclusive education system.

2.2.4.1 Changing paradigms

Schools, campsites, centres and other businesses do not function in isolation; they are all influenced by the economy, politics and social developments. According to Swart and Pettipher (2005), what happens in a school reflects the developments and changes in society as society's values, beliefs and priorities will influence how schools operate. Karagiannis, Stainback and Stainback (1996) argue that societies are undergoing fundamental changes and Cline and Frederickson (2009) elaborate that societies are multicultural and becoming more diverse, thus resulting in schools and classrooms consisting of learners from diverse ethnical, linguistic, cultural and social-economic backgrounds as well as having diverse abilities.

Swart and Pettipher (2005) state that "throughout history, changes in society are frequently paralleled with alternative ways of thinking, or new paradigms about human nature" (p. 4). Skrtic (1995) defines a paradigm or world-view as "a shared pattern of basic beliefs and assumptions about the nature of the world and how it works. These assumptions tell us what is real and what is not; they shape our cultural identity and guide and justify our institutional practices" (p. 4). Paradigms are enabling and expose knowledge to help us explain the nature of the world. Two prominent paradigms related to disability and inclusion in education are unpacked below, the medical model and a social-ecological model.

2.2.4.2 The medical model

The medical model (Swart & Pettipher, 2005), otherwise known as the "within-child model" (Mittler, 2000) was a popular model from the early 1900s. It is ultimately a model of diagnosis and treatment with origins from the medical field; a 'find-what-is-wrong-and-cure-it' paradigm with a place as a medical role but not effective in social science. According to Swart and Pettipher (2005), when this model is applied to the field of education, as was commonly done, children with any type of difference or impairment are singled out, the origin of the said difference is looked for within the learner, a diagnosis is made and the child is unavoidably categorised, labelled and placed in a specialised environment where they are treated differently. In the previous segregated education system, such labels or categories determined the type of special school or class the learner required. A presumable rationale for separate education, according to the authors, was not only for the benefit of the learner but also to the benefit of the majority of learners who are not labelled with a disability. Teacher training was also divided between those that serve the need of the "ordinary" or "normal" learners in the mainstream classes and those whose focus was on "specialised" needs.

Mittler (2000) argues that although the medical model is rejected as a single explanation "it remains highly influential and profoundly affects policy practices and attitudes" (p. 3). He also states that "it is still part of the general consciousness of almost everybody who works in education" (p. 3). The system is ingrained in the thinking of generations of teachers, parents, professionals and legislators (Swart & Pettipher, 2005). Bailey (2005) writes that criticism of the medical model has led to more social and ecological theoretical models.

2.2.4.3 The social ecological model

Florian (2002) writes that refocusing was needed away from the 'specialness' of learners and the 'special' form of provision that was seen they 'need', towards removing the barriers within society and the contribution of all people, especially those with differences and impairments, in everyday life of society. According to Swart and Pettipher (2005) this refocusing related to the change of attitudes, in regulations and institutions that create and maintain exclusion. The shift in paradigm became evident when normalisation was introduced in the late 1960s. Nirje (1969) defined normalisation as "making available to all (disabled individuals) patterns and

conditions of everyday life which are as close as possible to the norms and patterns of the mainstream of society" (p. 1).

According to Swart and Pettipher (2005), the normalisation philosophy was in direct conflict with the earlier practices of separate schools as people with disabilities have the right to a 'normal' daily routine which involves 'normal' school and home circumstances. This philosophy soon gave rise to mainstreaming and then to integration policies.

Mainstreaming, according to Swart and Pettipher (2005), is the educational equivalent of normalisation which suggests that people with disabilities have a right to life experiences that are the same as, or similar to, those of others in society. Mainstreaming is to return disabled learners to the main education stream alongside 'normally' developing peers as much as possible.

Integration, on the other hand, is the practice that aims at boosting the social contact and collaboration between impaired and non impaired learners.

2.2.4.4 An inclusive education system

An inclusive education system is described by Mittler (2000) as a "reconceptualization of values and beliefs that welcomes and celebrates diversity and not only a set of practices" (p. 10). UNESCO (1994) emphasised that an inclusive education system should accommodate all children, regardless of any conditions; disabled and gifted children should be included and also children from all backgrounds. They further state that an inclusive education system must first recognise and then respond to the diverse needs of all students, ensuring quality education through appropriate curricula, teaching methods and using the correct resources in partnership with their communities.

2.2.5 Care

Care is a broad topic to cover and described by many authors, like Green (2012), but it is difficult to define. Care too may mean different things. Here are a few definitions and thoughts on what care entails:

Tove Petterson (2011), writes that care in a simple form is abstaining from inflicting harm and/or the promotion of the individual to flourish. Leiniger (1988) suggests that care is based

on co-dependent relationships between people. Green (2012) takes this notion further by stating that "care is relationships that are constructed in culture and society and shaped by political and structural environments" (p. 1). Green (2012) acknowledges that relationships are the core of care. Bowden (2000) agrees that care is an ongoing relational practice and Davies (2000; 1995a; 1995b) sees care as a social practice. Care is not only between individuals but extends beyond intimate relations and could include institutions, as addressed by many like Ruddick (1980), Tronto (1993), Noddings (2002), Slote (2003), Parton (2003), Held (2006), Kittay (2011) and Mckenzie and Macleod (2012).

Petterson (2011) describes a mature form of care as the principle that you should care for others as much as you would care for yourself.

Individuals/entities that find themselves in a caring relationship do not divide, rather they join in their relatedness. They are concerned to strengthen the relationship, a better understanding of each other's needs, vulnerability and dependencies. Everyone is dependent at some point in their lives. Society constructs dependency of impaired individuals as "bearing the burden of unmet dependency needs, and being falsely seen to be dependent in ways that one is not, [this can] serve to exclude disabled people from full social participation and the possibilities to flourishing" (Kittay, Jennings, & Wasunna, 2005, p. 458). Petersen (2011) argues that, when both interests of self and others are acknowledged, people can - despite differences and hostilities that divide them, recognise each other as persons entitled to care and consideration. Kittay (2011) argues further that "without the attitude of care, the open responsiveness to others that is so essential to understanding what another requires is not possible" (p. 52).

The flipside of care as discussed by Petterson (2011) is hostility and violence. When a relationship, whether private or global, between anyone (individuals or institutions), are harmful, it signifies the lack of caring in that relationship.

2.2.5.1 Ethics of care

The theoretical model of ethics of care derived from the 1960s and evolved from feminism. It provides a concept of belonging and inclusivity and helps with the explanation of human relationships. According to Tronto (1993) in the ethics of care model, relationship and connection to others are placed in the centre of a moral universe. Morris (2001) states that the model is based on "recognition of interdependence, relationships and responsibilities" (p. 13).

Held (2006) states that "the central focus of the ethics of care is on the compelling moral salience of attending to and meeting the needs of the particular others for whom we take responsibility" (p. 2). Parton (2003) says that the ethics of care is about being open to others.

Green (2012) reflects that the ethics of care model is rooted in the biological capacity and expectations of motherhood and includes typically feminine traits such as compassion, empathy and kindness but states that care ethics are "not uniquely feminine, as men may also exhibit strong tendencies to care" (p. 2). Similarly, Cockburn (2005) sheds some attention that it is important to note that gender does not determine carers.

Cockburn (2005) contests the commonly placed assumption that children and people with disabilities are always the recipients of care. There are many cases that show that a child or impaired individual can care for another person. Very closely linked to ethics are values, a complex, broad term.

2.2.5.2 Values

Values, sometimes defined as human values (Prati, Pietrantoni, & Albanesi, 2018) or personal values (Mondejar-Jimenez, Vargas-Vargas, & Jose Saez-Martinez, 2018) are conceptualised differently by many authors in many academic disciplines from early times. Vinson, Scott and Lamont (1977) for example write that when one looks for a definition for values, one could get many possible answers depending on the angle from which you look. They (Vinson, Scott and Lamont) suggest three possible angles:

1. **Anthropological angle** with "its interest in lifestyles and cultural patterns" (p. 2). An example hereof "objective, social elements which impose themselves upon the individual as a given and provoke his reaction" (Thomas and Zaraniecki [sic] 1927 p. 1131, as cited by Vinson et al., 1977 p. 2).

2. **Sociological angle** "focusing on ideologies and customs" (p. 2). An example hereof "a value is a concept which groups together some modes of behaviour in our society" (Bronowski 1959, p. 62, as cited by Vinson et al., 1977 p. 2).

3. **Psychological angle** focussing from the "standpoint of attitudes and personal motives" (p. 2). An example hereof "a value is a centrally held, enduring belief which guides actions and judgments across specific situations and beyond immediate goals to more

ultimate end-states of existence" (Rokeach 1968 p. 161, as cited by Vinson et al., 1977 p. 2).

According to Schwarts (1992), also from a psychology angle, human values are concepts or beliefs that affect life goals, vary in importance and influence decisions and behaviour of individuals in society.

American author and philosopher James Clear (2018) provides a list of values he believes to be commonly used today, and here is a sample of his list:

- Attitude
- Citizenship
- Compassion
- Competency
- Contribution
- Creativity
- Determination
- Fairness
- Friendships
- Influence
- Learning / Sharing knowledge
- Openness
- Religion
- Respect
- Responsibility
- Service to others
- Solidarity
- Understanding

2.3 The importance, relevance and need for this field of study

In this section, outdoor environmental education and inclusivity and the importance of focussing on inclusivity in outdoor environmental education are discussed.

According to Liddicoat and Krasny (2013)

> “Significant life events research focusing on environmentally active individuals and on the general public has revealed the importance of time spent in nature, within or outside of formal EE programs, in influencing later involvement in environmental recreation, activism and choice of profession, as well as positive attitudes towards nature” (p. 295).

Thus, drawing on Liddicoat and Krasny above, by "allowing" individual youths who are differently-abled to experience nature, can and most probably will, equip them with positive attitudes toward nature, influencing activism and could even influence their choice of a profession in adulthood.

There are a number of environmental and outdoor education researchers that are resolute that learning experiences in the natural, out of doors environment are tremendously important in developing students' knowledge, attitudes and responsible actions (Ballantyne, Roy, Connell, & Fien, 1998; Ballantyne, Roy, Fien, & Packer, 2001; Ballantyne, Roy & Packer, 2002; Ballantyne, RR & Uzzell, 1994; Bogner, 1998; Lai, 1999; Rickinson, 2001; Tanner, 2001). Examples thereof can be seen in Palmer's (1999) research with 1259 students in nine countries which found that direct experiences with/in nature had a far greater impact on subsequent involvement in and attitudes towards pro-environmental activities than formal face to face classroom education. These have been associated with an increased level of student motivation and achievement and has a greater likelihood that this supporting learning will be transferred to those situations that the students encounter outside of their normal school environment.

According to Ballantyne and Packer's research (2008), students who attend an outdoor environmental education programme typically go away with an average of six learning events, three relate to new items of knowledge and the other three to changes in attitudes and behaviours. Even three months after the participation in the programmes, the students could still recall an average of five learning events.

Outdoor and environmental education programmes have a unique strength in engaging learners in experience-based learning, defined by Weinstein (2013) as learning by extracting from experiences within and beyond the classroom or simply as 'learning by doing' in Sankoff (2017). Also, see section 1.3.2 which is particularly important in addressing attitudes and behaviours. As noted above, the effects of outdoor and environmental education programmes are said to be longer lasting than those that result from teacher directed, face to face, classroom learning.

Some researchers argue that environmental education is a valuable source of recreational theory and practices inclusive education.

2.3.1 Recreational therapy

An aspect of working with impaired children in the out of doors is in the form of recreational therapy. According to Bullard (2017), recreational therapy or a therapeutic recreation is a form of physical therapy that uses various forms of leisure activities and life skills to promote physical and mental well-being for people with illness or impairment. The purpose of a recreational therapist, according to Young (2015), is to contribute to assisting individuals with special needs to engage in recreational activities, affecting their overall health and wellbeing.

Kiernan, Gormley and MacLachlan (2004) write on their findings on the outcomes associated with participation in a therapeutic recreation camping programme for children that the outcomes "indicated that in terms of children's levels of physical symptom distress, younger children (7–12 years), and those with an illness, benefited from the camp programme". Though my focus is not on the medical, mental and or physical benefits of outdoor environmental programmes, it is noteworthy to see that medical journals confirm the benefits of such programmes and activities.

2.3.2 Inclusive Education

Sithabile Ntombela (2011) did a study on the progress of inclusive education in South Africa after the release of the *Education White paper 6: Special needs Education – Building an Inclusive Education and Training System*. She suggests that on ground level, the teacher has minimal interaction with policies and consequentially a poor understanding thereof could be linked to the inadequacy of the implementation of inclusion policies as outlined in the *Education White paper 6* amongst others.

Another significant study on environmental education and the inclusion of differently-abled learners in Southern Africa is that of Zwelibanzi who produced a doctorate thesis for Education at the University of South Africa titled *An investigation into issues and challenges in implementing environmental education in special schools in South Africa* (Zwelibanzi, 2016). The results showed that the teachers were unable to translate the policies of inclusive education. They struggled to adopt the mainstream curriculum for special needs learners, as expected from teachers in special schools.

In education, and not specific to the outdoor camping industry, it is alarming that in two studies found (Conroy, 2013; Dillenschneider, 2007), there is a misconnection between inclusive policies and the people that need to implement them (see section 2.2.1.3.1). This raises the question in the study, 'how well do the people on ground level (guides, teachers, facilitators, camp directors, etc.) have knowledge of policies, procedures and guidelines available and are they implemented?'

Melissa Conroy (2013) states, in her study on inclusive education in developing countries, that inclusive education has many benefits to special needs and mainstream students, "it allows special needs students to more fully assimilate into the culture and promotes tolerance and acceptance among mainstream students" (p. 1).

Cindu Dillenschneider offers a paradigm shift away from viewing disability as the primary identity of a student with an impairment towards understanding impairments and disabilities. "By understanding processes that create inclusive environments and methods for accommodating individual difference, outdoor adventure educators can successfully integrate students with impairments and disabilities into standard programs" (Dillenschneider, 2007, p. 70).

2.4 Theoretical framework

Numerous scholars, like Guba and Lincon (1994), Richters (1997), Winegar (1997), Goldhaber (2000), Tudge (2008) and Tudge, Mokrova, Hatfield and Karnik (2009) have argued that theory, methods and analytical processes in a study should be tightly connected. Tudge et al., (2009) states that theory provides the framework within which one can explain the discovery of new connections and provide insights into the phenomena under study.

Bronfenbrenner's *Theory of Human Development* (1979), which I introduced briefly in Chapter 1, was ever evolving. It was developed by him to explain the relationship between individuals and the context that shapes their lives (Rojas & Avitia, 2017; Tudge et al., 2009). Tudge and Scrimsher (2003) write that Bronfenbrenner was very self-reflective in his studies and recurrently noted the change in his theory.

Bronfenbrenner's earlier theorising (1977) introduced the individual's context with famous concepts in the nested systems of the *microsystem, mesosystem, exosystem and macrosystem*

and later on added the concept of time or *chronosystem* (Bronfenbrenner, 1979*).* In 1989 Bronfenbrenner self-criticized his theory for disregarding the role the individual plays in their own development (Super & Harkness, 1986) and the individual was added to the centre of the model. In the 1990s Bronfenbrenner (1994; 1995; 1999) defined the concept of *proximal processes,* the interaction between the different systems.

In Bronfenbrenner's earlier work (1979) he describes the ecological environment as a "set of nested structures", each nested inside the next. At the very centre of the system, nested, is the developing person. He compares the system to a set of Russian Matryoshka (AKA babushka) wooden dolls (usually female) which separate into a top and bottom half, revealing a similar smaller figure, and then another and another until the smallest figure is revealed, representing the developing person (see Figure 2.7).

Figure 2.7: Set of Matryoshka dolls

(Dook International, 2018)

Bronfenbrenner's five environments/systems (microsystem, mesosystem, exosystem, macrosystem and chronosystem) are often shown as a system of concentric, nested circles (see Figure 2.8). Figure 2.8 is a visual representation of Bronfenbrenner's *Ecological Systems Theory* as five environments/systems, namely the microsystem, mesosystem, exosystem, macrosystem and chronosystem, in concentric, nested areas.

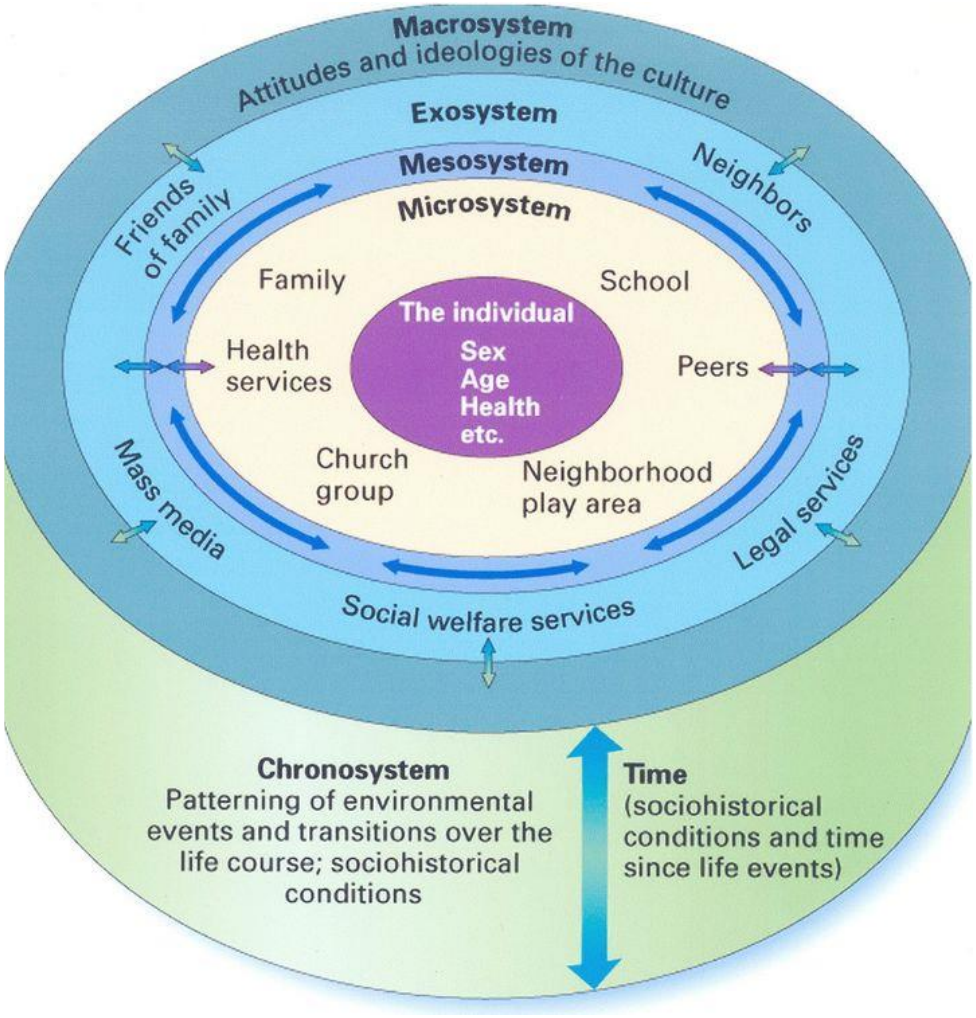


Figure 2.8: Bronfenbrenner's *Ecological Systems Theory*

(National Academies of Sciences, Engineering, and Medicine, 2016, p. 73)

2.4.1 The Individual

The theory is centred in the individual. Bronfenbrenner (2000) writes that every individual's genetics and biological qualities affect their development. Bronfenbrenner categorised these qualities into three types, what he terms, *demand, resource* and *force* (Tudge et al., 2009).

Demand qualities refer to distinctive identity characteristics (Rojas & Avitia, 2017) like age, gender, race, and physical appearance. According to Tudge et al. (2009), it is these qualities that have an influence on the immediate interactions with other individuals because of the expectations that are formed around them.

Resource qualities narrate those of mental (skills, experiences and intelligence) and material resources (such as food, house, social economic status) that are available to the individual (Tudge et al., 2009).

Force qualities include characteristics like motivation, persistence and willingness (Rojas & Avitia, 2017) as stated by Tudge et al. (2009) "two children may have equal resources and characteristics, but their developmental trajectories will be quite different if one is motivated to succeed and persist in tasks and the other is not" (p. 200).

According to Swart and Pettipher (2005), the individual is an active participant in their own development, their perceptions of their context are also central to understanding how they interact with their environments.

2.4.2 Microsystem

The first environment layer is the microsystem. As per Tudge et al. (2009), this is where the individual spends a lot of time engaging in activities and interacting with other people closest to the individual like parents and siblings at home, school and in the neighbourhood. According to Niehaus and Adelson (2014), it is in the microsystem where an individual's daily activities and relationships are anthropomorphised, and it is where the influence of learning from others shapes the individual socially, cognitively and emotionally. There are many microsystems where the individual will interact, for example, a home microsystem and school microsystem or in the case of this study the outdoor education microsystem.

2.4.3 Mesosystem

The second environmental layer is the mesosystem. This is the environment where multiple microsystems and the relationships between them connect (proximal processes). According to Tudge et al. (2009), the mesosystem is vital in analysing the impact of two or more microsystems on the development of an individual as there are overlapping influences. The home and family microsystem will affect the school microsystem and influence the individual (Hardin et al., 2010).

2.4.4 Exosystem

The third environmental layer is the larger exosystem. In this environment, there is an interaction between factors that the individual did not cause or effect, but which have important indirect influences on the individual (Tudge et al., 2009). This would be broader contextual factors like local community, businesses, media and government. According to Bronfenbrenner and Evans (2000) and in Rojas and Avitia (2017), like with the mesosystem, there are proximal processes and interactions within this layer or between this layer and other systems that ultimately have an impact, directly or indirectly, on the individual.

2.4.5 Macrosystem

The fourth environmental layer is the macrosystem. This environment consists of culture, believes and traditions (Bronfenbrenner, 1977). According to Rojas and Avitia's (2017) definition of culture, it is the beliefs, customs and worldviews of a given group of people. Bronfenbrenner, in Wonziak and Fischer (2014), refers to a deeper assembly of the macrosystem and defines it as "context encompassing any group whose members share value or belief systems, resources, hazards, lifestyles and opportunities patterns of social interchange" (p. 25). This layer contains many different groups.

2.4.6 Chronosystem

The fifth and last environmental layer is the largest, the chronosystem. This environment is temporal and time-based. It consists of changes that happen over time. It was the latest addition to the systems model (Bronfenbrenner & Evans, 2000; Tudge et al., 2009). Bronfenbrenner argued that time interacts continually with all the other systems (micro-, meso-, exo- and macrosystems) and should be considered when probing human development. Therefore, according to Tudge et al. (2009), when research is based on the mature format of the theory, time should be considered, as it is crucial in explaining the historical circumstances around a phenomenon. All the systems change over time.

2.5 Theory in practice

In the social-ecological theory of Bronfenbrenner, there is a large emphasis on the interaction with the environment, but it is also important to recognise that the individual does not exist

independently from the environment. The *Ecological Systems Theory* applies the study of ecology to the social environment. In ecology, the organism is studied in relation to its environment. What I have done with the *Ecological Systems Theory of Human Development* is to study the way in which visually impaired individuals relate to their environment in the outdoor environmental education environment and see what more can be done to improve inclusion from this point of view.

Where does an outdoor environmental education programme at an outdoor education campsite or centre fit into the ecological system levels? As an organisation or institution, the campsite or centre would fit into the exosystem as the individual does not cause nor affect the interaction that the organisation has with others on this level.

When a child goes on camp and attends the programme at the outdoor education campsite the programme falls into the microsystem, it is close to the individual and there are interactions with the programme and other factors within the same system. How this plays out in the South African context around visually impaired learners will be the focus of the rest of this study.

2.6 Conclusion

This chapter has presented an elaboration of the concepts relevant to this study. It included a discussion on why this study is relevant to the field and elaborated the theoretical framework of the study. In the next chapter, the methodology that was used to construct this research is elaborated on and described, how the data was managed and analysed and who the participants were that took part in the study. Ethics and validity are also discussed.

CHAPTER 3: METHODOLOGY

3.1 Introduction

In this chapter, the research process and methods used to gather data in order to answer the research questions are described. As mentioned in Chapter 1, the main research question is: What is the current status quo concerning the inclusion of visually impaired learners in outdoor environmental learning programmes in environmental education centres and campsites in South Africa?

- Sub-question 1: What are the barriers to inclusion for visually impaired learners in outdoor environmental learning programmes in environmental education centres and campsites?
- Sub-question 2: What is being done and what is not being done in order to promote inclusion for visually impaired learners in outdoor environmental learning programmes at environmental education centres and campsites?
- Sub-question 3: What more can be done to improve inclusion for visually impaired learners with an *Ecological Systems Theory of Human Development* view?
- Sub-question 4: What underlying mechanisms influence the inclusion of visually impaired individuals in outdoor environmental education programmes?

This chapter starts with a discussion on the philosophical underpinnings of critical realism which informed the data generation and strengthened the research process, followed by presenting the researched sample in context and the activities it entails. Section 3.4 deals with the techniques used during data generation followed by how the data was managed (3.5) and analysed (3.6). Validity and trustworthiness (3.7) and ethics (3.8) are discussed and finally, a critical view of the methodology (3.9) concludes this chapter.

3.2 Research methodology

3.2.1 Research orientation

Selecting the research orientation for my study was important to help support and guide the way data was collected and analysed to address the research questions. This study is informed by an underpinning critical realist philosophical perspective. Disability is real, it is not fabricated, and it is a truth. Disability is part of the world we live in. Critical realism indicates that the relationship between the 'real' in the world and the concepts we form from it is the focus of the research process (Danermark et al., 2002). For example, disability is a real physical experience for an individual, but it can be referred to in different ways by different people, as also discussed in Chapters 1 and 2.

Critical realism is very often and increasingly so, associated with the British philosopher Roy Bhaskar (1975). Bhaskar was the scientist who has given critical realism a coherent philosophical language, although many others have also written on critical realism. For the purpose of this study, and using critical realism as an underlabourer guide to the research, the focus will mainly be on the views of Bhaskar as conveyed by Danermark, Ekström, Jakobsen and Karllson (2002).

Any explanation of reality would begin with our concepts of it. As stated earlier, it is this relationship between the real and our concepts that are the focus of the study. In my study, this would involve the relationship between how we see the impaired learner, what we know about the learner and how the learner manages, how the system defines the learner and how practices influence how the learner experiences world events. Danermark et al. (2002) explain reality and knowledge through the perspective that reality and behaviour are not always accessible to observation, and they add that if "everything that is" was open to observation there would be no need for science. One could see the inclusion of visually impaired learners through the empirical actions and practices of educators, but some of the factors shaping inclusion, e.g. values of care, cannot be observed empirically. This interpretation of inclusion, through the lens of critical realism, enabled me, the researcher, to choose data collection methods and analytical strategies for this study. Danemark et al. (2002) say that another important property of reality is that it is not transparent. They say further that the mechanisms of reality are often

unobservable but we can, however, experience them due to their ability to cause or, in other words, to make things happen in the world.

These notions that reality is independent of our concepts and knowledge of it, and a reality is not transparent, shows that reality has a deeper dimension, what Bhaskar (2016) referred to as a 'stratified ontology'. Danemark et al. (2002), drawing on Bhaskar, describe this deep dimension as a domain called the "real"; this domain being where so-called "generative mechanisms" or drivers, produce events. Originating from this domain of the real is the actual domain. In this domain, the events take place, whether we can experience them or not. Then the third domain is that of the empirical. This domain consists of what we can experience, directly and indirectly, as illustrated in Figure 3.1 below.

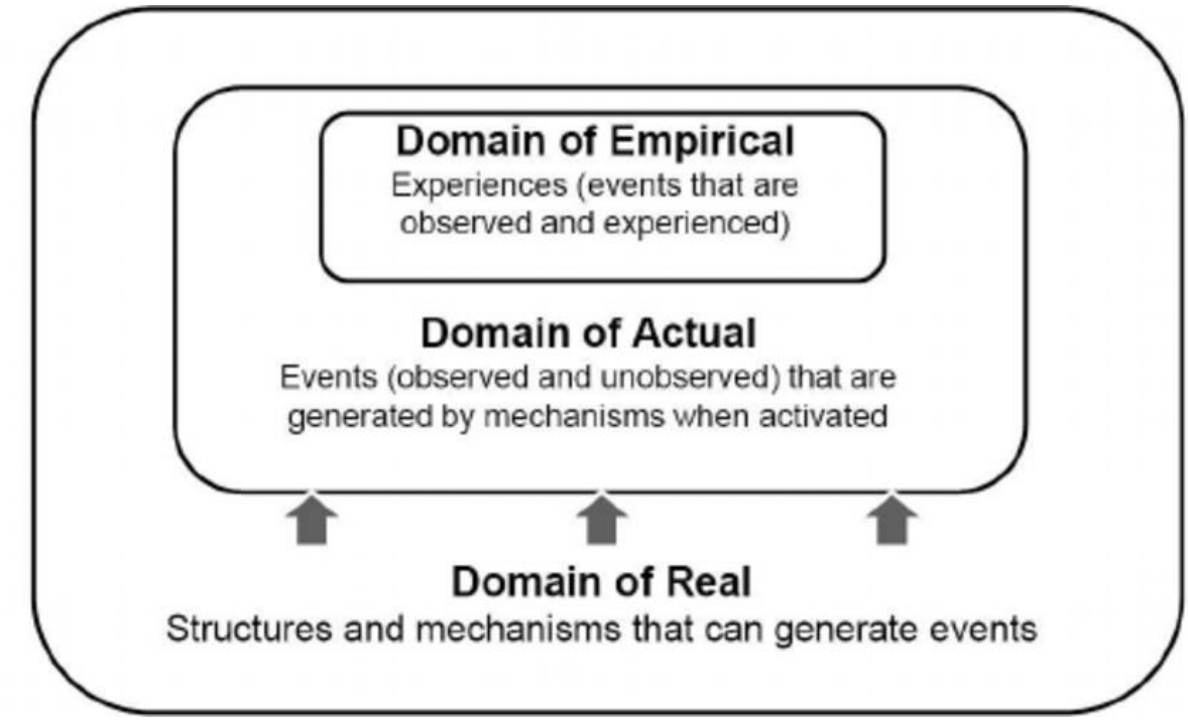


Figure 3.1: The three domains of the real

(Mingers, 2004)

In Bhaskar's work, this explanation of the domains of the real is found:

> "…casual structures and generative mechanisms of nature must exist and act independently of the conditions that allow men access to them…relatively independent of the patterns of events and the actions of men (p. 13) …Events occur independently of the experiences in which they are apprehended. Structures and mechanisms then are real and district from the patterns of events that they generate just as events are real and

distinct from the experiences in which they are apprehended. Mechanisms, events and experiences thus constitute three overlapping domains of reality" (Bhaskar, 2013, p. 56).

Table 3.1: Baskar's representation of the three domains of the real (Bhaskar, 1975).

	Domain of REAL	Domain of ACTUAL	Domain of EMPIRICAL
Mechanisms	√		
Events	√	√	
Experiences	√	√	√

Bhaskar (2014) argues that explanations in the social sciences can and should be the same basic form as those in the natural sciences. He (Bhaskar) further states that scientific laws describe the tendencies that things behave in specific ways, that things behave in these ways by virtue of the powers that they bear and, these powers, when exercised, are the underlying generative mechanisms that cause events (Groff, 2004). Others offer synonyms for the term 'mechanisms' as "force" (Jagosh et al., 2012) or "triggers" (Byng, Norman, Redfern, & Jones, 2008).

In my study, the relation between the real, the actual and empirical domains are the base of the study. Inclusivity and values shaping inclusivity are examples of mechanisms in the "real domain". The events are the environmental education programmes at centres and campsites in the "actual domain" and what participants observe and experience regarding the experiences of the impaired learners are in the "empirical domain".

British social theorist, Andrew Sayer (2000), argues that compared to other methodological orientations like positivism and interpretivism, critical realism can under labour any particular research method and that specific choice of the method should depend on the nature of the object of study and what one wants to achieve by undertaking the said study. This study chose to use a mix of methods and reflects what Danermark, Ekström, Jakobsen and Karllson (2002) call "critical methodological pluralism". This study has an underpinning methodology of

critical realism with a realist ontology which seeks to find explanations of what generative mechanisms are shaping inclusivity of visually impaired learners in outdoor education programmes, and an interpretivist epistemology which studies what is said and done about visual impairment in outdoor education programmes in different contexts in the analytical methodological approach chosen (see Chapter 4).

3.3 Research sample context and activities

3.3.1 Research site

Environmental education and outdoor learning programmes in South Africa are incorporated at environmental education and outdoor centres and campsites. These sites and centres are owned by the government and non-governmental organisations as well as those in the private sector.

Doing the study across South Africa can be seen as a broad sample but, because environmental education centres and campsite are so widely spread throughout the country, the research site had to be this large in order to be inclusive. The following ownership framework of these centres and campsites has been identified as:

- South African government (provincial governments and parastatal organisations such as The South African National Biodiversity Institute (SANBI) and South African National Parks (SANParks) who mainly have environmental education centres in national parks and other biodiversity management areas).
- Non-governmental organisations, non-profit organisations and public benefit organisations, for example, the Wildlife and Environmental Society of South Africa (WESSA), the oldest and largest of its kind, owns four environmental education centres.
- Privately owned, such as Christian Camping Southern Africa (CCSA) member campsites. CCSA is the largest membership-based non-profit organisation of its kind in Southern Africa with 100 affiliated campsites. This industry is not for material gain but rather compassion for the course of providing camp experiences to children. Most of these member campsites are non-profit though privately owned.

3.3.2 Researcher positionality

Via my practical experience, I have noticed that negative attitudes towards impairments and those with a disability can result in negative treatment of people with impairments, for example:

i) Children are bullying other children with impairments in schools and in communities.

ii) Employers are discriminating against disabled employees.

iii) Strangers are mocking people with impairments.

iv) Children being excluded from activities due to their impairments.

v) Children being denied access to outdoor/environmental education because of their impairments.

The negative attitudes have negative impacts on such learners, as noted by Kong and Loi (2017): "Negative attitudes and behaviours have an adverse effect on children and adults with disabilities, leading to negative consequences such as low self-esteem and reduced participation" (p. 5).

A summary of my axiological position in the study is one of empathy, compassion for inclusivity and care, also see section 1.3 and section 2.2.5 where the concept of care is reviewed.

3.4 Data generating techniques

3.4.1 Methods

In this study, an array of methods and tools have been used to collect data on the barriers to inclusivity, the practices and shortcomings in the industry, as well as the status of inclusion in the industry. The methods used in this study were: 1. key informant interviews, 2. questionnaires and 3. a photo narrative. Each data generating method has its strengths and weaknesses which are explored below.

3.4.1.1 Focus group as an interviewing method

An initial focus group interview with members of CCSA, who had attended their 2017 annual conference was undertaken as part of the contextual profiling, to set up this study. See Appendix A for the data collected from this focus group. The focus group session was important for this study's design, as it also helped to identify key role players with whom in-depth interviews could be conducted. This initial engagement also provided the opportunity to invite the members to partake in the photo narrative activity which was planned as part of this research, and to identify candidates to complete questionnaires.

3.4.1.2 Key informant interviews

Interviewing is a predominant mode of data collection in qualitative research. According to DePoy and Gilson, as cited in De Vos, Strydom, Fouche and Delport (2011), researchers obtain data or information through a direct interchange with an individual or group that is known or is expected to have the knowledge they seek. Researchers must be inclusive and expansive in selecting the individuals for interviews so that they can cover a range of perspectives in the field (De Vos et al., 2011; Holstein & Gubrium, 1995; Jarbandhan D.B. & Schutte De Wet, 2006). Both the researcher and the interviewees are needed for the process and each plays a role in making meaning.

Jarbandam and Schutte (2006) define a semi-structured interview as being designed to engage with an area of particular interest (inclusivity of visually impaired learners in this study), whilst still allowing considerable flexibility in what is asked and how deep the conversation will go.

Whilst still having a set of particular questions on the interview schedule the interview is guided by these questions instead of being dictated by them. In the case of this study, the interview process was not only confined to asking questions and recording answers as it also allowed for conversation with a specific purpose determined by a question-based framework and involved explicit and detailed answers (Cohen, Manion, & Morrison, 2002).

Interviews were planned via both voice and video calls.

The disadvantages of this interview method:

- Voice only interviews may not provide very detailed information.

- The nuances of face to face interaction may be lost through voice-only calls, which is solved by video calls.
- Finding a suitable time for the interview is a drawback.
- The duration of the interview may consume a lot of internet data.
- Unclear connections on either end may cause difficulty in the process.

A schedule for conducting the interviews was drawn up and the interview plan and tools regarding recordings were set up and connections tested. A test run was run with a critical friend and the disadvantages above became evident. The potential was there that the data generating tool could fail even before it started. I concluded that face to face interviews would be the best solution and that extra time should be allowed in the research plan to conduct these interviews properly, face to face and get the best possible data from this valuable tool.

I planned a trip across South Africa to visit the key interviewees to conduct face to face interviews (see table 3.2).

3.4.1.3 Questionnaires

According to Hahn (2016), a questionnaire is a set of questions used in both qualitative and quantitative research. The data collected through a questionnaire is analysed by the researcher to create a better understanding of what is happening within a large group or population.

De Vos et al. (2011) describes that the basic objective of a questionnaire is to acquire facts and thoughts about a phenomenon from individuals who are or thought to be informed on a particular issue.

The questionnaire provided me with information based on a wide range of campsites and centres across South Africa and served as a data-generating tool to contact many individuals in a short amount of time, creating valuable research data. The questionnaires were in electronic format. Grinnell and Unrau (2005) propose three types of electronic surveys: emailed, computerised interactive voice response over automated telephone calls, and web-based surveys, the latter being used in my study through survey management software licensed under the ‘Survey Monkey’ Trademark.

The problems with complex questionnaires or not user-friendly in design may result in the respondent terminating the questionnaire prematurely. Some people have been bombarded with questionnaires and could find them a harassment. According to De Vos et al. (2011) the drawback on electronic questionnaires, like the ones used in my study, is that people need access to the Internet and a device, like a computer or a smartphone, to be able to complete the questionnaire. It is also felt that illiterate respondents may be excluded. However, the target individuals in my study are not rural, remote, illiterate people but professionals with means of access to a smart device and the Internet.

3.4.1.4 Photo narrative

Photographs are a useful tool to generate data as Collier (1967) states, "Photographs can be tools with which to obtain knowledge beyond that provided through direct analysis … photographs can be communication bridges between strangers" (p. 99).

Building on what Collier (1967), Blackbears and Lindegger (2007), Noland (2006) and Malrose (2008) stated in their studies, making use of a photo narrative provides participants with the opportunity to take the role as guide and lead the viewer through the content of the photograph, the participant becomes the author of his or her own story and shares personal experience. The participant takes an active role in data collection by selecting images and sharing them, they contribute to the study and feel involved. The use of the photos is a non-intrusive and open-ended way of conducting an interview, giving the participants the freedom to express their own views and not being pressured to complete a formal interview process.

Baetens and Bleyen (2010) argue that although photography is habitually seen as a representation of a single moment in time, popular wisdom tells us in the old saying that 'a picture is worth a thousand words', meaning that a photograph should be perfectly able to tell a story.

3.4.2 Data collection

In this section, I describe how each data generating method was applied to the data collection process.

3.4.2.1 Semi-structured interviews

Six key people within the industry were identified in terms of their position and experience in outdoor environmental education in South Africa. As mentioned in 3.4.1.1, in order to be inclusive and expansive in the selection process the following people were identified in the hope that they would be able and willing to provide a range of perspectives in the field:

1. Director from a non-governmental organisation
2. Director from a governmental organisation
3. Governmental environmental education officer
4. Private sector environmental educator
5. School teacher from a special needs school
6. Librarian from the South African Library for the Blind (SALB)

The key informants were invited to participate in the research, and an example of an invitation is given in Appendix B.

The following informants were removed from the list:

- Government director at SANBI; due to not responding to emails and not returning calls.
- Special needs school teacher; two school principals denied access to teachers for research as the research topic could potentially involve sensitive information.
- Librarian at SALB; they felt that the research did not fall into their area of specialisation and would be a ‘waste of time’. They offered to suggest someone for the purpose of this research.

The following people were added to the list to compensate for the above removed candidates:

1. NPO camp organiser
2. SANBI environmental education officer

Members representing different organisations and various sectors (government, non-profit and the private sectors) were included in the final interviewee list which resulted in the following candidates :

1. Director from a non-governmental organisation

The director has a doctoral degree in environmental education (EE) and has been in the industry for over 40 years. The NGO is directly involved in outdoor environmental education in South Africa and is a leader in their field.

2. Governmental environmental education officer

Environmental education officer with 25 years' experience from the Department of Economic, Small Business Development, Tourism and Environmental Affairs (DESTEA) based in the Free State province.

3. Private sector environmental educator

This environmental education educator has 30 years' experience in the field and is the author of environmental education books and resources. Currently managing a private environmental education centre for a school in KwaZulu Natal.

4. NPO camp organiser

The camp organiser has 15 years' experience in outdoor education and presently runs camps exclusively for impaired people. SALB recommended this camp organiser to participate in this research.

5. SANBI environmental education officer

The environmental education officer has 20 years' experience in environmental education. The officer works with the development of disabled-friendly infrastructure at the environmental education centres at botanical gardens which fall under the state-owned organisation SANBI. The officer is further involved at a school for visually impaired learners. This person was suggested by one of the school principals as he is involved in the school's sensory garden.

The interviews were scheduled with the interviewees (see Table 3.2). For the interviews, a set of questions was drawn up that served as a guideline and starting point for the discussion, also allowing for the conversation to be flexible with the aim of obtaining the best possible reflection. See Appendix C for the interview schedule. The interview schedule was emailed to the participants beforehand, so they had time to reflect on what would be discussed.

The face to face interviews was conducted on the below dates:

Table 3.2: Dates of interviews

KEY INFORMANT	DATE
SANBI EE Officer	11 June 2018
Private sector EE Educator	27 June 2018
NGO Director	27 June 2018
NPO Camp Organiser	28 June 2018
Government EE Officer	7 September 2018

After the interview, the transcription was forwarded by email to the interviewee for member checking.

3.4.2.1.1 Reflection on the interview process

By engaging in face to face interviews, I had the opportunity to observe successful practices in action and it created the opportunity to build on the photo narrative participation.

Face to face interviews tended to go on for longer as the spontaneous conversation brought valuable inputs and I did not want to rush through the questions and miss the opportunity for a 'real' conversation to take place.

3.4.2.2 Questionnaires

The web-based 'Survey Monkey' platform was used to administer and manage the questionnaires. The questionnaire consisted of 32 questions (see Appendix E). Participants spend an average of 9 minutes completing the online questionnaire. 'Survey Monkey' keeps

the identity of each participant anonymous and no one can see the responses and data other than myself, the researcher, as the data is password protected and stored on a server.

Requests for people to complete the questionnaire were sent to all members of CCSA. Invitations were sent via their newsletter, emails to all campsite managers and a link that was placed on their (CCSA) Facebook page. Permission was obtained from the president of the organisation (CCSA) to send the invitation to the members, see attached letter in Appendix G. An email invitation to participate was also sent to the nine SANBI education centres, which are government owned. Invitations were also sent to four environmental education centres of a participating NGO in South Africa. Permission was obtained from the director of this organisation to send the invitation to the centre management, see attached letter in Appendix H. Two education centres operating from aquariums in South Africa were also invited under the NGO/NPO sector. A link was placed on my personal Facebook page and a further 35 emails were sent to privately owned outdoor education centres across South Africa.

Different links where created on the data management software (Survey Monkey) in order to track how many responds came from each collection stream. All participant responses were still anonymous but could now be tracked to which link was used to engage the respondent. The following links were created on the data management software:

Link 1: (Test link) This link, as the name suggests, was used as a test of the tool rather than the collection of data. It was sent to critical friends to test not only the link but also the functionality of the survey. All the data from this channel has been cleared from the data pool so as not to form part of the study.

Link 2: (NGO) This link was sent to the NGO/NPO education centres which included that of the NGO organisation identified as a key role player and those of the aquariums.

Link 3: (GOV) This link was sent to the nine SANBI gardens and education centres.

Link 4: (CCSA) This link posted in the CCSA Facebook group page, shared with members via monthly newsletters and emailed to the member campsites.

Link 5: (Facebook) This link was posted to my private wall on Facebook. The post containing the link was shared as a public link in order for my friends, friends of friends and the general

public to access the post. It also made the post shareable to groups and other people's social media walls. This link was shared four times by other's social media.

Link 6: (General email) This link was used in the emails to other campsites and centres across South Africa, both in the private and NPO sectors.

A total of 33 responds were received with a breakdown of responses received via each link:

Link 1: Test link only

Link 2: NGO = 8 responses

Link 3: GOV = 2 responses

Link 4: CCSA = 18 responses

Link 5: Facebook = 5 responses

Link 6: General email = 0 responses

3.4.2.2.1 Reflection on the questionnaire process

As described by Twenge (2017), the author of the book titled '*iGen*', since our lives are dominated by smartphones, high-speed internet and social media, people simply do not read and fail to respond if it involves more than 140 typed characters. People want quick and easy questions and want to respond the same way. Though it was sought to keep the questionnaires as short as possible people still left some questions unanswered. Some feedback was short and holds very little detail. Many people simply do not respond to invitations to questionnaires. Using social media to get the link out to people helped a lot as a number of the engagements came through social media. Critical friends tested the questionnaire and the necessary changes were made to the questionnaire. After the links were activated for data collection, the survey was left unchanged and no further changes were made to it, ensuring that the collection of data was consistent and credible.

It was interesting to get international responses to the questionnaire but, unfortunately, due to the demographical scope of this study, the data from these responses had to be disqualified for the purpose of this study.

3.4.2.3 Photo narrative

Participants in the photo narrative where recruited by invitation.

Members of CCSA were invited to join the initiative at the CCSA annual conference in June 2018. Posters with the invite and with a scannable QR code was placed around the conference meeting areas. Delegates also received an invitation in their conference welcome pack. Some members of CCSA appointed their youth ministry groups to take up this project and share their practices with the research.

Invitations to partake in the photo narrative initiative were also attached at the end of the electronic questionnaires (see Appendix I).

Participation in the photo narrative was voluntary and participant inputs are used in anonymity. Participants were asked to share success stories and practises of how they facilitate and support the learning of visually impaired learners, what facilities they offer visually impaired individuals and how they overcome barriers to inclusion.

Participants could either share their photos via email or direct WhatsApp message or they could join a WhatsApp group. The idea behind the WhatsApp group was that the participants would not only share their own "stories" through pictures but have an opportunity to learn from others as they might find they are in a similar situation at their own campsite and the ideas/stories shared could contain possible solutions for their problem. The initiative also helped to gain insight into actual inclusivity practices, not only those verbally reported in interviews and surveys.

Participants were given instructions on how to take ethical photographs and upload them to the group (see Appendix I). The focus of the pictures is intended to be supportive and enabling regarding environmental measures and practices in outdoor environmental education environments, not focused on people. In order to comply ethically, photo narrative participants were advised to avoid taking pictures of faces, thereby, **capturing the practice** and not the people. They could share pictures of people, but the photographs had to be taken from behind so faces were not seen. Where facial imagery was unavoidable, blurring was used over faces. Participants were reminded that they had to have permission to share the photographs. Two

example photographs were given in the invitation to guide them. See Appendix I for the invitation to partake in the photo narrative.

For the research project, this shared information was valuable to answer all four sub-research questions. The participants showed what the barriers to inclusion for visually impaired learners are in outdoor environmental learning programmes in environmental education centres and campsites. They (the participants) showed and shared what is being done and what is not being done to promote inclusion for visually impaired learners in outdoor environmental learning programmes at environmental education centres and campsites. From this information, it is possible to see what more can be done to improve inclusion for visually impaired learners and what generative mechanisms influence inclusion, as will be reported in more detail in Chapter 4.

3.4.2.3.1 Reflection on the photo narrative process

People responded almost exclusively via email. I think WhatsApp groups are used often for a variety of applications and, getting notifications from all the group, could become annoying. Email is a good alternative and this option was most preferred. Many success practices for other disabilities and multi-disabilities, not only visual impairment, were shared during the run of this project making this process far richer in giving an insight into the world of the disabled.

3.5 Data management

3.5.1 Translations and errors

As some of my interviewees' mother tongue is Afrikaans, those interviews were conducted in Afrikaans, and the transcripts were translated by myself as I am fully bilingual.

All spelling and grammar mistakes made by the participants in the three data collection methods (interviews, questionnaires and photo narratives) were corrected during the transcriptions.

3.5.2 Indexing

Data were indexed, not only as a guide to me as a researcher to find the links but to confirm the research data and ensure a verifiable audit trail.

First, the sources were index coded to be able to refer to the corresponding respondent and the source of collection.

Interview sources were index coded in the following manner:

Table 3.3: Interview index codes

NGO Director	INJ
Government EE Officer	IGC
Private-sector EE Educator	IPJ
NPO Camp Organiser	INE
SANBI EE Officer	ISR

Line numbers and time stamps were allocated to the transcriptions for easier navigation.

Questionnaire respondents were numbered from Q#1 to Q#33 and all data collected under their response is filed under the corresponding number including the date and time of questionnaire completion.

The photo narrative participants were allocated a roman numeral index code according to the order of response. These participants are coded from PI to PX.

3.5.3 Data storage

Data was organised, categorised, systematically marked and filed both electronically and as physical printouts. The data were indexed to keep analysis phases and sources clearly marked and separate. Data backups are also hosted on an offshore electronic cloud-based storage portal.

Raw data were collected, using a third-party platform (Survey Monkey); they are password protected and stored out of the public domain.

3.6 Data analysis

O'Leary (2004) stated that data analysis is a process of moving from raw data to meaningful understandings. Patton (2002) added that data interpretation involved making meaning of what others said, looking for patterns and putting it all together.

Huberman and Miles (1994) incorporated three processes for data analysis: 1. data reduction, 2. data display, 3. drawing conclusions. The data analysis in this study took place in five phases, described below:

Phase 1 This involved mainly inductive analysis to address sub-question 1 which focusses on the identification of barriers to the inclusion of visually impaired learners in outdoor environmental education programmes. Using the questionnaire and interview data along with the data from the photo narrative activity, data was colour coded to identify emerging themes that were relevant to sub-question 1's focus on barriers. Data on barriers from each tool was coded with the same colour (yellow). Sub-categories came from literature: Pienaar and Raymond (2013) defined two categories of barriers namely Intrinsic and Extrinsic (see section 2.2.3), and Pivik, McComas and Laflamme (2002) discussed that environmental barriers such as, intentional attitudinal barriers, unintentional attitudinal barriers and personal limitation barriers, are the barrier types that prevent inclusion (see section 2.2.3). From the data, themes emerged, and two more subcategories had to be added to the above list namely, resource barriers and limitations of others. The coded data from all the collection methods were transferred to an analytical framework (see Appendix K).

Phase 2 Analysis was included as an inductive analysis. Phase 2 used the same method of coding but used a different colour code (green), and identification of themes proceeded in the same manner as with Phase 1 for the analysis but addressed sub-question 2, which is focussed on what is being done and what is not being done to include visually impaired learners in outdoor environmental education programmes. Again, coded data from all three collection methods were transferred to an analytical framework (see Appendix L).

Phase 3 The analysis used was an abductive analytical approach which recontextualises data using theory (Bergene, 2007). Phase 3 addressed sub-question 3 which focuses on what more can be done to include visually impaired learners informed by an ecosystemic model (see section 2.4). Here the data from each data generating method was interpreted in relation to the nested systems in the *Ecological Systems Theory* namely, the individual, microsystem, mesosystem, exosystem and macrosystem. Data from the three collection methods for this focus on analysis were coded with the colour (purple) and the data was transferred to an analytical memo (see Appendix M).

Phase 4 Analysis was also an abductive analysis using the ethics of the care model (see section 2.2.5) as a backbone to understanding the in-depth generative mechanisms associated with values and inclusivity. The phase also relied on retroductive analysis which allows movement beyond the surface of reality (Lawson, 2003) and infers by answering 'what is making this possible?'(Bergene, 2007). Phase 4 used a similar method of indexing (but a different colour code (blue)) and identification of themes as with Phase 1 and 2 for the analysis but addressed sub-question 4, which is focussed on the underlying mechanisms that influence the inclusion of visually impaired learners in outdoor environmental education programmes. Coded data from both the key informant interviews and the questionnaires were transferred to an analytical framework. (see Appendix N).

Phase 5 Analysis involved a synthesis of phases 1-4 of the analytical process, in order to address the main question by amalgamating all the findings from Phase 1, 2, 3 and 4, drawing on the critical realist framework which is also aligned to the framework of Bronfenbrenner (Tikly, 2015).

Across Phases 1-5, I used the differentiated framework in Chapter 2 (see section 2.2.2.2) to qualify meaning(s) of visually impaired, offering a more nuanced analysis.

See Appendix J for a tabled representation of the phases of analysis.

Here are two examples from the data: the first example is from the questionnaire data and the second from the interview data, showing how the data were colour coded before being transferred to each analytical memo.

Extract 3.1: Extract from the response to question 8 in the questionnaire

Q#24	Disability in a broad context, but looking at wheelchairs, accommodation (beds), distances from dining hall, showers etc. NOT IDEAL FOR SUCH SERVICES.
Q#23	We have wheelchair access to most areas, we run programmes for learners with physical challenges including sight impairment and a very limited programme for learners with mental challenges. All of these are with prior arrangements, including a programme for autistic learners. If staff encounter guests with sight impairment, they will engage with the guest for a short while with a touch experience (but the facility is not really geared for sight impaired guests). We cannot use sign language but work with a person in the family/group who can.
Q#19	We do work with disabled groups and make every effort to assist them. We also have ramps and corridors into our accommodation and classroom facilities.

Extract 3.2: Extract from the transcription of an interview (IPJ)

75 0:38:20 **Interviewer: what do you think campsites and centres can do to be more inclusive?**

76 JR: Deliberately looking for VI communities around them and it is being deliberate about thinking about
77 VI learners.

78 0:39:25 **Interviewer: and government?**

79 JR: To me, it is finding the right people. There will be certain people in government departments whom
80 will have a heart for this and you got to find them and work with them. I do not know enough about
81 these processes to say. I do not like relying on bureaucracy for anything because the government will
82 say we are doing this great thing and there will be an initiative and it is great, but if it is for the wrong
83 reasons. Then it is pointless in the end. You do not want to rely on the government to sustain such
84 programmes, you need to use that support as seed money to build relationships in communities that
85 they will be able to carry out those initiatives themselves.

86 0:44:15 **Interviewer: why do you think government and school should care about being inclusive?**

87 Love your neighbour as you love yourself. And that would go for campsites and centres as well and as a
88 matter of fact why anyone should care. We are created loved and sustained by our glorious loving
89 creator hold everything together. Wherever people are not being included, wherever creation is being
90 damaged, wherever people are not loving their neighbour as themselves like love is not happening
91 there. We are created for love and to love and to be loving so when you include anybody that is being
92 excluded is that you are being God to them, it is what we are made for. It is you are just doing what you
93 are made for and sharing the love. And especially environmental education which is at the heart of
94 helping people connect with the power of the earth which is people connected with God through
95 connecting with nature. Where we can remove barriers for people to connect properly with each other
96 and creation, let's do it.

3.7 Validity and trustworthiness

Critical friends piloted the questionnaire, modifications were made, and the test data was cleared from the database as not to form part of the study.

Credibility was obtained by the practice of accurate transcriptions of the interviews and member checking. Member checking happened with the initial focus group after the contextual profiling phase, and also with the key informant interviews that form part of this study, whereby the participants had an opportunity to edit transcriptions should they feel that what is reported is not how or what was being said. Member checking feedback from three participants was captured.

It was aimed to obtain substantial data from a range of diverse sources on a voluntary basis. The sample size for the questionnaire was large and covered all the provinces in South Africa and participants from different organisations in various sectors (though not all provinces recorded participation). Through this strategy, I believe to have obtained a broad view. I have captured each source of data carefully and indexed the different data sources to allow for an audit trail and to allow for careful triangulation of different data sources and rigorous analysis.

All the research tools were designed not to make use of jargon and technical academic language and style; they were user-friendly and applicable, making the tools reliable and trustworthy.

3.8 Ethics

Babbie (2016) mentions a fundamental ethical rule of social research which is to bring no harm. Costley and Gibbs (2006) goes a little further and says that not only should we not do harm, but we should do good.

To underline this notion of doing no harm, do good in practice, informed consent was obtained for all research carried out (see Appendix D and F). Interviewees were sent an invitation to participate via email. Before each interview, verbal consent was requested and given. Before questionnaires started an action, a tick box had to be ticked to provide consent. Participants in the photo narrative project were asked to provide consent before taking part. This consent request derives from having respect for participants and their privacy. Participation was voluntary, and participants could withdraw at any point during the research process.

The research process was transparent and participants knew beforehand what was expected of them and what the purpose of the research was. Interview transcriptions were sent back to participants for member checking to ensure participants were not being deceived in what they were told or what was being recorded.

Inputs from participants, their organisations and institutions were coded with pseudonyms in order to ensure anonymity and confidentiality.

3.9 Critique of methodology

Limitations of my study: This study represented the views of those that formed part of the study and this may not be a true reflection of the entire industry. As noted above, however, I obtained broad participation in the study and a good representation of organisations engaged in the industry. Due to the study not having a clinical focus, therapeutic recreation and activity are excluded. This study focuses only on visually impaired learners where there are many other disabilities and impairments identified during the initial study (focus group) (see Appendix A).

As expected, the collection of data via questionnaires did not yield a high return and completion rate. As discussed in 3.4.2.2.1, people do not want to spend 15 minutes on a questionnaire as people are more prone to quick questions and answers, with quick solutions. My study, however, is not reliant solely on the data from the questionnaires.

3.10 Data Map

This data map (Figure 3.2 at the end of this chapter) is a schematic representation of the data collected in this study, it shows where the data originated (green, blue and yellow table in the top corner), how it produced insight into the domain of the real (see section 3.2.1) or “X”, and how the generative mechanisms as noted in section 4.8 above tells us why “X” is “X” and what makes it “X”. This representation provides an overview of how the analysis was done (see section 3.6) and how the study came to findings (sections 4.3, 4.4, 4.5, 4.6, 4.7 and 4.8). It also provides the reader with a view on how the research was conducted and what the thought processes where behind the method and data generation techniques. Knowing this, it is easier for the reader to navigate the next chapter of findings from the data (Chapter 4).

3.11 Conclusion

This chapter presented the research methodology used in this study by stating the research orientation and sharing details on the research sample by bringing the site and participants forward. My positionality as a researcher was reemphasised before moving to how the data was collected, managed and analysed. Validity, trustworthiness and ethics were discussed and the methodology reviewed and critiqued. The data map of the study (see section 3.10 above and Figure 3.2 below) provides an overview needed to understand where the data and findings come from which are discussed in the next chapter. The next chapter provides a presentation of the data, as analysed using the approaches outlined above.

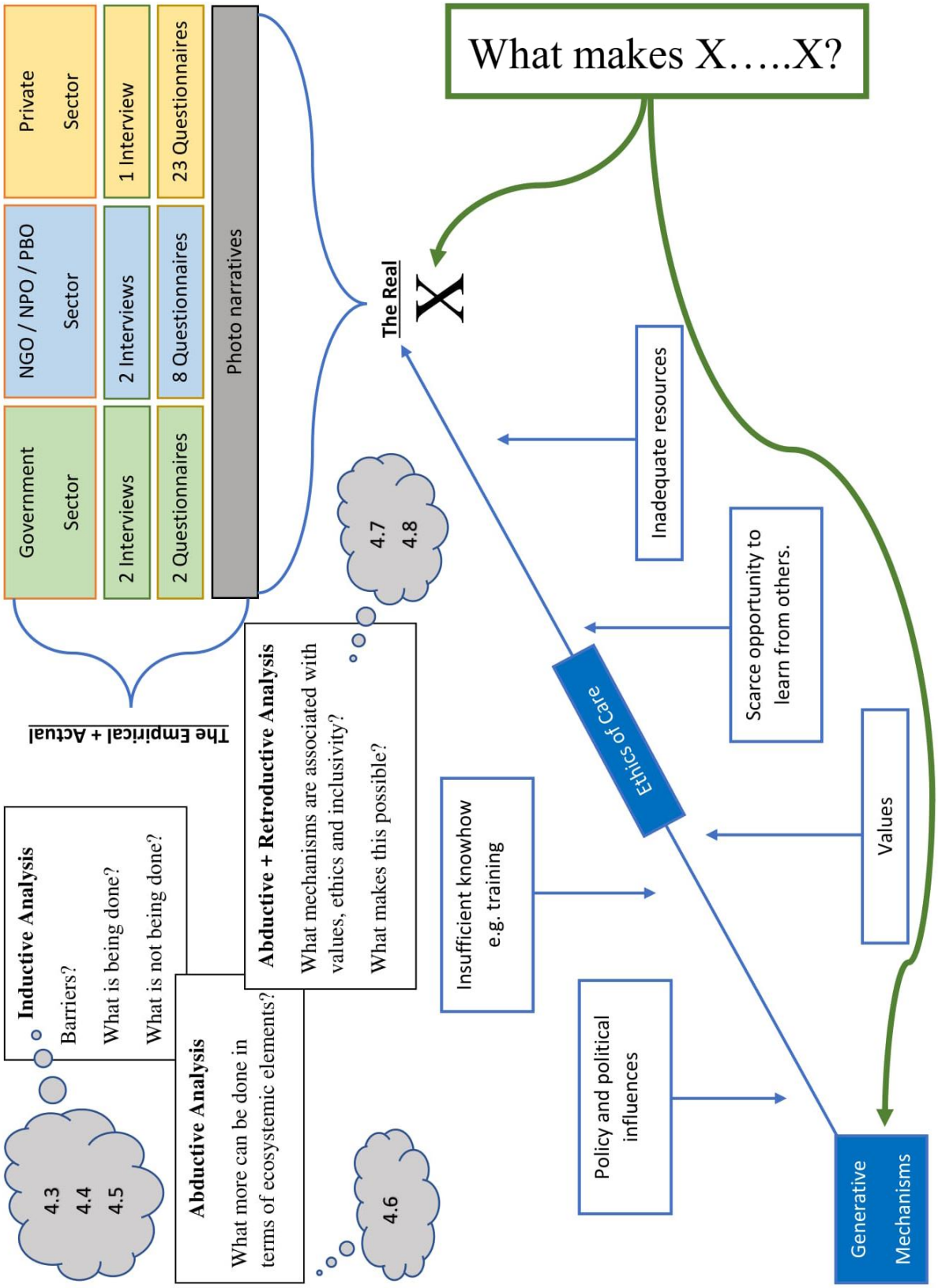


Figure 3.2: Data map of this study

CHAPTER 4: DATA PRESENTATION

4.1 Introduction

In this chapter, the data collected across the three data collection methods, namely questionnaires, interviews and photo-narratives are presented and used to answer the research question and sub questions as stated below. An overview of the participants who contributed to the data generated across the collection methods are provided, to offer an understanding of the industry and the position of the participants. Then a look at what emerged out of the data (across all the collection methods) regarding barriers to inclusion, which answers sub-question 1: *What are the barriers to inclusion for visually impaired learners in outdoor environmental learning programmes in environmental education centres and campsites?* This chapter then moves on by looking at what came from the data (across all the collection methods) regarding what is being done and what is not begin done to promote inclusion, which answers sub-question 2: *What is being done and what is not being done in order to promote inclusion for visually impaired learners in outdoor environmental learning programmes at environmental education centres and campsites?* Then a view is provided of what participants see what schools, teachers and the schooling system, as well as campsites and centres and government, can do to promote inclusion which tends to sub-question 3: *What more can be done to improve inclusion for visually impaired learners with an Ecological Systems Theory of Human Development view?* This chapter also investigates the advantages of having an inclusive programme and facilities available to visually impaired learners. All this works towards answering my main research question: *What is the current status quo concerning the inclusion of visually impaired learners in outdoor environmental learning programmes in environmental education centres and campsites in South Africa?*

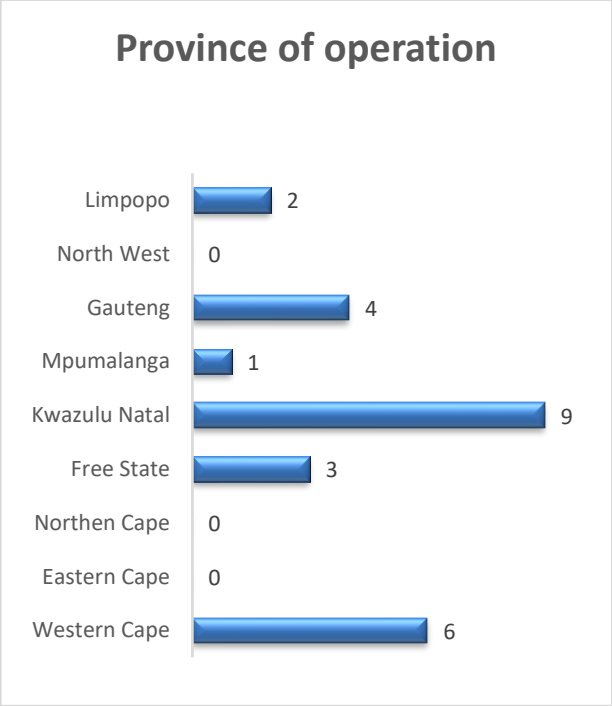
Many photos have been used to support the data presented, but not all photos from the photo narrative could be placed into this chapter, please refer to Appendix O for a table which can be used as a reference to all data presented below from the photo narrative.

4.2 Participants

During the questionnaire, participants answered a series of questions, providing some information on the industry as it is important for me as a researcher to understand where the

participants come from and what their stance is within the industry. Of the 32 participants that started the questionnaire, 30 indicated that they are from South Africa. Since my study has a focus on the geographical area of South Africa only these 30 participants were included in the rest of the study.

Most (36%) of the participants came from KwaZulu Natal province in the east of South Africa, followed by the Western Cape (24%), Gauteng (16%), Free State (12%), Limpopo (8%) and Mpumalanga (4%). The Eastern Cape, Northern Cape and North West provinces failed to produce any response. See below a schematic representation of the province of operation.



Limpopo 2 (8%)

North West 0 (0%)

Gauteng 4 (16%)

Mpumalanga 1 (4%)

KwaZulu Natal 9 (36%)

Free State 3 (12%)

Northern Cape 0 (0%)

Eastern Cape 0 (0%)

Western Cape 6 (24%)

Chart 4.1: The province representation of the questionnaire participants

As described in 3.4.1, the target was to get participants from all the sectors in regard to ownership. As seen in Chart 4.2 below, sixty-eight percent (68% [17]) of participants indicated that their organisation is owned by non-profit companies (NPC) / non-profit organisations (NPO) or non-governmental organisations (NGO), twenty-four percent (24% [6]) indicated private ownership and eight percent (8% [2]) responded by saying they are government-owned entities.

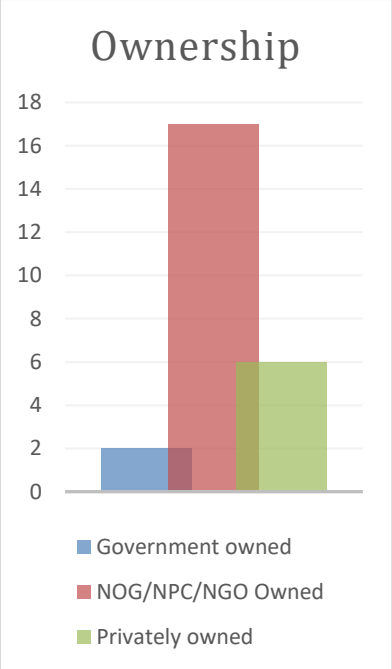


Chart 4.2: Ownership

When asked if the participants feel their facilities are disability-friendly, sixty percent (60% [15]) answered no and forty percent (40% [10]) felt their facilities are disability friendly. Some participants (Q#31, Q#27, Q#23, Q#19, Q#17, Q#11, Q#5) indicated they have ramps, rails and pathways that contribute to them being disability-friendly. Other participants (Q#27, Q#23) noted the availability of programming specifically for visually impaired learners, and other participants (Q#23, Q#11) had facilities and activities catering for visually impaired learners specifically. Generally, few participants noted that they have specific educational tools for visually impaired learners in their programming regarding their facilities (2), adventure activities (2) and environmental education activities (2). Some educational tools mentioned included touch and feel stations (Q#23), brail trails (Q#11), large pictures, models, puzzles and posters (Q#19) and others have extra help in place during activities (Q#25). Participant Q#19 noted that all of their activities and games are appropriate for visually impaired learners.

Though ninety percent (90% [18]) of the questionnaire participants said that it is important to the industry that teachers, guides and group leaders receive specific training yet only fifteen percent (15% [3]) said they provide such training to their staff.

Eleven questionnaire participants (68.75%) said they think visually impaired children are being excluded from outdoor environmental programmes at environmental education centres and campsites in South Africa. All of the questionnaire participants agreed that there is a need for visually impaired learners to have access to outdoor environmental programmes.

4.3 Barriers

This section addresses sub-question 1: *What are the barriers to inclusion for visually impaired learners in outdoor environmental learning programmes in environmental education centres and campsites?*

Intrinsic barriers coming from within the learner (see section 2.2.3), in the form of limitations (see section 2.2.3) were noted as individuals that are blind and cannot see what to do (ISR) they thus have the potential to injure themselves or get lost (Q#23, Q#22). As reflected in the words of participant Q#2, "impaired individuals may feel like they do not belong".

Extrinsic barriers are those factors that arise from outside the learner (see section 2.2.3), here participants mentioned intentional attitudinal barriers, unintentional attitudinal barriers, environmental barriers (see section 2.2.3), limitations of others and resource barriers (deriving from the data).

Some intentional attitudinal barriers were conveyed by participants such us visually impaired learners being deliberately left out of activities (Q#27, Q#31) and being told there is so much that they cannot do (INE). Q#27 responded in saying that "usually impaired folk are often left off activities [at] camps as they are not catered to, this isolates them further". Society's understanding and acknowledgement of impaired learners, stigmatisation, labelling (Q#27) and attitude (IPJ) towards impaired learners are barriers to inclusion. People that don't know how to work with people with disabilities (Q#23) and are not open to making the changes that need to be done (INE) are some exclusive practices that are mentioned. IGC stated that "inclusivity is not a priority for the government as politics are more important than the education of children" and it was mentioned that government stopped some inclusive programmes (Q#30) and that the government is promoting great things and initiatives, but for the wrong reasons (IPJ) they are promoting politics and gathering votes.

Other barriers mentioned by participants take an unintentional attitudinal form such as people's perceptions (Q#19, Q#14), their awareness (Q#24) and fear of the unknown (Q#24, Q#18, Q#31). Some people are never exposed to others with disabilities (IPJ, INE) so they are never thought of being included (INE, INJ). One participant, IPJ, argued that "the greatest barrier to innovation is conservatism".

Limitations of others were raised as a barrier such as not being able to communicate with disabled people (IGC, Q#23) and training that is not adequate (IGC) to equip them in working with disabled people.

Regarding resources as a barrier, many participants claimed that upgrading facilities would require significant funding (Q#29, Q#24, Q#23, Q#21, Q#19, Q#18, Q#14, INJ). Time resource was also mentioned as a barrier to inclusion (Q#29, INJ) as it takes a lot longer to run a programme for visually impaired learners (IGC). The lack of having enough staff (Q#30, Q#24, Q#23, Q#21, Q#19, Q#2) and training of staff (Q#29, Q#24, Q#22, Q#21, Q#14, Q#2) also came up as a possible barrier to inclusion. Participant Q#27 argued that the "lack of government resources and attention" creates a barrier to the inclusion of visually impaired learners.

Inadequate infrastructure and facilities that are not accessible (Q#30, Q#27, Q#22, Q#21, Q#19, Q#15, Q#14 Q#13, Q#2, IGC, INE, ISR) was one of the most prominent environmental barriers to inclusivity listed by the participants. For example, participant Q#13 mentioned that "most programs are ran [running] in rough terrains". Lack of appropriate signage (braille) was also mentioned as a barrier (Q#23, Q#13). INE said that "even the most accessible venues we find are mediocrely adequate…. the vast majority of places I look at I would rule out" [as not being accessible].

Some infrastructure that was designed especially for people with visual disabilities was labelled by participants as being a barrier itself due to design flaws. Some sites are "disable friendly" but are "designed all over the place" (INE) making them unnavigable for impaired individuals. There are braille trails that are not practical, "so nobody uses it" (ISR), is another example which came from a national park where the braille trail stops without notice and continues several meters later (PII-3), see picture 4.1 below. In an example from a school where a mosaic braille wall was constructed using ceramic beads to make the braille, the spacing of the braille is off by a very small margin causing the braille to be unreadable (PVIII-8), see picture 4.2 below.

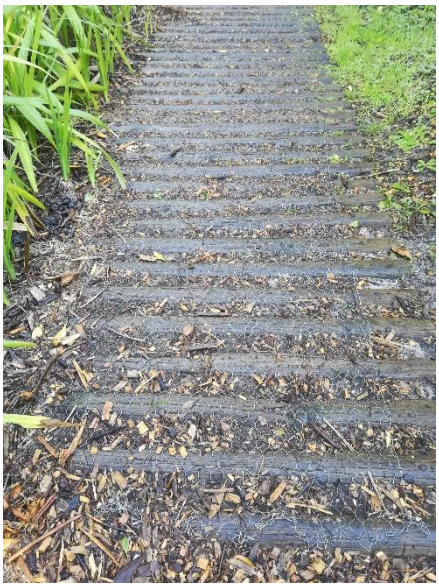
Picture 4.1: Braille trail

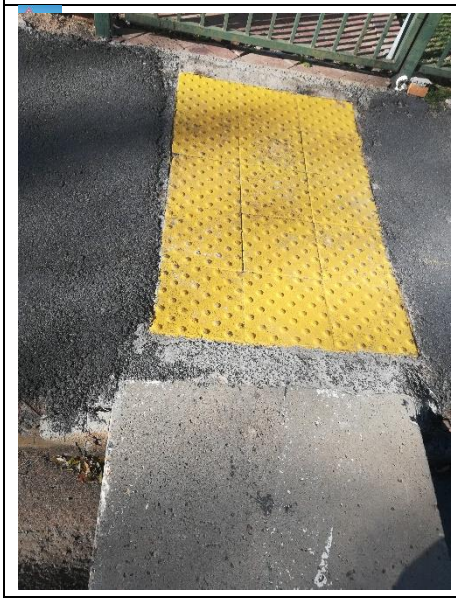
Picture 4.2: Mosaic braille wall

Access to facilities and within the facility was noted as an environmental barrier hindering inclusion of visually impaired individuals. See Table 4.1 below showcasing how these barriers have been solved.

Table 4.1: Photo narrative of overcoming barriers

	"Artificial grass used to create a soft surface for playing."	PI-1
	"The play area surface is soft and made from chipped rubber (recycled tyres). This surface creates a soft landing should VI (visually impaired) children fall on it."	PVIII-4
	"Lowered curb to make it easier for disabled children to walk around."	PI-2

	"Ramps constructed over the high curb."	PIV-4
	"Paths are covered with wire to prevent slippery bridges." 	PIII-4
	"Old paths (with large flat stones) were easier to build but ended up with large areas of uneven pieces of stone that made disabled users unstable."	PIV-2

	“With the new paths, stones are laid upright to create a smoother navigable path that still prevents erosion.”	PIV-1
	“These slates on the pavement are textured to indicate a crossing in the road.” This makes it easier to navigate.	PV-1
	“These textured tiles indicate a gated entry off the street.”	PV-3

	"These paths are tiles laid into the road. They are used by blind people to navigate with their white walking canes." The white cane will be guided by the grove in the path, sliding along, making it easy for the blind individual to follow a path.	PIX-1
	Otherwise, inaccessible playground infrastructure made accessible. "Swing for multi-disabled learners."	PI-3
	"Merry go round for multi-disabled learners with no steps." 	PI-4
	"Seesaw for multi disabled learners." 	PI-5

IPJ noted that the "physical barrier can be overcome if the mental barrier is jumped".

4.4 What is being done?

This section addresses Sub-question 2: *What is being done and what is not being done in order to promote inclusion for visually impaired learners in outdoor environmental learning programmes at environmental education centres and campsites?*

Many people, according to participants, at campsites and centres and in communities are being intentional about including learners with visual impairments in making an effort to assist them and meeting their needs (Q#27, Q#23, Q#19) and being deliberate in designing programmes that are inclusive (Q#27, INE, IPJ). This includes sensitising the industry and community about inclusion (IPJ) and building the bridge between "impaired and abled bodies" (IPJ) and getting impaired individuals to participate together (INE, IPJ). Some institutions make deliberate choices to include impaired individuals such as mentioned by ISR that there are "no entrance fees for impaired individuals" and participant Q#23 said they "do not charge extra for a specialised programme and staffing". Some institutions provide extra staff to increase the facilitator-to-participant ratio (Q#25, Q#23) to allow for smaller groups (Q#24). Some facilities are deliberate in evaluating their existing infrastructure (ISR) to ensure it still serves the intended inclusivity purpose it was designed for and bring about the necessary changes to make their facilities inclusive for visually impaired individuals, for example, allowing guide dogs to their facilities (see picture 4.3 below, PVII-1) and using braille in new innovative ways, like used on the surface of a table (see picture 4.4 below, PVII-2).

Picture 4.3: Showing guide dogs are welcome at this facility

Picture 4.4: Showing a braille message on a garden table

The participants made several references to organisations and individuals creating awareness and providing training for staff and in communities (Q#29, Q#24, Q#19, Q#13, Q#10). One participant, Q#23, made mention that as part of the training they let “new staff shadow those with prior experience in dealing with disabled guests”.

Participants noted that activities are adapted to promote inclusivity of visually impaired individuals (Q#30, Q#29, Q#23, Q#19, IGC) and activities are used that complement all the other senses (smell, touch, sound, and taste) (Q#23, Q#19, ISR). See picture 4.5 below of PX-1 where a sensory garden makes use of fragrant plants in an environmental education activity. Other “activities making use of braille on signage” (Q#27), or make use of technology like using mobile phones to read to the participants (INJ) and using quick response (QR) codes (see picture 4.6 below, PVI-1) on signs (ISR) to enhance the learning experience. These programmes and “activities often complement the education system” (Q#13).

Picture 4.5: Fragrant plants as part of a sensory garden

Picture 4.6: Quick reference (QR) technology

According to many participants, a lot is being done with regards to facilities to promote the inclusion of visually impaired learners. Some participants reported that access to facilities was improved by constructing ramps, (Q#19, Q#11, PIV-4, PIII-6), the installation of lowered sidewalk curbs (PI-2), the design of accessible pathways and trails (INJ, PIV-1), giving attention to surfaces used (PI-1, PIII-4, PIV-4, ISR) and installing warning or indicator knobbed tiles on paths (PIV-3, PV-1, PV-3, PIX-1). Braille is used on signs in a variety of forms (Q#11, ISR, PII-1, PII-2, PII-5, PIII-1, PIII-5) and even on a mosaic braille wall (PVIII-7). By putting the braille on the back of the signboard and at an angle (PIII-2) it makes it easier for the braille readers to read as they can stand upright and do not have to bend backwards to read a front facing braille plaque (see picture 4.7 below).

Picture 4.7: Braille plaque at an angle behind the sign

Some aids are used to enhance the experience of learners like having touch and feel stations (PII-4) and installing stopper blocks (PIII-3) to a trail guide rope to indicate a braille station or sign being located there, see picture 4.8 below.

Picture 4.8: Stopper block

Some use knots in ropes to help individuals navigate the trails or paths (INJ, INE). Safety rails and guards are installed in bathrooms (INE), on paths (PIII-5) and on playgrounds (PVIII-5) (see picture 4.9 below of such a rail installed on a swing).

Picture 4.9: Safety rail on the swing

Other playground toys and elements are modified to make them inclusive of multi-disability spectrums (PI-3, PI-4, PI-5, PVIII-1, PVIII-3, ISR). A playground near a school showcases a goalball court (PVIII-2), a sport played by visually impaired learners and also swings equipped with a bell (PVIII-1) so visually impaired individuals do not get disorientated whilst using the swings, see picture 4.10 below.

Picture 4.10: A bell installed on a swing

Signs are placed next to roads and streets to warn motorists that impaired individuals are crossing roads (PIX-2, PV-2). Participants IPJ and ISR noted that by including impaired individuals in the design of activities and facilities "makes good sense" (IPJ) and provides an opportunity to test what is being designed.

4.5 What is not being done?

This section addresses the second part of Sub-question 2: *What is being done and what is not being done in order to promote inclusion for visually impaired learners in outdoor environmental learning programmes at environmental education centres and campsites?*

Questionnaire respondent Q#27, stated that "our schooling system does not cater to differently abled learners well at all". IGC, another participant, said that their training did "not include how to work with disabled people". Upon asking participants if they have seen any educational tools being used to assist visually impaired learners, many answered that they had seen few if any. (Q#31, Q#27, Q#22, Q#18, Q#13, Q#2, Q#4). Q#27 stated that "very little [efforts and practices are witnessed]. Occasional brail hiking trails or specially sponsored and designed programmes".

4.6 What more can be done to improve inclusion for visually impaired learners?

This section addresses Sub-question 3: What more can be done to improve inclusion for visually impaired learners with an *Ecological Systems Theory of Human Development* view?

The macrosystem in the ecological systems framework consists of the culture, beliefs and traditions of a community and includes many different groups (see section 2.4). Data collected suggests that the idea "if someone has a disability they should be put away" as they do not fit in (INJ), should be replaced with making efforts to "engage" with (Q#23) and "cater for the needs" (Q#27) of impaired people. Impaired individuals are part of society and should not be pushed aside, "acceptance of this [disability] is needed" (Q#21), entire mindsets will have to change when it comes to catering for people with disabilities (Q#22) and an approach followed by "everybody in, no one left out" (Q#31).

The exosystem layer involves interactions between factors that the individual did not cause nor effect. This would be the local community, businesses, universities, media, government and many more (see section 2.4). Many responses to what groups/organisations in the exosystem could do to promote inclusion came from the data. It is argued by participants that training providers (universities, government, campsites and centres) should include specific training on working with and including impaired individuals in programmes (IGC, Q#29, Q#23, Q#20, Q#16, Q#14, Q#13, Q#11). Q#21 stated that teachers and educators "should be trained with a view to being able to help the visually impaired". INE further argues that if the impaired individuals receive enough resources, training and experiences already in the early stages of their lives they will not be unemployable and will not rely solely on the government for care in their later lives; that if the government spends the resources in getting skilled teaching programmes for these individuals, they will not be a drain and liability on government but instead be independent attributes to the economy of the country.

Funding and subsidies for quality training is also a need that was identified by participants (Q#23, Q#2), and this funding needs to be available in an accessible way (INE). According to participants, funding should also be made available by the government to promote and make use of programmes that already exist (Q#24, Q#14, Q#2) or to help centres to develop necessary programmes (IGC, Q#30). Participants stated that there is a need for government to set standards and laws and assist in overcoming these barriers (Q#27, Q#24, Q#19, Q#15). In the words of Q#27, "the government should pay more attention to the plight of forgotten sectors of society such as the aged and the differently abled. Awareness is never enough. Specific laws addressing public facilities for the differently abled need to be implemented". The government should bring about the change needed in schools (Q#21, Q#31) and be an example of inclusivity. Campsites and centres have the responsibility to design infrastructure with

impaired people in mind (IGC, INE) and ensure that evaluations of their facilities are adequately inclusive (INE, Q#22, Q#20, Q#16, Q#13, PVII-1, PIX-1, PIX-2), their staff are capable (Q#14) and the activities appropriate (Q#13).

The mesosystem is the environment where multiple microsystems connect and the relationship between them (see section 2.4). More than sixty-eight percent (68%) of questionnaire respondents said that visually impaired learners are being excluded from outdoor environmental programmes and sixty percent (60%) said their facilities are not disability friendly. According to participants, campsites and centres should communicate with each other (Q#31), engage with the impaired individuals in communities (Q#28) and schools and ensure their programmes cater to the needs of visually impaired people and to be deliberate about including impaired individuals when designing programmes (IPJ, Q#25). Teachers and schools should engage with campsites and centres to know what is available (Q#23) and get excursions booked to visit these facilities (Q#30). Everyone should get involved and build relationships with awareness programmes and initiatives (IGC) and "build sustainable initiatives" (IPJ) where the community as a whole can be involved. IPJ suggested that schools and organisations that provide social service outreach as part of their programmes need to be deliberate in supporting impaired individuals and special need schools. Get abled bodied and impaired individuals together (INE) and, when they spend time together, they'll "really connect and build phenomenal friendships for life" (INE).

The microsystem is the environment which focusses on the people closest to the impaired individual, those with whom there is regular interaction like parents, siblings, family, school personnel (see section 2.4). Participants stated that programmes and activities can be altered to include visually impaired learners (IGC, Q#24) and ensure that the educational tools and environment provided are accessible (ISR, Q#24, PI, PII, PIII, PIV, PVI, PVIII, PX). Schools should stimulate communication between all parties (Q#31), be open to inclusion (IPJ), make the time for teaching learners about inclusivity (IPJ, Q#19) and "preparing impaired individuals with skills to cope in everyday life" (Q#22). Partnerships need to be valued between other schools and organisations within the community that can support them (IPJ). Schools can create activities that will allow participation regardless of children's disabilities (Q#13), they can decrease the pupil to teacher ratio in programmes (Q#29) and employ teaching assistants to help with individual care. Schools can get involved and build outdoor environmental education into their curricula (IPJ) and, as suggested by IGC, provide outdoor education activities at

school in the schoolyard as there is “no need to take learners out of their familiar space (school)” (IGC) and to have the valuable interaction and play with other impaired learners in nature (Q#27).

In the centre of this ecological system is **the individual,** with his or her age, sex, health and self-perception, it is often the “attitude of themselves that limits people” (INJ). By making the outdoor education environment accessible, we can see individuals gaining independence (INE) and boosting their self-esteem (INE).

4.7 Care

This section addresses Sub-question 4: *What underlying mechanisms influence the inclusion of visually impaired individuals in outdoor environmental education programmes?*

Some questions come up during the study. Why should there be care in the world? Why should we care about including disabled people in outdoor environmental education programmes? Why should there be adequate resources, training and access available to visually impaired learners? Answers to all these questions point through the data to **care** as being a critically important underlying generative mechanism shaping the inclusion of visually impaired learners in outdoor education programmes. This study, therefore, concentrates mainly on this mechanism in the analysis.

Participants reacted by stating that the world we live in needs people looking after the planet for us to continue living on earth, thus everybody, abled and impaired, need to play their part (Q#23, Q#16). “Impaired individuals want to learn about nature just as much as abled people” (IGC), we need to be inclusive (Q#20), “we are one community, and everybody has a place and function in it” (Q#32). Outdoor environmental education programmes provide us with the opportunity to have abled and impaired individuals together partaking in the same activities (ISR, IPJ) and build bridges over exclusion (IPJ). “No obstacle should get in the way of disability” (INJ). IPJ stated that “We are created for love, to love and to be loving”. He [IPJ] also said that “environmental education which is at the heart of helping people connect with the power of the earth, which is people connected with God through connection with nature”, gives a religious motivation behind caring.

4.7.1 Why should campsites and centres care about having inclusive outdoor environmental education programmes?

Environmental education is important not only to the education system, but it also benefits the environment and the individual (see also section 4.7.3 on the benefits of outdoor environmental education programmes). Respondent Q#27 proclaimed "environmental education is important to a holistic education [system]. It also benefits our planet to have young people who are aware and actively maintaining our ecosystems. Impaired learners are a non-lesser part of society and should be offered the same opportunities as any other learner".

Other respondents reflected that "disabled children that attend outdoor environmental education programmes are just children like any other (Q#30), all people are important (Q#15, Q#27, Q#29), and impaired individuals are part of our society (Q#31, Q#23) just like others. According to participants there is a need for impaired individuals to have access to outdoor environmental education (Q#21) and we need to be inclusive of all (Q#19, Q#16, Q#13, Q#2) and give all equal opportunity to expand their knowledge (IGC, Q#29, Q#27, Q#22). In the words of participant Q#29, "we need to ensure that no one misses out on developing themselves to their full potential". Participant INE responded by stating that campsites and centres need to be inclusive of disabled learners in the same way as they are inclusive of children with blond hair, or they include boys and girls as, in all cases, they are just children like any other with the need for education and learning experiences. These impaired individuals often need the attention and experience more due to the limitations they have experience, "so why should we not include them?" (INE).

4.7.2 Why should schools and the government care about inclusive outdoor environmental education programmes?

Respondents indicated that outdoor environmental education programmes offer unique opportunities to learn valuable life skills (Q#22), address spiritual needs, reduce stress, promote emotional wellbeing (Q#30, Q#24) and inspire care for nature (Q#28, Q#24) which is needed by learners regardless of ability. Outdoor environmental education programmes should go hand in hand with the main education system to enhance knowledge and learning (Q#14) and provide opportunities for all (Q#28). Respondent Q#22 claims that "outdoor education adds so many valuable life skills and confidence in learners' lives. Everyone should be enabled to access

these great opportunities". There are many benefits to the school and schooling system in having inclusive programmes (see section 4.7.3 below).

Respondents also emphasised that government has a responsibility to care and ensure inclusive programmes for all citizens (Q#13, Q#25, IGC), and "it is constitutional and by law, they (the government) are responsible" (IGC). Q#13 comments that "building better prepared and adapted adults for the future should be a priority of government. If you teach a disabled person, through adventure education, that they can function and achieve in the world, then that person may become a very productive member of society". INE argues that people that are impaired and unemployed "are a drain on government funding", should government spend money on training disabled children and equipping them with skills, they will be employable and will be able to cope with less support from government; "potential investment now will relate to savings later on" (INE) when these individuals are self-sustaining and not dependent.

4.7.3 Benefits of having inclusive outdoor environmental education programmes available

Participants felt that having an inclusive programme will have an array of benefits for the impaired individual such as being treated and accepted as part of society (Q#33, Q#29, Q#25, Q#21, Q#15, Q#14), build and improve self-esteem (Q#30, Q#14), develop skills (Q#21) and experience nature first hand with all their senses (Q#31, Q#24, Q#23, Q#22, Q#19, Q#18). Q#29 responded that the benefits would be "the same as for any child with no disability, plus added the benefit of feeling accepted". Q#27 agreed but added that the programme "could make a small impact on an average person [but] may make a huge impact on an impaired individual". Q#22 stated that an inclusive programme would "allow them [impaired individuals] to enjoy the pleasure of experiencing their natural environment first hand and awaken in them a desire to care for the environment".

Participants also voiced that there are benefits to the school and schooling system if there are inclusive programmes available for visually impaired learners such as "enabling schools to provide learners with equitable opportunities" (Q#23). It will provide a learning opportunity and create awareness on how to be inclusive of people with disabilities (Q#31, Q#29, Q#25, Q#24, Q#21, Q#2). Q#31 responded by saying that having a programme available "will help

children to learn to include all kids". Participant Q#25 similarly responded in stating that "it will teach kids, parents and teachers to be inclusive".

Participants expressed that the community will benefit because people within the community will be more aware of impaired individuals, making them open to inclusivity and accepting impaired individuals as part of their community (Q#32, Q#30, Q#28, Q#26, Q#25, Q#24, Q#22). Participant Q#22 stated that "the general attitude in communities will be challenged and even changed". Participant Q#3 stated that people might even change their "preconceived ideas about people with disabilities" and "it will enhance unity amongst the people" (Q#14).

4.7.3.1 Benefits specific to the individual

Participants indicated that outdoor environmental education programmes would benefit the impaired individual by broadening their life experiences (Q#2), worldview (IGC), skills and knowledge (Q#2, Q#21, IGC, Q#13). IGC points out that "knowledge is power". Skills taught to an impaired learner in outdoor environmental education can help them to function and achieve in the world and become very productive members of society (Q#13), help them develop (IGC) and function in a non-disabled society (INE). These programmes help them to interact with others and enjoy themselves in nature (Q#30, Q#22, Q#23), whilst building self-esteem (Q#30, Q#14) and unlocking each individual's potential (Q#14) and desire to care for the environmental (Q#22, Q#23). These programmes have a positive effect on the physical, emotional, psychological and spiritual well-being of people (Q#18) and stimulate greater involvement and kindness towards those with different needs (Q#15). These programmes are designed to help a child with impairments grow and develop as best as possible, the deliberate energy given to these children (IPJ) to support them and provide them with a network of care (INE) where they can feel accepted and part of a community (Q#33, Q#29, Q#25, Q#24, Q#21, Q#15, Q#13).

4.7.3.2 Benefits for the community

Respondents also indicated that outdoor environmental education programmes could teach impaired individual skills which will enable them to play an active role in the economy (Q#15, IGC) by working in the community and being contributing members of society (Q#28, Q#16). These programmes help with integration into the community (IPJ), promoting awareness,

inclusion and caring (ISR, Q#32, Q#28, Q#26, Q#25, Q#24, Q#22 Q#20). Respondent Q#30 noted that these inclusive programmes could "affect the level of bullying" and create emotional wellness within a community.

4.7.3.3 Benefits for schools and the schooling system

Participants noted that outdoor environmental education programmes have a unique way of teaching children about themselves, their peers and responsibilities towards self, others and nature (Q#18). Respondents claim that some topics are difficult to teach in a classroom (IGC), thus having a programme available to support the notion that "learning has no walls" (IPJ) can be a valuable tool in teaching nature (IGC), relationships and it will connect people to nature (Q#18). These inclusive programmes, according to participants, have the ability to "encourage greater involvement, kindness" (Q#15), "tolerance" (Q#14), and inclusivity (Q#31, Q#25, Q#19,) toward disabled learners from their peers, teachers, parents and society (Q#25, Q#14). Furthermore, it was said that these programmes enable opportunities for all learners to participate (Q#23, Q#19), both disabled and non-disabled learners (Q#2) in these alternative experiential learning programmes (Q#24). Participants noted that these programmes support the curriculum taught in schools and could stimulate and challenge those teachers to further their focus on environmental education (Q#22, Q#21). If institutions like schools discover new ways of teaching and new ways of helping all learners to learn and providing all the opportunity to grow knowledge (IPJ), it will "make these institutions and the schooling system more effective" (IPJ).

4.8 Additional generative mechanisms

From the data presented in this chapter, many additional generative mechanisms (forces and triggers) other than the key one of care emerged from the data that help to explain why the real is what it is (refer to Figure 3.2). Some of these mechanisms are listed below:

- Policy and political influences
- Inadequate resources
- Insufficient know-how (training)
- Scarce opportunities to learn from others
- Values.

All the mechanisms flow from a “place” of care; it is because there is care that people strive to be inclusive of impaired individuals. In section 5.5 these generative mechanisms will be discussed in relation to the impact they have on inclusivity in order to answer Sub-question 4: *What underlying mechanisms influence the inclusion of visually impaired individuals in outdoor environmental education programmes?* more comprehensively.

4.9 Conclusion

This chapter presented the data collected via all three collection methods namely; interviews, questionnaires and photo-narrative. This chapter managed to answer sub-question 1, 2 and 3 and partially sub-question 4. In the next chapter (Chapter 5), analytical statements are used to connect data with literature and continue in answering the sub-questions and also answer the main research question: *What is the current status quo concerning the inclusion of visually impaired learners in outdoor environmental learning programmes in environmental education centres and campsites in South Africa?*

CHAPTER 5: DEEPENING UNDERSTANDING ON THE INCLUSION OF VISUALLY IMPAIRED LEARNERS

5.1 Introduction

To enable the discussion of data from Chapter 4, drawing on the *Ecological Systems Theory* and critical realism from Chapters 1 and 2, the data has been condensed into analytical statements (Bassey, 1999) thus synthesising interpretations of the data to enable a discussion in response to my main research question: *What is the current status quo concerning the inclusion of visually impaired learners in outdoor environmental learning programmes in environmental education centres and campsites in South Africa?*

This chapter again touches on factors of sub-questions 1, 2 and 3 and then answer sub-question 4: What underlying mechanisms influence the inclusion of visually impaired individuals in outdoor environmental education programmes? This chapter concludes the study with recommendations for further study and a closing thought.

5.2 Analytical Statement 1: The visually impaired individual can influence inclusivity in outdoor environmental education programmes.

Intrinsic barriers (see section 2.2.3) coming from within the impaired individual, as discussed in section 4.3, can hinder inclusion. These intrinsic barriers (physical, emotional or attitudinal) can influence how the impaired individual can participate in outdoor education programmes, hence also the need for giving attention to their inclusive participation. But we have seen that the individuals who realise the benefits (see section 4.7.3.1) can overcome the barriers that stand in their way to inclusion in outdoor environmental education programmes. These individuals, being aware of their limitations, can still have a positive attitude and participate in activities creating a learning opportunity not only for themselves but for those around them.

As shared by some of the respondents, (see section 4.4), impaired individuals should be involved in creating and implementing programmes and be given the opportunity to overcome barriers and experience inclusive environmental education practices. Respondents indicated various ways in which individuals had been able to overcome intrinsic barriers via the support processes and approaches that were used; as mentioned by INE during the interview: “benefits

we see is people increasing in independence… their self-esteem is boosted" when they are guided in an activity and they succeed.

5.3 Analytical Statement 2: Interactions and influences in the mesosystem (between different microsystems and ecosystems) have an impact on the inclusivity of visually impaired individuals in outdoor environmental education programmes.

The mesosystem (see section 2.4) demarcates an area of proximal processes where the relationship and influences are situated, that the individual, in this case, an impaired individual has on its direct environment (microsystem) and visa-versa. It is also an area to explain the relationships and influences that two or more systems have on each other (see section 2.4.3).

The measurable relationships of importance in this study could be identified as the relationship between the impaired individual and the community, the school and the individual, the community and the school, the schools and campsites/centres, the education system and schools and the individual towards another individual, whether impaired or not.

Individual ↔ Community

Statements like that of respondent Q#31, who asserts that impaired individuals are just as much a part of the community as we are, show the close relationship there is between an impaired individual and the community. Since the individual is a member of the community, the individual is actively involved in the community and community activities also have an impact on the community members.

When you have a community that is sensitised by being aware of the needs of the impaired members amongst them, you find efforts being made by the community like those seen in the photographs of participants PV and PIX (see Appendix O) where signage is used to keep impaired individuals safe within the community. Or where the community engages in the establishment and upkeep of facilities for the impaired individual, like the sensory garden seen in PX-1, or where the community helps to construct activities for the impaired like the braille mosaic wall shown by PVIII-7. These efforts from the community make the impaired individual feel part of the community and improve inclusion.

The impaired individual has the responsibility to be active in the community and teach the community about impairments, they (the impaired individual) can create awareness and

sensitise those around them, they can be the voice of other disabled people and voice the needs within the community as was reflected in sections 4.6 and 4.7.3.2.

School ↔ Individual

Data in the study also reflected that schools that have learners with impairments have the responsibility to provide them with equal opportunities. A prime example of the school's relationship with the impaired individual hindering inclusion is where students are deliberately left behind when a group visits an outdoor education centre or camp (see section 4.3). Respondents in the study (see sections 4.5, 4.6 and 4.7.2) argued that schools need to provide for their (impaired learners) needs. Schools can, as suggested by IGC, create facilities for outdoor environmental education learning in the school grounds where these impaired learners, along with others, do not even have to leave their familiar surroundings to have access to outdoor environmental education. It is also important that the impaired individuals work together with schools to find solutions to barriers.

Community ↔ School

Schools exist in every community around the globe. Schools and communities should work together as they complement each other. As reflected by respondents in this study (see sections 4.6 and 4.7.2), schools have a unique opportunity to educate and be an advocate for impaired individuals to the community as a whole through their contact and relationships with the children, their parents and other role players in the community. Schools need to be aware of the needs of the community and its members. Should there be community members that are excluded from education due to an impairment, the school should help cater to their needs by offering them access to education. The community, on the other hand, needs to know their schools and the children that attend them, as there may be children that are impaired (like visual impairment) who have needs that the community can supply. There was a strong sense from a number of the respondents (see section 4.7.3.2), that if the community and schools work together to look after the children, impaired or not, we create better citizens. Schools need to engage with their community and impaired individuals within the community. Schools can become involved in various community projects, as suggested by IPJ (see section 4.6), to promote inclusivity, for example, their service projects can be deliberately focused on the improvement of inclusivity.

School ↔ Campsites and Centres

As reflected by some of the respondents (see section 4.7.1), it is important for schools and campsites and centres to be in communication with each other, schools need to be aware of the facilities that are available to their students and campsites and centres need to be aware of the needs of the schools. As reflected in the data in this study (see sections 4.4 and 4.7.1), campsites and centres may have inadequate facilities to host an outdoor environmental education programme for impaired pupils from a school due to not being aware that there is a need for the facilities to be amended, thus excluding impaired individuals. The openness of a school to bring impaired learners to a programme, or the providers being open to change their programmes to accommodate the impaired learners, are valuable inclusive practices that were witnessed in this study (see section 4.4). However, sixty percent (60%) of the questionnaire participants (see section 4.6) stated that they believe their facilities are not disability friendly. If schools and/or campsites and centres become aware that their facilities are not inclusive, they can become proactive, as shown by the different practices shared via the photo narratives (see Appendix O). Campsites and centres can also communicate and establish a relationship between each other to share inclusive practices and learn from one another, as was discussed at the CCSA conference, where this research was first discussed with participants. It is also, as reflected by respondents in the study, like in the response of respondent Q#31 who said that, in order to promote inclusion at campsites and centres, there needs to be "communication between campsites".

Education system ↔ Schools

Though the education system is not part of the microsystem, but rather fits into the macro system (see section 2.4), it is still valid to have a look at the relationship between the education system through schools affecting inclusivity of the individual. Policies like the NEMA, CAPS, and SDGs (see section 2.2.1.3.1), guide the schools and educators to create inclusive lesson plans and learning environments. However, if the implementation fails, as suggested by Rosenberg (2008) and Zwelibanzi (2016), the result is exclusion. As noted by respondents, schools also have the responsibility to provide feedback to the policy makers about implementation problems as there might be other schools experiencing the same issues and they could be rectified.

Individual ↔ Individual

Impaired individuals being told that there is so much they cannot do (INE) is an example of how the relationship between two individuals can hinder inclusivity. Individuals need to get involved and build relationships to create awareness and support impaired individuals (IGC). As one respondent (Q#31) indicated, people are often afraid of the unknown but spending time with each other makes them aware of the other's needs. When individuals are aware of others with impairments and they are deliberate in looking after their needs, a culture of inclusivity is being established, as was also shown by the various good practices that were shared in the photo narrative exercise. INE noted that when individuals, impaired or not, spend time together, they "connect and build phenomenal friendships for life". Loeffler (2004) and Lynch (2000) (see section 2.2.1.2) states that outdoor programmes create a unique environment for the development of friendships.

5.4 Analytical Statement 3: Dispositions of people have an impact on the inclusion of visually impaired individuals in outdoor environmental education programmes

We have seen in the literature (see section 2.2.1.2) that outdoor environmental education programmes have a positive impact on the attitude of peers towards those with disabilities and that these programmes have the opportunity to change attitudes positively. However, in section 2.2.3 and from the data in section 4.3, we see that "attitude can be a barrier to inclusion" (IPJ). "Negative attitudes and behaviours have an adverse effect on children and adults with disabilities, leading to negative consequences such as low self-esteem and reduced participation" (Kong & Loi, 2017, p. 5).

These attitudes do not have to be from a person close to the individual to have an impact on inclusivity; attitudes in all layers (individual, microsystem, mesosystem and macrosystem) of the ecological system will have an impact on inclusivity (see section 2.4). It is possible for attitudes to change. Q#22 responded (see section 4.7.3) that attitudes in communities will be challenged by having inclusive programmes available and could "even be changed". Changes in attitude could happen over time, a phenomenon that happens in the chronosystem of Bronfenbrenner's ecological system (see section 2.4). The chronosystem is not dealt with in this study but is an area that needs further study.

Care, as a deep-seated value (see section 2.2.5.2) with generative potential, was discussed in section 4.7, with further related generative mechanisms influencing the inclusion of visually impaired learners being discussed in section 5.5 below.

5.5 Analytical Statement 4: Diversity of generative mechanisms that interact with the level of the real influences the inclusion of visually impaired individuals in outdoor environmental education programmes

In section 4.7 care was discussed as an important generative mechanism, and in section 4.8 generative mechanisms were identified and placed on a data map (see Figure 3.2).

Generative mechanisms in the domain of the real (see Figure 3.1 and Table 3.1) are the drivers, forces or triggers that produce events (see section 3.2.1). These mechanisms explain to us why the "real" is real and why the real is occurring. In this study, generative mechanisms, especially the ethics of care located in the "real" domain produced (see Figure 3.2) inclusivity of visually impaired individuals in outdoor environmental education programmes in South Africa. The mechanisms that were identified from the data in Chapter 4 are discussed here (also see section 4.8). Recommendations are made at the level of generative mechanisms, according to Danermark et al. (2002). This level of recommendation can be shared across a diversity of contexts and sites.

- Care

Tove Petterson (2011), writes (see section 2.2.5), that a simple form of care is the promotion of the individual to flourish. This is seen in many responses from across all data collection methods as people want to promote the impaired individual to flourish (see sections 4.6 and 4.7). Care is about relationships (Bowden, 2000; Green, 2012) (see section 2.2.5) and, as reflected by many respondents (see section 4.6) like that of IPJ, it is important to "acknowledge the value of partnerships".

Care is a broad topic to define and means different things to different people (see section 2.2.5) but, as argued by Petersen (2011), when both interests of self and of others are acknowledged, people can, despite the differences and hostilities that divide them, recognize each other as persons entitled to care and consideration.

- Policy and political influences

As seen in section 4.3 participants in this study identified politics and policies as barriers to inclusivity (INE, Q#30, IPJ) and in section 4.7.2 there was consensus amongst some respondents (Q#13, Q#25 and IGC) that government has a responsibility towards impaired people as it is a constitutional right which is enforced by law and policies (IGC) and should be a priority for government (Q#13). In section 4.6 it was made prominent that there is a need for government to set standards, laws and write policies to ensure inclusion (Q#27, Q#24, Q#19, Q#15).

Literature has shown us (see section 2.2.1.3.1) that South Africa has many policies like CAPS (2.2.1.3.1.1), NEMA (2.2.1.3.1.2) and the sustainable development goals (2.2.1.3.1.3) that ensure environmental education forms part of learning in many sectors in South Africa. These very same policies and acts (CAPS, NEMA and SDGs) along with the Constitution of South Africa (see section 1.3.3) and some others strive to ensure that education, including environmental education, is inclusive. How well are these policies implemented? Rosenberg (2008) argues that it is just here (implementation) that we are failing the system (see section 4.5) and similarly to what Rosenberg (2008) stated, IGC states that government as policymakers are failing in their duties as "politics are more important".

Recommendation: This study's main focus was not on the investigation of policies and their implementation, but this finding shows that further investigation into the implementation of inclusivity policies in outdoor environmental education is needed to generate more depth insight into this area.

- Inadequate resources

In section 4.2, the lack of educational tools and resources are discussed not only at centres, but respondents argued that they had witnessed very little effort, tools and practices being in place in the industry (see section 4.5), with those in evidence being viewed as being largely inadequate as reflected by respondents. There may be resources available, but they are often inaccessible to people with impairments (see section 4.6). Sixty percent (60%) of questionnaire respondents stated that they do not regard their facilities as being disability friendly. In section 4.3, funding and time are listed as the most scarce resources available to campsites and centres,

indicating that they should spend time and money on making their facilities and activities more inclusive.

Recommendations: Interviewee ISR stated that facilities need to evaluate their current practices and resources and might find that it is easier to overcome some of the resource barriers (see section 4.3) than what is believed. Sharing of examples such as those reported in the photo narratives can also assist organisations to consider low cost, but possible, ways of responding to the inclusion needs of the visually impaired.

- Insufficient know-how (training)

In section 4.2, ninety percent (90%) of the questionnaire participants said that specific training of teachers, guides and group leaders is important in the industry but a mere fifteen percent (15%) said they provide such training to their staff. There are numerous claims (sections 4.2, 4.5, 4.6, 4.7) that there is a need for training on specifically working with people with impairments.

Though some training is done in the industry (see section 4.4), participants like IGC (see section 4.5) still feel that the training they received was not adequate. Some good practices were shared by questionnaire participant Q#23 (see section 4.4) where new staff, as part of in-house training, shadow experienced staff in working with disabled groups.

In the historical literature, we see examples of insufficient training given to teachers being barriers to inclusive education, like in the writings of Ham and Sewing (1988) see section 2.2.3 and Zwelibanzi (2016). Swart and Pettipher (2005) noted (also see section 2.2.4.2) that some training for educators is divided into those catering for the needs of "normal" children and others only for those with "special" needs.

Recommendation: In response to the finding above, I recommend that more attention should be given to training. All training in the industry, whether formal education or campsite-based instruction, needs to be holistic in terms of inclusivity of those with impairments. Training programmes need to be evaluated and programmes reworked to ensure inclusivity. Teachers and educational guides need to equip themselves with the knowledge and know-how. The viability of creating and maintaining online and open platform courses with a focus on inclusivity in outdoor environmental education programmes need to be investigated by training institutions.

- Scarce opportunity to learn from others

Seeing how others do something, sharing experiences with others and learning from others are all attributes of experiential learning (see section 1.3.2). Environmental education and especially outdoor environmental education programmes rely on the experiences to be the teaching opportunity. If however, we have cases where children are deliberately left out of these programmes (see section 4.3 and 4.5), they miss out on the opportunity to learn from their experiences, learn from others and learn from nature. INE and IPJ (see section 4.7.3) talk about the importance of having a network where impaired individuals can share and learn and where friendships can be built. INE also refers to how individuals become more self-sustained when they learn from their peers on a camp as they have the opportunity to see how others cope with their disabilities. These scarce opportunities influence inclusivity as the interaction between impaired and non-impaired individuals are important for learning and benefit both (see section 4.7.3). Smith, Steel and Gidlow (2010) report in their study that when students spend time together in unusual physical settings, it results in a change in social perceptions and behaviour (see section 2.2.1.2).

Recommendation: Through networks such as the CCSA and EEASA, opportunities can be created for environmental educators working in outdoor education programmes to learn good practices from each other. A simple option to start such a process would be to share the examples of good practices and the issues raised in this study via such networks for educators to learn from each other.

- Values

Values drive people to act in certain ways (see section 2.2.5.2). The data showed many values to explain why people care about inclusivity. Values that surfaced during the study were the **care** and **compassion** with which participants lead in the industry. They showed **understanding** and **solidarity** with impaired individuals (see section 4.4), being deliberate with their actions to be **inclusive** and **optimistic** about creating and contributing towards inclusive practices. People showing **citizenship** and **friendship** towards individuals with impairment included examples found in section 4.7.3 where participants like Q#32, Q#30, Q#28, Q#26, Q#25, Q#24 and Q#22 are at one that people with impairments are an equal part of our community. Evidence of **openness to change** and **willingness** to evaluate current practices were witnessed (see sections 4.4 and 4.5). People want to learn and want to **share**

knowledge with others, they want to be a **service to people** with impairments (see section 4.7). IGC pointed out in an interview that "knowledge is power". Having the know-how helps us to be **fair** towards others and **act responsibly** when we design and implement learning programmes.

The lack of values, or where values have lower priority, were also pointed out and how this contradicted inclusivity. Examples thereof can be seen in section 4.3 and 4.5 where, in the responses of the participants, very little inclusive practice is witnessed and where impaired individuals are deliberately excluded from programmes, where the government does not take responsibility and policies fail to influence the education system to cater for the needs of impaired individuals.

One of the biggest values that stand out is **care.** In section 3.3.2 it was pointed out that negative attitudes or a lack of care shown towards disabled learners have a negative effect on how the individuals see themselves (Kong & Loi, 2017) and in section 4.6 the findings are that attitudes can be limiting. The converse is (see section 4.3) that with the right attitude shaped by a strong sense of care, any barrier can be overcome (IPJ).

It is clear that values as a generative mechanism impact the domain of the real both positively and negatively.

Recommendation: As noted above there are various recommendations made that can improve the way in which visually impaired learners can be included in outdoor education programmes. These can be shared within the industry via networks as also recommended above. In the next section recommendations for further study are included.

5.6 Recommendations for further study

As indicated in Chapter 1, this study sought to develop insight into what is being done, and what is not being done, currently to support the inclusion of visually impaired learners in outdoor education programmes. The study has provided insights into the current status quo of these questions. However, as the study progressed, it became clear that the phenomena under study have many dimensions that can be further investigated via additional studies. A few of these are listed below:

- The content of outdoor environmental education programmes could be studied, which could give valuable input into why some programmes are not inclusive.
- An investigation could be launched into the implementation of policies in outdoor environmental education programmes.
- A discourse analysis of how attitudes towards impaired individuals and their inclusion in education changed over time (in the chronosystem) could be done to provide an overall view of this discourse.
- Training courses, like university degrees, could be studied to see where shortfalls in inclusive education lie in the field of outdoor environmental education. The viability of creating and maintaining online and open platform courses with a focus on inclusivity in outdoor environmental education programmes need to be investigated.
- The impacts that therapeutic recreation and activities have on inclusion could be investigated.
- And finally, other disabilities (other than visual impairment) could be investigated in terms of outdoor environmental education programmes.

5.7 Conclusion

This chapter created a space where the data and literature could be synthesised by means of analytical statements. The visually impaired individual was discussed as influencing inclusivity. How interaction and influences in the mesosystem impacts inclusivity were discussed as well as what impact the dispositions of people have on the inclusivity of visually impaired individuals in outdoor environmental education programmes. Sub-question 4 was answered by looking at the diversity of generative mechanisms that interact with the level of the real and how these influence the inclusion of visually impaired individuals in outdoor environmental education programmes. It is at this level that I also made recommendations for the industry to consider.

The analytical statements discussed all aided in answering the main research question: *What is the current status quo concerning the inclusion of visually impaired learners in outdoor environmental learning programmes in environmental education centres and campsites in*

South Africa? Recommendations were then made for further study that could take this field of study further.

I hope that this research will offer some insights for policy makers, programme designers, education material writers and developers, as well as teachers and guides in the industry to have insight into what was found in the industry. This could hopefully equip them with the know-how and provoke them to want to know more about inclusivity and working with impaired individuals. In the end, this study hopes to contribute to the collaborative goal of having an inclusive society where everyone is equal and has the same opportunities within reach. As indicated in the recommendations for further research, there is still much that can be explored within this field of research.

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APPENDICES

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A. FOCUS GROUP IMPAIRMENTS IDENTIFIED

The following disabilities were tabled by the participants of the initial contextual profiling focus group interview discussions at the 2017 CCSA annual conference. (alphabetically categorised):

1. Hearing impairment
    a. Deaf
    b. Hard of hearing (hearing aids)
2. Internal disability
    a. Heart-related
    b. Kidney and liver-related
    c. Lung and respiratory system related
3. Metal disability
    a. Autism
    b. Down syndrome
    c. Learning disability
4. Physical impairment
    a. Cerebral palsy
    b. Missing limbs
    c. Obese (morbidly)
    d. Paralysed
5. Visually impaired
    a. Blind
    b. Near or farsighted

B. INVITATION TO PARTICIPATE IN RESEARCH TO KEY INFORMANTS

Participant's name

Rhodes University

Grahamstown.

6139

Dear (XXX participant's name)

Re: Invitation to participate in a research study

You are invited to participate in a research study entitled "**Investigating how campsite outdoor environmental education programmes in South Africa responds to the needs of visually impaired learners via inclusive practices**" which is being undertaken by a Masters in Education scholar at Rhodes University, Mr Chris Eksteen (17E0344). The study aims to inform the outdoor education sector in South Africa on ways to improve and support visually impaired learners in outdoor education programmes. Currently, there is very little knowledge available on such practices, and there is even less information available on how to share and strengthen such practices in South Africa, yet many learners could potentially benefit from such research.

The research will be undertaken through semi-structured interviews, survey questionnaires and participation in a photo narrative project that captures examples of best practices. Your participation in the research is anonymous and your identity will not be revealed. The collection of this data will require a 30min face to face interview, and ongoing sharing of best practices should you wish to contribute to the photo narrative project which will run between April 2018 – August 2018 (six month period).

If you agree to participate, I will explain in more detail what would be expected of you, and provide you with the information you need to understand the research and how you can participate in the research process. These guidelines would include potential risks, benefits, and your rights as a participant. Once this study has been approved by the Ethics Committee of the Faculty of Education you will be sent the letter of ethical approval.

Participation in this research is voluntary and a positive response to this letter of invitation does not oblige you to take part in this research. To participate, you will be asked to sign a consent form to confirm that you understand and agree to the conditions, prior to any interview commencing. Please note that you have the right to withdraw at any given time during the study.

Thank you for your time and we hope that you will respond favourably to our request to participate in this research project.

Yours sincerely,

Hendrik Christiaan Eksteen

C. INTERVIEW SCHEDULE

The following interview schedule was set up for my key informant interviews

Interview code_____ Date _____

Name _____ Interviewee alias _____

Organisation_____ Position at the organisation _____

Phone number_____ Email address_____

Years' experience in outdoor environmental education_____

Questions

1. Do you think visually impaired children are being excluded from outdoor environmental programmes at EE centres and campsites in South Africa?
2. Do you feel there is a need for visually disabled learners to have access to outdoor environmental programmes?
3. What benefit would such a programme have on the impaired individual?
4. What benefit would the availability of such programmes have on the school/schooling system?
5. What benefit would the availability of such a programme have on the community?
6. What barriers do you see preventing access for visually disabled learners to outdoor education facilities?
7. What barriers do you see preventing inclusion of children with visual impairments from outdoor education programming?
8. What practices/efforts have you noticed being practised to promote inclusion of visually impaired learners at education centres and/or campsites?
9. What teaching tools have you seen in practice to promote the inclusion of moderate visually impaired learners?
10. What teaching tools have you seen in practice to promote the inclusion of severely visually impaired/blind learners?
11. What could schools and teachers do to promote the inclusion of visually impaired learners in such programmes?

12. What could campsites and centres do to promote the inclusion of visually impaired learners in outdoor environmental education programmes?
13. What could the government do to promote the inclusion of visually impaired learners in such programmes?
14. Why should campsites and centres care about the inclusion of visually impaired learners in their outdoor environmental education programming?
15. According to you, why should the schooling system and government care about the inclusion of visually impaired learners in outdoor environmental education programming at campsite and centres in South Africa?

D. INTERVIEW CONSENT

Research Project Title:	**Investigating how campsite outdoor environmental education programmes in South Africa respond to the needs of visually impaired learners via inclusive practices**
Principal Investigator(s):	Hendrik Christiaan Eksteen (Chris)

Researcher Declaration.

Statement: As a researcher, I commit that raw data from this study will only be used by myself for the purpose of research. I will not distribute any person or organisation's personal details in any way. The participant's input will be regarded as confidential. All recordings will be transcribed and will be available to participants to update their inputs to ensure everyone is comfortable with what is said and what is captured as data for the research.

As a researcher, I promise to have respect for the field and participants. I promise to be fair and transparent and to be professional, honest and accountable in my research.

Participation Information

- The purpose of the research has been explained to me and I understand both the purpose of the research study and my involvement in this research study.
- I understand that I may withdraw from the research study at any time.
- I understand that I participate in this research study on a voluntary basis and will not be compensated for my involvement in the study in any way.
- I understand and agree that interviews may be recorded by audio and visual means.
- I understand that my input in this study may be published.
- I understand that the information shared remains anonymous.
- I understand that I will not be referenced in the study.
- I understand that I will be given the opportunity to read and comment on the transcriptions of the interviews.

Information Explanation
The above information was explained to me by Chris Eksteen
The above information was explained to me in English and I am in command of this language

Voluntary Consent	
I, hereby voluntarily consent to participate in the above-mentioned research.	
Signature:	Date: / /

Investigator Declaration	
I, Chris Eksteen, declare that I have explained all the participant information to the participant and have truthfully answered all questions asked by the participant.	
Signature:	Date: / /

E. QUESTIONNAIRE QUESTIONS

The following questions were set up on Survey Monkey and were used to gather information from participants.

1. What describes the ownership of your organisation best?

- Government-owned
- NGO/NPC/NPO owned
- Privately owned

2. What is the context of your organisation?

- Centre/Campsite/Facility providing accommodation only.
- Education, programming and or activities service provider only.
- Centre/ Campsite / Facility providing both accommodation and education, programming and or activities.
- None of the above.

3. Do you provide programming in outdoor/ environmental education?

   YES/NO

4. Are your facilities disabled friendly?

   YES/NO

   If so how (please describe):

5. Do you have any specific education tool used to include visually disabled learners in your programming in regard to your facilities?

   YES/NO

   If yes, give a short description of these educational tools:

6. Do you have any specific education tool used to include visually disabled learners in your programming in regard to adventure activities?

   YES/NO

   If yes, give a short description of these educational tools:

7. Do you have any specific education tool used to include visually disabled learners in your programming in regard to outdoor environmental activities?

   YES/NO

   If yes, give a short description of these educational tools:

8. How many people have been through your centre in the past 12 months?

   0-21 years of age _____ Adults _____

9. Age group of people attending your programme in percentage:

   5 and under

   6 – 9

   10 – 15

   16 – 19

   19+

10. Do you provide your teachers, guides or group leaders with specific training for working with visually impaired learners?

What does such training entail?

11. Do you think visually impaired children are being excluded from outdoor environmental programmes at EE centres and campsites in South Africa?
12. Do you feel there is a need for visually disabled learners to have access to outdoor environmental programmes?
13. What benefit would such a programme have on the impaired individual?
14. What benefit would the availability of such programmes have on the school/schooling system?
15. What benefit would the availability of such a programme have on the community?
16. What barriers do you see preventing access for visually disabled learners to outdoor education facilities?
17. What barriers do you see preventing inclusion of children with visual impairments from outdoor education programming?
18. What practices/efforts have you noticed being practised promoting inclusion of visually impaired learners at education centres and/or campsites?
19. What teaching tools have you seen in practice to promote the inclusion of moderately visually impaired learners?
20. What teaching tools have you seen in practice to promote the inclusion of severely visually impaired/blind learners?
21. What could schools and teachers do to promote the inclusion of visually impaired learners in such programmes?
22. What could campsites and centres do to promote the inclusion of visually impaired learners in outdoor environmental education programmes?
23. What could the government do to promote the inclusion of visually impaired learners in such programmes?
24. Why should campsites and centres care about the inclusion of visually impaired learners in their outdoor environmental education programming?
25. According to you, why should the schooling system and government care about the inclusion of visually impaired learners in outdoor environmental education programming at campsite and centres in South Africa?

F. QUESTIONNAIRE CONSENT

This declaration was at the beginning of my questionnaire and participants need to click (Require action) on a box if they agree, thereafter the questionnaire will follow. Should they not agree they can opt out. If the participant does not click on the agreement box, the questionnaire will not follow.

Investigating how campsite outdoor environmental education programmes in South Africa responds to the needs of visually impaired learners via inclusive practices

This study is being undertaken for a Masters in Environmental Education at Rhodes University by myself Christiaan Eksteen (student no). Its objective is to understand how the outdoor education industry is supporting inclusivity of visually impaired learners with a view to supporting enhanced practices in this area across the sector. Your participation in the survey that follows is highly appreciated.

- I understand the purpose of the research study and my involvement in this research study.
- I understand that I may withdraw from the research study at any time.
- I understand that I participate in this research study on a voluntary basis and will not be compensated for my involvement in the study in any way.
- I understand that my input in this study may be published.
- I understand that the information shared will remain anonymous.
- I understand that I will not be directly referenced or named in the study.

G. CCSA PERMISSION LETTER

[redacted]

From: Jonathan Bestwick [redacted]
Sent: Monday, April 16, 2018 2:24 PM
To: [redacted]
Cc: Administrator
Subject: Re: Request for permission to conduct research

Good Day Mr Eksteen,

We as an executive body at Christian Camping Southern Africa once again approve your request to conduct research with our members at at our 2018 annual conference.

We have found your approach to research to be both professional and beneficial to our membership. We therefore support your undertakings as your gather your data. We also grant you permission to continue using our membership as a base for your data collection until such time as we see fit to request that you no longer do so.

We look forward to the outcomes of your research and appreciate you offering us access to your findings.

We wish you all the best in this study.

Sincerely,

Jonathan Bestwick

Chairperson CCSA

On 2018-04-16 01:45 PM, [redacted] wrote:

> **REQUEST FOR PERMISSION TO CONDUCT RESEARCH WITH CCSA MEMBERS**
>
> Dear Chair of Christian Camping Southern Africa
>
> My name is Chris Eksteen, and I am an MEd student at Rhodes University (RU) in Grahamstown, South Africa. The research I wish to conduct for my Masters full thesis requires me to run a questionnaire with members of your organization. This research will be conducted under the supervision of Prof. Heila Lotz Sitsiska and Me. Bev Moore.
> This letter serves to seek formal consent to approach your members at the 2018 conference (5 – 8 June) via your newsletter, Facebook page and email.
> My research proposal which includes copies of the consent and assent forms to be used in the research process, as well as my ethical clearance from Rhodes University are available on request. As part of this I undertake to ensure that the name of the organisation and its members will be replaced with pseudonyms and that all the material I collect as part of the research will be accessible only to myself and my supervisor.
>
> Upon completion of the study, I undertake to provide you with access to the research findings. If you require any further information, please do not hesitate to contact me on [redacted] and [redacted]
>
> Thank you for your time and consideration in this matter.

1

H. WESSA PERMISSION LETTER

[redacted]

From: Gary Clarke <[redacted]
Sent: Tuesday, April 17, 2018 8:17 AM
To: [redacted]
Cc: Sifundo Sibiya; Steve Untiedt; Matthew Cocks
Subject: RE: Request for permission to conduct research

Hi Chris

Good to hear from you.

Delana emailed me to flag this. It would be a pleasure to complete the questionnaire (I will try do it this evening as I am on the road at the moment). I have copied in the following WESSA education centre managers:

Bush Pigs: Sifundo Sibiya
Twinstreams: Steve Untiedt
uMngeni Valley: Matthew Cocks

I am sure they would gladly complete the questionnaire for you

Wishing you all the best with your Master's thesis

Regards
Gary

From: eksteen[redacted]
Sent: Monday, April 16, 2018 4:43 PM
To: Gary Clarke [redacted]
Subject: Request for permission to conduct research

REQUEST FOR PERMISSION TO CONDUCT RESEARCH WITH WESSA ENVIRONEMNTAL EDUCATION CENTRES

Dear Gary Clarke (General manager: Education Centres and Work skills)

My name is Chris Eksteen, and I am an MEd student at Rhodes University (RU) in Grahamstown, South Africa. The research I wish to conduct for my Masters full thesis (Investigating how campsite outdoor environmental education programmes in South Africa responds to the needs of visually impaired learners via inclusive practices)requires me to send a questionnaire to environmental education centres owned by an NGO. I have chosen WESSA as a key role player in the field of environmental education and values the opinion of your centre management. This research will be conducted under the supervision of Prof. Heila Lotz Sitsiska and Me. Bev Moore.
This letter serves to seek formal consent to approach the centres, for this research.
I would like to request the centre managers as well as the general manager to complete the questionnaire, the questionnaire is designed to only take 15 minutes, your time is appreciated.

Link to the survey : https://www.surveymonkey.com/r/VINGO

1

My research proposal which includes copies of the consent and assent forms to be used in the research process, as well as my ethical clearance from Rhodes University are available on request. As part of my ethical allegiance I undertake to ensure that the name of the centres and all participants will be replaced with pseudonyms and that all the material I collect as part of the research will be accessible only to myself and my supervisor.

Upon completion of the study, I undertake to provide you with access to the research findings.

If permission is granted would you like me to contact the campsite managers and request them to complete the survey or would you like to send it collectively from your desk?

If you require any further information, please do not hesitate to contact me on [redacted] and [redacted].

Thank you for your time and consideration in this matter.

Yours sincerely

Chris Eksteen 17E0344
Rhodes University

Cell: [redacted]

I. PHOTO NARRATIVE INVITATION

Dear campsite personnel

A photo narrative project is being launched to explore good practices for inclusion of visually impaired learners in outdoor education, where success stories will be shared within a network of environmental education and outdoor education centres and campsites. These success stories are told with photos.

People are encouraged to share photos of best practices at their campsites where barriers were overcome to include people with disabilities, e.g. ramps at stairs, braille interpretive trail, sensory gardens etc.

In order to comply with ethical codes, it is important to avoid taking pictures of any participant's face. The focus should, therefore, be on **capturing the practice** and not the people. You can still share your pictures of people but take photos from behind the participant. Where facial imagery is unavoidable, blurring can be used over faces. Ensure that you have permission to share the photos.

Two examples are included below to show the kinds of photographs that the project aims to collect:

(examples of the types of photographs that can be shared on the WhatsApp group)

The goals of the project are to gather data to be incorporated in a Rhodes University Masters research study conducted by Chris Eksteen, who is studying the inclusion of visually impaired learners in outdoor education centres and campsite programmes.

Data will be used for the purposes of this study only, and permission will be sought to share the data more widely should it be of benefit to the object of the study, which is to inform the sector on what can be done better to include visually impaired learners in outdoor education.

Being part of the WhatsApp group, you also get to see what others are doing to promote inclusion at their campsites and this could potentially help you with ideas to solve problem areas with which you might struggle.

If you would like to be added to the WhatsApp group and share success stories and practices from your campsite, please scan this QR code with your phone or type in the URL to add yourself to the WhatsApp group. You can also send an SMS or WhatsApp message to xxxxxxxxxx with a request to be added to the group. Remember that in the group's settings you can mute the conversation so that the notifications on your phone are not intrusive with all the success stories and ideas being put forward.

https://chat.whatsapp.com/805nJqgq7mlHuU5byeNTf7

You may also send your photographs via email to xxxxxxxx@campus.ru.ac.za with "Photo Narrative" in the subject line, should you not want to partake in the WhatsApp conversations.

J. TABLED REPRESENTATION OF THE ANALYSIS

Phase 1 Inductive	**Sub 1: What are the barriers to inclusion for visually impaired learners in outdoor environmental learning programmes in environmental education centres and campsites?**		
	Interview	**Questionnaire**	**Photo narrative**
	What barriers do you see preventing access for visually disabled learners to outdoor education facilities? What barriers do you see preventing inclusion of children with visual impairments from outdoor education programming?	What barriers do you see preventing access for visually disabled learners to outdoor education facilities? What barriers do you see preventing inclusion of children with visual impairments from outdoor education programming?	
	Data is coded	Data is coded	Data is coded
	Themes identified	Themes identified	Themes identified
	Themes are triangulated across		

Phase 2 Inductive	**Sub 2: What is being done and what is not being done in order to promote inclusion for visually impaired learners in outdoor environmental learning programmes at environmental education centres and campsites?**		
	Interview	**Questionnaire**	**Photo narrative**
	What practices/efforts have you noticed being practised promoting inclusion of visually impaired learners at education centres and/or campsites? What teaching tools have you seen in practice to promote the inclusion of moderate visually impaired learners? What teaching tools have you seen in practice to promote the inclusion of severely visually impaired/blind learners?	Do you have any specific education tool used to include visually disabled learners in your programming in regard to your facilities? Do you have any specific education tool used to include visually disabled learners in your programming in regard to adventure activities? Do you have any specific education tool used to include visually disabled learners in your programming in regard to outdoor environmental activities? What practices/efforts have you noticed being practised promoting inclusion of visually impaired learners at education centres and/or campsites? What teaching tools have you seen in practice to promote the inclusion of moderate visually impaired learners? What teaching tools have you seen in practice to promote the inclusion of severely visually impaired/blind learners?	
	Data is coded	Data is coded	Data is coded
	Themes identified	Themes identified	Themes identified
	Themes are triangulated across		

Phase 3 Abductive	**Sub 3: What more can be done to improve inclusion for visually impaired learners with an *Ecological Systems Theory of Human Development* view.**		
	Interview	**Questionnaire**	**Photo narrative**
	What could schools and teachers do to promote the inclusion of visually impaired learners in such programmes? What could campsites and centres do to promote the inclusion of visually impaired learners in outdoor environmental education programmes? What could the government do to promote the inclusion of visually impaired learners in such programmes? Why should campsites and centres care about the inclusion of visually impaired learners in their outdoor environmental education programming? According to you, why should the schooling system and government care about the inclusion of visually impaired learners in outdoor environmental education programming at campsite and centres in South Africa?	What could schools and teachers do to promote the inclusion of visually impaired learners in such programmes? What could campsites and centres do to promote the inclusion of visually impaired learners in outdoor environmental education programmes? What could the government do to promote the inclusion of visually impaired learners in such programmes? Why should campsites and centres care about the inclusion of visually impaired learners in their outdoor environmental education programming? According to you, why should the schooling system and government care about the inclusion of visually impaired learners in outdoor environmental education programming at campsite and centres in South Africa?	
	Coded and measured according to the 5 systemic elements of the *Ecological Systems Theory*	Coded and measured according to the 5 systemic elements of the *Ecological Systems Theory*	Coded and measured according to the 5 systemic elements of the *Ecological Systems Theory*

Phase 4 Abductive and Retroductive	**Sub 4:** What underlying mechanisms influence the inclusion of visually impaired individuals in outdoor environmental education programmes?	
	Interview	**Questionnaire**
	What benefit would such a programme have on the impaired individual? What benefit would the availability of such programmes have on the school/schooling system? What benefit would the availability of such a programme have on the community? Why should campsites and centres care about the inclusion of visually impaired learners in their outdoor environmental education programming? According to you, why should the schooling system and government care about the inclusion of visually impaired learners in outdoor environmental education programming at campsite and centres in South Africa?	What benefit would such a programme have on the impaired individual? What benefit would the availability of such programmes have on the school/schooling system? What benefit would the availability of such a programme have on the community? According to you, why should campsites and centres care about the inclusion of visually impaired learners in their outdoor environmental education programming? According to you, why should the schooling system and government care about the inclusion of visually impaired learners in outdoor environmental education programming at campsite and centres in South Africa?
	Data is coded	Data is coded
	Themes identified	Themes identified
	Themes are triangulated across	

Phase 5 Synthesis	**What is the current status quo concerning the inclusion of visually impaired learners in outdoor environmental learning programmes in environmental education centres and campsites in South Africa?**
	Make use of analysed data of phases 1,2,3 and 4 to answer the main question.

K. ANALYTICAL FRAMEWORK PHASE 1

Barriers			
Categories	**Sub Categories**	**Extract "*sic erat scriptum*" [sic]**	**Index path**
Extrinsic	Unintentional attitudinal	Neither facilitators nor teachers are clued up on how such processes at an outdoor centre are supposed to work ... the concept of challenge is totally distorted for disabled learners	Q15Q#24
Extrinsic	Unintentional attitudinal	awareness,	Q21Q#24
Extrinsic	Unintentional attitudinal	fear of working with people who are different from our normal clients	Q21Q#18
Extrinsic	Unintentional attitudinal	perceptions…	Q21Q#14
Extrinsic	Unintentional attitudinal	Teachers and parents that are afraid for the unknown	Q22Q#31
Extrinsic	Unintentional attitudinal	awareness,	Q22Q#24
Extrinsic	Unintentional attitudinal	it is a perception	Q22Q#19
Extrinsic	Unintentional attitudinal	I would say they are not being deliberately excluded but they are excluded by the default settings	INJ-l11
Extrinsic	Intentional attitudinal	it is all an attitude of mind	INJ-l12
Extrinsic	Intentional attitudinal	Attitude that limits people	INJ-l35
Extrinsic	Intentional attitudinal	attitude of mind	INJ-l58
Extrinsic	Unintentional attitudinal	in South Africa, most people are not exposed to people with disabilities. Partly because of social stigma and partly because of an accessibility	INE-l55

Extrinsic	Unintentional attitudinal	Campsite where build in a time when nobody was thinking we are going to included disabled people. As they have their stuff or their schools, so they can just be there.	INE-l77
Extrinsic	Unintentional attitudinal	not intentionally but by virtue of the fact VI children in South Africa are not part of the mainstream of society	IPJ-l11
Extrinsic	Unintentional attitudinal	I never heard mentioned any VI learner. It is indicative, it is telling, it means that the priorities are elsewhere. There are many VI Children in South Africa who are simply under the radar.	IPJ-l13
Extrinsic	Unintentional attitudinal	The greatest barrier to innovation is conservatism	IPJ-l47
Extrinsic	Resources	the cost of upgrading facilities is prohibitive and would require significant funding	Q15Q#14
Extrinsic	Resources	need much more staff	Q21Q#30
Extrinsic	Resources	Time and Cost	Q21Q#29
Extrinsic	Resources	Government resources and attention.	Q21Q#27
Extrinsic	Resources	Cost to prepare such facilities and programmes, specialist educators cost and skills,	Q21Q#24
Extrinsic	Resources	Finances are a real barrier.	Q21Q#21
Extrinsic	Resources	A lack of trained facilitators	Q21Q#21
Extrinsic	Resources	Cost of making changes to existing facilities	Q21Q#19
Extrinsic	Resources	I think a lack of finances to make alterations to accommodate people with disabilities and	Q21Q#18
Extrinsic	Resources	FUNDING!	Q21Q#14
Extrinsic	Resources	untrained staff.	Q21Q#14
Extrinsic	Resources	lack of specialised programmes	Q21Q#14
Extrinsic	Resources	Poorly trained staff.	Q21Q#2
Extrinsic	Resources	Costs associated with changes and with a higher facilitator to child ratio	Q21Q#2
Extrinsic	Resources	More Staff	Q22Q#30

Extrinsic	Resources	Training of Staff,	Q22Q#29
Extrinsic	Resources	cost to parents	Q22Q#29
Extrinsic	Resources	Cost to prepare such facilities and programmes	Q22Q#24
Extrinsic	Resources	specialist educators cost and skills,	Q22Q#24
Extrinsic	Resources	not enough guides	Q22Q#23
Extrinsic	Resources	cost of additional facilities,	Q22Q#23
Extrinsic	Resources	lack of access	Q22Q#23
Extrinsic	Resources	Facilitators need to be specially trained; made aware of the needs of children who are visually impaired and how to cope with these needs.	Q22Q#22
Extrinsic	Resources	right staff	Q22Q#19
Extrinsic	Resources	You need more time as the programme runs slower	IGC-l38
Extrinsic	Resources	Hugely expensive	INJ-l23
Extrinsic	Resources	Time-consuming	INJ-l23
Extrinsic	Resources	Money is another big one (Barrier) because you might want to walk up the mountain, but you cannot afford the bus.	INJ-l58
Extrinsic	Limitations of others	Difficult to communicate with VI Learners	IGC-l10
Extrinsic	Limitations of others	Training was not adequate	IGC-l11
Extrinsic	Limitations of others	We cannot use sign language	Q8Q#23
Intrinsic	Limitations	the potential of falling, getting lost,	Q21Q#23
Intrinsic	Limitations	Potential for injury	Q21Q#22
Intrinsic	Limitations	These all lead to the individual feeling like they do not belong.	Q22Q#27
Intrinsic	Limitation	Blind people can't see	ISR-l21
Extrinsic	Intentional attitudinal	Visually impaired folk are often left off activities such as camps as they are not catered to	Q15Q#27
Extrinsic	Intentional attitudinal	Most of us don't know how	Q15Q#23
Extrinsic	Intentional attitudinal	But we know our government stopped it (Inclusive programming for VI learners)	Q19Q#30

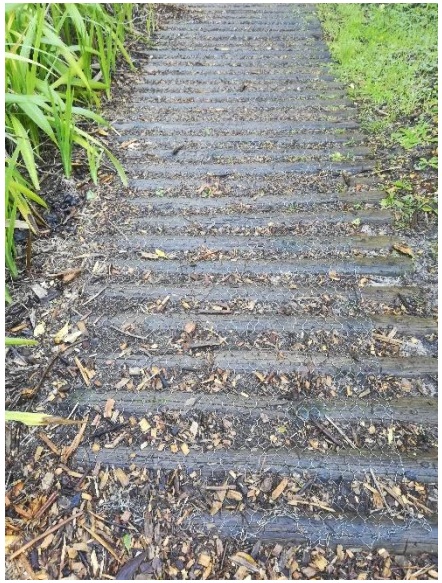
Extrinsic	Intentional attitudinal	The schools that visited us does not bring kids with them that are disabled	Q21Q#31
Extrinsic	Intentional attitudinal	Awareness! Societal understanding and acknowledgement of differently abled people as functional members of society.	Q21Q#27
Extrinsic	Intentional attitudinal	Stigmatization. Bullying. Labelling.	Q22Q#27
Extrinsic	Intentional attitudinal	Not a priority for the government	IGC-l64
Extrinsic	Intentional attitudinal	Politics are more important than the education of children	IGC-l65
Extrinsic	Intentional attitudinal	people with disabilities are very often told that there is so much that they can not do	INE-l38
Extrinsic	Intentional attitudinal	a main barrier would be not an openness to making the changes that need to be done.	INE-l83
Extrinsic	Intentional attitudinal	It is an attitude thing	IPJ-l49
Extrinsic	Intentional attitudinal	the government will say we are doing this great thing and there will be an initiative and it is great, but if it is for the wrong reasons.	IPJ-l81
Extrinsic	Environmental	lack of access to information signage	Q21Q#23
Extrinsic	Environmental	Access to rooms... bathrooms...	Q21Q#30
Extrinsic	Environmental	Terrain; dangers	Q21Q#22
Extrinsic	Environmental	The general set-up at facilities is quite rugged and not appropriate for visually disabled learners.	Q21Q#21
Extrinsic	Environmental	Infrastructure	Q21Q#19
Extrinsic	Environmental	Infrastructure	Q21Q#15
Extrinsic	Environmental	Lack of facilities	Q21Q#14
Extrinsic	Environmental	Most programs are running in rough terrains and involve walking in bushes. Most activities entail examples and visual aids.	Q21Q#13
Extrinsic	Environmental	Facilities not suitable.	Q21Q#2
Extrinsic	Environmental	adequate facilities in public places.	Q22Q#27
Extrinsic	Environmental	Infrastructure	Q22Q#15
Extrinsic	Environmental	Lack of facilities	Q22Q#13
Extrinsic	Environmental	Uneven and rough areas	IGC-l28

Extrinsic	Environmental	there are so few facilities for people who are blind and disabled people in general	INE-l11
Extrinsic	Environmental	even the most accessible venues we find are mediocrely adequate. If we could find a place that is flat and has pathways that connect all the rooms, then we can use that.	INE-l20
Extrinsic	Environmental	The vast majority of places I look at I would rule out (As being accessible)	INE-l61
Extrinsic	Environmental	Places are just too all over the place	INE-l68
Extrinsic	Environmental	Physical barriers can be overcome if mental barriers are jumped	IPJ-l48
Extrinsic	Environmental	We had a braille trail but it was not practical so nobody used it. There were no instructions and the guide rope would just end out of nowhere. Is was designed in a line, so you would reach the end but there will not be a sign to tell you it is the end. People would come from the opposite direction and bump into one another on the way in and out.	ISR-l72
Extrinsic	Environmental	Gardens and pathways are not disability friendly and accessible	ISR-l103

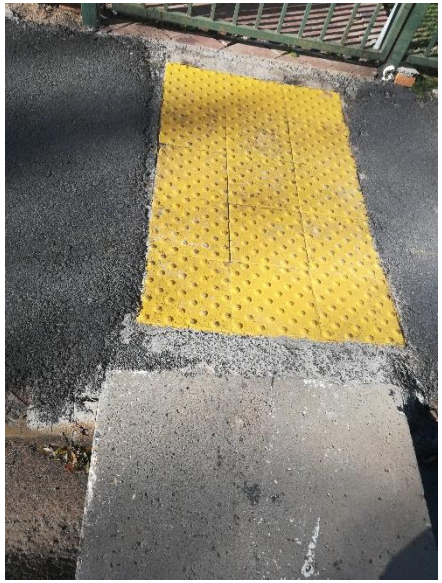
Extrinsic	Environmental		Artificial grass used to create a soft surface for playing.	PI-1
Extrinsic	Environmental		Lowered curb to make it easier for disabled children to walk around.	PI-2

Extrinsic	Environmental		Swing for multi-disabled learners.	PI-3
Extrinsic	Environmental	 	Merry go Round for multi-disabled learners with no steps	PI-4

Extrinsic	Environmental	 	Seesaw for multi-disabled learners	PI-5
Extrinsic	Environmental		Braille trail stops with no warning and continues much further on	PII-3

Extrinsic	Environmental		Paths are covered with wire to prevent slippery bridges.	PIII-4
Extrinsic	Environmental		Old paths were easier to build but ended up with large areas of uneven pieces of stone that made disabled users unstable.	PIV-2

Extrinsic	Environmental		Ramps	PIV-4
Extrinsic	Environmental		These slates on the pavement are textured to indicate a crossing in the road.	PV-1

Extrinsic	Environmental		These textured tiles indicate a gate entry off the street.	PV-3
Extrinsic	Intentional attitudinal		Guide dogs welcome.	PVII-1

Extrinsic	Environmental		The play area surface is made from chipped rubber - recycled tyres – creating a soft landing should VI children fall on it.	PVIII-4
Extrinsic	Environmental	 	The braille wall's braille was made with ceramic beads. The spacing is off and makes the braille unreadable.	PVIII-8

Extrinsic	Environmental		These paths are tiles laid into the road. They are used by blind people to navigate with their white walking canes.	PIX-1

L. ANALYTICAL FRAMEWORK PHASE 2

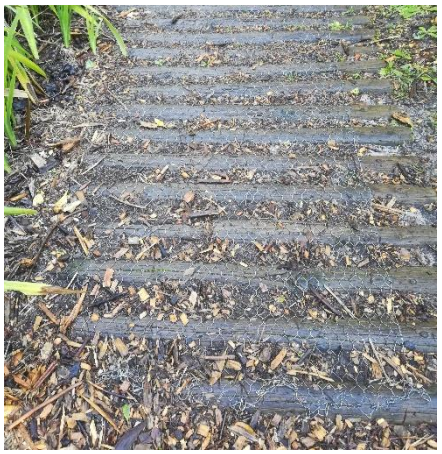
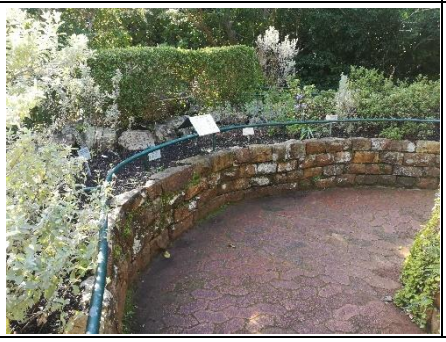
What is being done		
Category	**Extract "sic erat scriptum" [sic]**	**Index Path**
Activities	we run programmes for learners with physical challenges including sight impairment	Q8Q#23
Activities	We use a range of touch material - specimens of marine animals and live animals, both marine and terrestrial (reptiles). The live marine animals are obviously in seawater (taste) and we also use beach sand for play with smaller, young groups	Q10Q#23
Activities	Large pictures, models and posters around the centre	Q10Q#19
Activities	Team building and leadership games appropriate for visually disabled groups	Q11Q#19
Activities	Large jigsaw puzzles and hands-on models	Q12Q#19
Activities	Played paintball with them... adapt rules etc to include them	Q23Q#30
Activities	Occasional brail hiking trails	Q23Q#27
Activities	Hands-on activities that don't need sight Blindfold games	Q23Q#19
Activities	A general attempt to provide activities which are safe and suited to different disabilities	Q24Q#29
Activities	more engaging conversations, more use of touch or closer material. Less reliance on AV equipment	Q24Q#23
Activities	Larger diagrams and models Hands-on activities where touch is key	Q24Q#19
Activities	engage different senses - touch, smell, taste	Q25Q#23
Activities	Touch and feel activities Blindfold games	Q25Q#19
Activities	Interactive display boards with buttons, you can push to make the sounds of the animals and tell you about them.	IGC-l56
Activities	Bird and animal books with an interactive pen, when you move the pen over the picture it made the sound for the learner. This can be adopted for VI Learners	IGC-l57
Activities	mobile phones are a big breakthrough I don't understand why we would even need braille again if you can work a keyboard, why do you need braille, your phone is your pathway to society	INJ-l62
Activities	Children can use their senses in a sensory garden (Smell, touch)	ISR-l31
Activities	Music used in a sensory garden to provide an extra sense as plants can't make noise.	ISR-l53

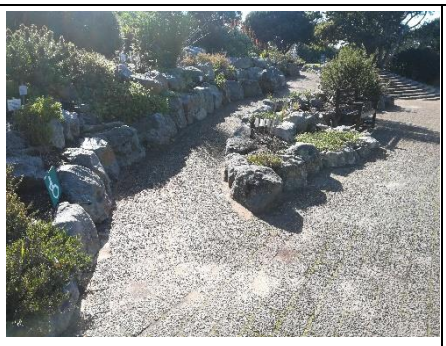
Activities	These programmes often complement the education system.	Q19Q#13
Activities	The use of QR codes on the signage, Learners can scan the code and the poem of information will be read for you.	ISR-l63
Activities	 A braille sign with a scannable QR code that will, when scanned, read aloud.	PVI-1
Activities	 Sensory garden, with fragrant plants	PX-1
Infrastructure	We also have ramps and corridors into our accommodation and classroom facilities	Q8Q#19
Infrastructure	Braille Facilities	Q8Q#11
Infrastructure	Ramps	Q8Q#5
Infrastructure	braille trail	Q12Q#11
Infrastructure	a cemented trail into (name deleted) and at each corner there were to be ropes as railings and knots to tell you to stop and at each knot, you can press a cassette and it would tell you what you could not see, so, on your right is a waterfall you can hear it etc	INJ-l20
Infrastructure	We put up rope pathways with different things attached so if you feel the spoon you know you opposite your doorway and that sort of thing	INE-l71
Infrastructure	there will be a bathroom and people can use that or maybe there is a couple of handrails	INE-l76
Infrastructure	involving a VI team in the design of a centre would make good sense.	IPJ-l43
Infrastructure	a Braille trail	ISR-l18
Infrastructure	Braille on the back of signage for reading by VI	ISR-l36

Infrastructure	Plant trees to attract birds so provide a sound element to gardens		ISR-l55
Infrastructure	Using hard and soft surfaces in education areas so stimulate sensory use		ISR-l62
Infrastructure	I want to bring learners to my project so they can test our the trail and provide information on things like height of signage etc.		ISR-l69
Infrastructure	I want to bring in elements that are friendly for multi-disability, as some learners are blind and in a wheelchair.		ISR-l80
Infrastructure		Artificial grass used to create a soft surface for playing.	PI-1
Infrastructure		Lowered curb to make it easier for disabled children to walk around.	PI-2

Infrastructure		Swing for multi-disabled learners	PI-3
Infrastructure		Merry go Round for Multi-disabled learners with no steps 	PI-4
Infrastructure		Seesaw for multi-disabled learners 	PI-5
Infrastructure		Braille trail	PII-1

Infrastructure		Braille signs	PII-2
Infrastructure		Touch and feel stations	PII-4
Infrastructure		Braille trail is laid out with a plastic coated cable to protect hands	PII-5
Infrastructure		Our braille trail	PIII-1

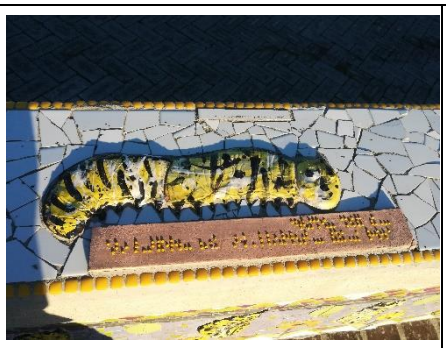
Infrastructure		Signage has braille on a user-friendly angle for easy reading. The user does not have to lean in a backward position to read but can stand upright and read from the bottom up.	PIII-2
Infrastructure		Big wooden stopper blocks on the guideline indicate a braille station.	PIII-3
Infrastructure		Paths are covered with wires to prevent slippery bridges	PIII-4
Infrastructure		Sensory trail with handrail and braille signs	PIII-5

Infrastructure		Ramps instead of stairs for disabled guests	PIII-6
Infrastructure		tones are laid upright to create smoother navigable path that prevent erosion.	PIV-1
Infrastructure		Old paths were easier to build but ended up with large areas of uneven pieces of stone that made disabled users unstable. Paths are begin redone.	PIV-2

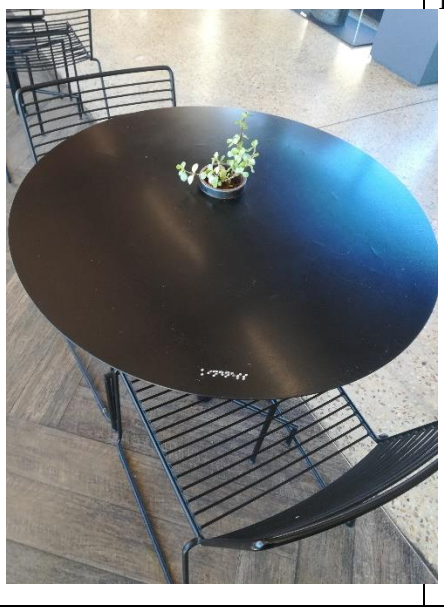
Infrastructure		Knobbed concrete indicating danger to that side of the path.	PIV-3
Infrastructure		Ramps	PIV-4
Infrastructure		These slates on the pavement are textured to indicate a crossing in the road.	PV-1

Infrastructure		Signage placed around our town.	PV-2
Infrastructure		These textured tiles indicate a gate entry off the street.	PV-3
Infrastructure		A braille sign with a scannable QR code that will, when scanned, read aloud.	PVI-1

Infrastructure		Blind swing that has a bell in it. This bell will ring just before the swing changes direction and the blind learner will know.	PVIII-1
Infrastructure		Goalball court. Goalball is a sport played by the blind.	PVIII-2
Infrastructure		This is a quad see-saw. 4 learners can play at once and we use it to pair sighted and disabled learners together.	PVIII-3
Infrastructure		The play area surface is soft and made from chipped rubber - recycled tyres. This surface creates a soft landing should VI children fall on it.	PVIII-4
Infrastructure		Swings have an extra support for disabled learners.	PVIII-5

Infrastructure		The braille wall has 3D figures and braille to tell a story.	PVIII-6
Infrastructure		Braille mosaic story wall	PVIII-7
Infrastructure		These paths are tiles laid into the road. They are used by blind people to navigate with their white walking canes.	PIX-1
Infrastructure		These signs where placed up around our school.	PIX-2
Intentional attitudinal	Our staff are making a warm effort to meet the needs of any differently abled guests. We would have to cater specially for blind or deaf folk.		Q8Q#27
Intentional attitudinal	If staff encounter guests with sight impairment, they will engage with the guest for a short while with a touch experience		Q8Q#23

Intentional attitudinal	and make every effort to assist them.	Q8Q#19
Intentional attitudinal	Extra help	Q11Q#25
Intentional attitudinal	Extra help	Q12Q#25
Intentional attitudinal	Staff are encouraged to take guests to areas that will provide experiences (may not be part of the normal route)	Q13Q#23
Intentional attitudinal	We provide a higher ratio of staff to learners and allow a higher ration of caregivers at no charge	Q14Q#23
Intentional attitudinal	specially sponsored and designed programmes.	Q23Q#27
Intentional attitudinal	smaller groups ... facilitator participant ratio	Q24Q#24
Intentional attitudinal	Doing programmes specifically for people with a particular disability	INE-l27
Intentional attitudinal	Do a buddy system	INE-l28
Intentional attitudinal	But I find it was a lot of value to get a group of people together that have the same disability because they understand one another and then you can adapt the programme specifically	INE-l29
Intentional attitudinal	I want to build bridges, inclusivity, so programmes that are designed to entirely support and help VI learners, that can also be participated in by learners who can see normally, so that they can learn.	IPJ-l17
Intentional attitudinal	you do not have to do a lot of changes you need to make sure there is someone that can see with someone that can’t see and think about what you are doing	IPJ-l39
Intentional attitudinal	It is about being deliberate about looking out for opportunities for sensory experience to be maximized in the programmes	IPJ-l42
Intentional attitudinal	deliberately make this programme accessible for VI People	IPJ-l50
Intentional attitudinal	twinning learners that can see with those who can’t see and you have a camp for a weekend. And the sighed and a non-sighted twin for the weekend. They made it an inversive discovery experience, they tailored programmes around different senses	IPJ-l54
Intentional attitudinal	made deliberate efforts to sensitise the EE community at that time about inclusion	IPJ-l57

Intentional attitudinal	being deliberate about thinking about VI learners.	IPJ-l76
Intentional attitudinal	We had a trail, but after evaluating the trail we realised that it is unpractical and poorly designed.	ISR-l72
Intentional attitudinal	Disabled people have free access to the gardens	ISR-l102
Intentional attitudinal	We are redesigning our trails and path to be inclusive	ISR-l104
Intentional attitudinal	 Guide dogs welcome	PVII-1
Intentional attitudinal	 Braille tables	PVII-2
Training	Awareness training when specific groups with disabilities are expected	Q13Q#29
Training	Annual training workshops on working with students with both special needs and disabled groups	Q13Q#19
Training	How to cater for learners with special needs How to handle different groups How to use visual aids and use other strategies to teach learners with disabilities Not to discriminate learners because of their disabilities	Q14Q#13

Training	How to include them during a lesson. How to cater for learners with special needs. using visual aids for deaf and learners with hearing impairment.	Q14Q#10
Training	We create awareness across communities and show that it is possible for each of us to be inclusive in many, many ways	Q20Q#24
Training	There seems to be a general increase in the level of awareness and desire to be considerate of learners with disabilities. I have also noticed a huge increase in the requests from leaders and teachers for training in how to work with children with disabilities. The need is huge and people seem to be more willing to openly speak about these needs	Q23Q#29
Training	Staff training	Q23Q#19
Training	New staff also shadow those with prior experience. We include how to deal with guests with service animals.	Q14Q#23

What is not being done		
Category	**Extract**	**Index Path**
	Our schooling system does not cater to differently abled learners well at all.	Q19Q#27
	Disabled children are currently mostly excluded from outdoor adventure education	Q19Q#2
	Rarely see any	Q23Q#31
	Very little.	Q23Q#27
	very few if any	Q23Q#22
	Very little	Q23Q#18
	None	Q23Q#13
	None	Q23Q#2
	I am not aware of any	Q24Q#31
	Nothing worth noting	Q24Q#27
	very few if any	Q24Q#22
	Unfortunately not that much. I personally have very limited experience with visually impaired persons as well.	Q24Q#4
	Very little	Q24Q#18
	None	Q24Q#13
	I am not aware of any	Q25Q#31
	none	Q25Q#22
	Little	Q25Q#18
	None	Q25Q#13
	My training did not cover disabilities and how to deal with it.	IGC-l11

M. ANALYTICAL FRAMEWORK PHASE 3

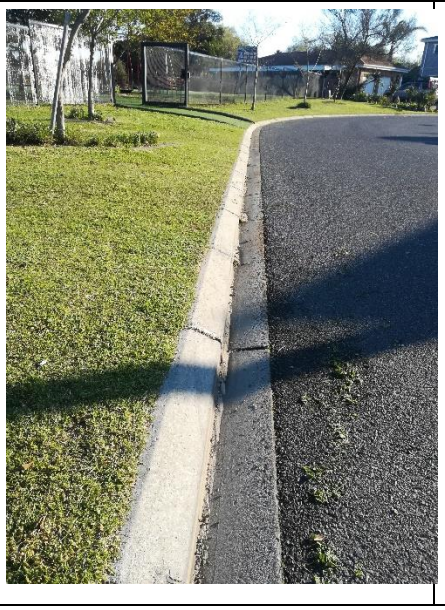
What more can be done		
Category	**Extracts "*sic erat scriptum*" [sic]**	**Index path**
Exosystem	Working with people with disabilities was not part of my training	IGC-l11
Exosystem	Campsites and centres must be designed specifically with disabled people in mind	IGC-l45
Exosystem	The government can build campsites for VI learners.	IGC-l62
Exosystem	there is a lot a drawback in terms of accessibility issues. So even the most accessible venues we find are mediocrely adequate	INE-l19
Exosystem	Places that are just to all-over the place ramshackle is very difficult for a blind person to ever navigate.	INE-l68
Exosystem	Government is funding. If the government could make funding available in an accessible way.	INE-l89
Exosystem	People that are unemployable who are just a drain in government if they do not have the skills and training. So, if they do not give people with disabilities enough resources and experiences actually the small amount the government can potentially invest, they will be paying so much more when that person is 20-30-40-50 and does not have the skills to cope in life. Many of those skills they could learn through these programmes.	INE-l96
Exosystem	17 out of 20 respondents said they do not provide their teacher, guides or group leaders with specific training for working with visually impaired learners. Though 90% said in Q15 that training is important.	Q13
Exosystem	teachers and facilitators should get special training with a focus on the needs of such learners.	Q26Q#21
Exosystem	The government can: Need to be part of LO in schools	Q27Q#31
Exosystem	The government can: Say we need camps in the development of kids	Q27Q#30
Exosystem	The government can: Education for teachers and funding	Q27Q#29
Exosystem	The government can: Firstly the government should pay more attention to the plight of forgotten sectors of society such as the aged and the differently abled. Awareness is never enough. Specific laws addressing public facilities for differently abled facilities need to be implemented.	Q27Q#27

Exosystem	The government can: First get the overall standard of outdoor programmes in SA right, then focus on special needs programmes. sponsorship and subsidy	Q27Q#24
Exosystem	The government can: subsidise excursions to appropriate facilities provide specialist training for more teachers	Q27Q#23
Exosystem	The government can: Training teachers and educators with a view of being able to help the visually impaired. Budgeting to allow for changes in the set-up at schools and other institutions.	Q27Q#21
Exosystem	Government can :Legislate Support Decrease barriers	Q27Q#19
Exosystem	The government can: Promote from the top	Q27Q#15
Exosystem	The government can: Provide funding specifically to hosting these groups...provide training	Q27Q#14
Exosystem	The government can: design programmes for the affected learners. Establish a program to train all educators to help them acquire skills that will assist them to cater for the disabled.	Q27Q#13
Exosystem	The government can: Funding and funding of training	Q27Q#2
Exosystem	Campsites and centres can: Train facilitators to identify the needs of visually impaired children and to provide suitable activities for visually impaired children.	Q27Q#23
Exosystem	Campsites and centres can: Planning changes in their layout and training facilitators to be equipped to work with learners with special needs.	Q27Q#22
Exosystem	Campsites and centres can: Improve infrastructure Train staff	Q27Q#20
Exosystem	Campsites and centres can: Adjust their systems and infrastructure. Train facilitators.	Q27Q#16
Exosystem	Campsites and centres can: Hire capable skilled facilitators with high skills and knowledge of facilitation. Search for passionate employees to cater to the learners.	Q27Q#14
Exosystem	Campsites and centres can: Adapting the sites and venues for accessibility and safety. Creating activities that are suitable.	Q27Q#13

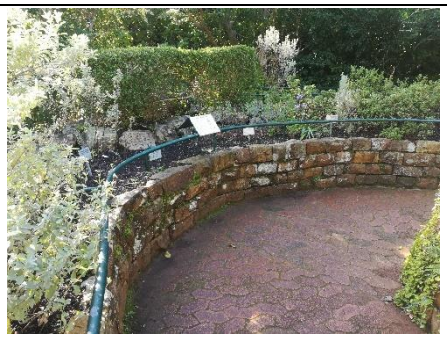
Exosystem		Guide dogs welcome	PVII-1
Exosystem		These paths are tiles laid into the road. They are used by blind people to navigate with their white walking canes.	PIX-1
Exosystem	These sighs where placed up around our school.		PIX-2
Individual	The attitude of themselves limits people		INJ-l35
Individual	make our environment as accessible as possible and so we see people gaining independence		INE-l42
Individual	their self-esteem is boosted		INE-l44
Macrosystem	for the community, it overcame this idea that if you have a disability you should be put away, and that is a modernist idea that was strong in the 80s worldwide so if you did not fit, people were certified and put in places		INJ-l49
Macrosystem	make a warm effort to meet the needs of any differently abled guests		Q8Q#27
Macrosystem	they will engage with the guest for a short while with a touch experience		Q8Q#23
Macrosystem	Schools and Teachers can: First step is to accept them as a normal part of society and not exclude them, push them aside.		Q26Q#21
Macrosystem	The government can: Change their entire educational mindset when it comes to catering for impaired learners.		Q27Q#22
Macrosystem	Campsites and centres can: Approach it with everybody in... no one left out!		Q27Q#31
Mesosystem	The government can provide the educational space in schools		IGC-l62

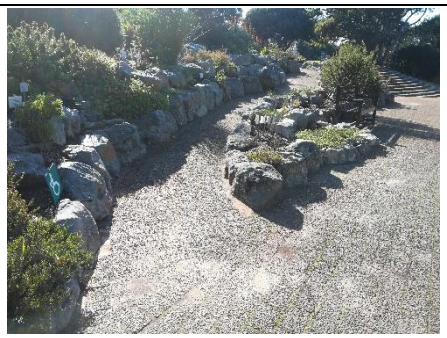
Mesosystem	The government can launch awareness programmes	IGC-l63
Mesosystem	do a buddy system	INE-l28
Mesosystem	people with disabilities are very often told that there is so much that they can not do	INE-l38
Mesosystem	the friendships that form is just phenomenal, and I find that the people are just friends for life. Once they have spent that week together they really connected and it is really something special.	INE-l48
Mesosystem	The president's award 0:32:54. So part of that is the service component. Go to the organisers and say here is a deliberate idea for you for service, go to VI schools and ask what help they need and how the award and the people who are part of the award programme how they can support these schools.	IPJ-l72
Mesosystem	Deliberately looking for VI communities around them and it is being deliberate about thinking about VI learners.	IPJ-l76
Mesosystem	you need to use that support as seed money to build relationships in communities that they will be able to carry out those initiatives themselves.	IPJ-l83
Mesosystem	60% of people said they do not think their facilities are disabled friendly	Q8
Mesosystem	More than 68% of respondents said that Vi children are being excluded from outdoor environmental programmes at environmental education centres and campsites in South Africa whilst 100% of respondents agreed that there is a need for inclusion (Q17)	Q16
Mesosystem	Schools and Teachers can: Get the camp booked!	Q26Q#30
Mesosystem	Schools and Teachers can: ask what is available	Q26Q#23
Mesosystem	Campsites and centres can: Promote and talk to each other	Q27Q#32
Mesosystem	Campsites and centres can: Firstly they could engage with the visually impaired community and ask what they would like and would want at a campsite. This first engagement is paramount and is as far more important than perceived clever ideas.	Q27Q#28
Mesosystem	Campsites and centres can: get the Government to buy in - sponsor the development of suitable facilities. Be professional in general ... specific special needs programmes	Q27Q#25
Microsystem	Schools can do EE on the schoolyard. They can provide the activities in a familiar place, no need to take the disabled learners to an unknown place.	IGC-l50
Microsystem	Activities can be altered to include VI learners	IGC-l59

Microsystem	schools and teacher can have the openness to what their learners to experience the outdoors	INE-l86
Microsystem	School need to acknowledge the value of partnerships. An example of this is where you have very well resourced schools which are all over the country, you have someone in those schools who are on the lookout for opportunities to partner with VI schools.	IPJ-l65
Microsystem	Schools are so very busy chasing their tails to make sure they jump through all the curriculum hoops that they lose out on the opportunities for rich learning because they are too busy.	IPJ-l67
Microsystem	there is a requirement at these schools that the kids are involved in outreach and giving back social and community service, so you are intentional about the service is working with VI or disabled groups. And you build that into your curriculum	IPJ-l69
Microsystem	Evaluate current practices and infrastructure	ISR-l72
Microsystem	The main reason why we creating infrastructure for VI people is we have a school in town for VI learners and we want to accommodate the community	ISR-l89
Microsystem	17 out of 19 respondents said they do not have any specific educational tools used to include visually disabled learners in your programming in regard to their facility	Q10
Microsystem	18 out of 20 respondents said they do not have any specific educational tools used to include visually disabled learners in your programming in regard to their adventure activities	Q11
Microsystem	16 out of 18 respondents said they do not have any specific educational tools used to include visually disabled learners in your programming in regard to their outdoor environmental programme	Q12
Microsystem	Schools and Teachers can: Open communication to all parties involved	Q26Q#31
Microsystem	Schools and Teachers can: Decrease the pupil/teacher ratio, have teacher assistants	Q26Q#29
Microsystem	Schools and Teachers can: My opinion is that the most important aspect is teaching the non-visually impaired learners how to interact/play and communicate effectively with visually impaired learners. With their peers effectively "trained" the inclusion becomes a lot more effective.	Q26Q#27
Microsystem	Get trained by outdoor centres, co-develop programmes with centres, demo programmes at School.	Q26Q#24

Microsystem	Schools and Teachers can: prepare such learners for what lies ahead; allow them to buddy up with a partner who has full vision.	Q26Q#22
Microsystem	Schools and Teachers can: Be more flexible Train teachers Invest in more appropriate facilities and resources	Q26Q#19
Microsystem	Schools and Teachers can: Create activities that are will allow them to become involved regardless of their disability	Q26Q#13
Microsystem	Campsites and centres can: Develop suitable activities, additional training facilitator assistants who are allocated per learner to assist the learner	Q27Q#30
Microsystem	Campsites and centres can: well-marked pathways, appropriate "play" equipment, staff to explain what is available and the potential risks	Q27Q#24
Microsystem	 Artificial grass used to create a soft surface for playing.	PI-1
Microsystem	 Lowered curb to make it easier for disabled children to walk around.	PI-2

Microsystem		Swing for multi-disabled Learners	PI-3
Microsystem		Merry go Round for Multi-disabled learners with no steps 	PI-4
Microsystem		Seesaw for multi-disabled learners 	PI-5
Microsystem		Braille signs	PII-2

Microsystem		Touch and feel stations	PII-4
Microsystem		Braille trail is laid out with a plastic coated cable to protect hands	PII-5
Microsystem		Paths are covered with wires to prevent slippery bridges	PIII-4
Microsystem		Sensory trail with handrail and braille signs	PIII-5

Microsystem		Ramps instead of stairs for disabled guests	PIII-6
Microsystem		With the new paths, stones are laid upright to create a smoother navigable path that still prevents erosion.	PIV-1
Microsystem		Knobbed concrete indicating danger to that side of the path	PIV-3
Microsystem		Ramps	PIV-4

Microsystem		These slates on the pavement are textured to indicate a crossing in the road.	PV-1
Microsystem		Signage placed around our town	PV-2
Microsystem		These textured tiles indicate a gate entry off the street	PV-3
Microsystem		A braille sign with a scannable QR code that will, when scanned, read aloud.	PVI-1

Microsystem	 	Blind swing that has a bell in it. This bell will ring just before the swing changes direction and the blind learner will now.	PVIII-1
Microsystem		Goalball court. Goalball is a sport played by the bind	PVIII-2
Microsystem		This is a quad see-saw. 4 learners can play at once and we use it to pair sighted and disabled learners together.	PVIII-3
Microsystem		The play area surface is soft and made from chipped rubber - recycled tyres. This surface creates a soft landing should VI children fall on it.	PVIII-4

Microsystem		Swings have an extra support for disabled learners	PVIII-5
Microsystem		Sensory garden, with fragrant plants	PX-1

N. ANALYTICAL FRAMEWORK PHASE 4

Why the care		
Category	**Extract**	**Index Path**
Why School should care	Promotion of the emotional wellness and development of every child	Q30Q#30
Why School should care	Environmental education is important to a holistic education. It also benefits our planet to have young people who are aware and actively maintaining our ecosystems. impaired learners are not lesser part of society and should be offered the same opportunity as any other learners.	Q30Q#28
Why School should care	address spiritual needs, reduce stress, inspire care for nature	Q30Q#24
Why School should care	Outdoor education adds so many valuable life skills and confidence in learners lives. Everyone should be enabled to access these great opportunities.	Q30Q#22
Why School should care	outdoor education and the existing education system should go hand in hand to enhance knowledge and learning in a classroom set up.	Q30Q#14
Why School should care	If you can teach a disabled person through adventure education that they can function and achieve in the world then that person may become a very productive member of society	Q30Q#13
Why Government should care	It is the responsibility of the national government to ensure inclusive programmes for all its citizens	Q30Q#25
Why Government should care	Building better prepared and adapted adults for the future should be a priority of government.	Q30Q#13

Why Government should care	It is the duty of government to care, it is constitutional and law. It is their responsibility	IGC-l71
Why Government should care	People that are unemployable who are just a drain in government if they do not have the skills and training. So, if they do not give people with disabilities enough resources and experiences actually the small amount the government can potentially invest, they will be paying so much more when that person is 20-30-40-50 and does not have the skills to cope in life. Many of those skills they could learn through these programmes.	INE-l96
Why general	We are one community and everyone have a pace in the sun	Q30Q#32
Why general	If we want to carry on living on planet Earth- everybody needs to play their part...	Q30Q#23
Why general	Inclusivity	Q30Q#20
Why general	It is a need	Q30Q#16
Why general	impaired learned also want to learn about nature	IGC-l13
Why general	Opportunity to have abled and disabled people on the same activity	ISR-l83
Why general	that can also be participated in by learners who can see normally so that they can learn. Building bridges	IPJ-l17
Why general	No Obstacle must get in the way of disability	INR-NGO-JT-l26

Why general	Love your neighbour as you love yourself. And that would go for campsites and centres as well and as a matter of fact why anyone should care. We are created loved and sustained by our glorious loving creator hold everything together. Wherever people are not being included, wherever creation is being damaged, wherever people are not loving their neighbour as themselves like love is not happening there. We are created for love and to love and to be loving so when you include anybody that is being excluded is that you are being God to them, it is what we are made for. It is you are just doing what you are made for and sharing the love. And especially environmental education which is at the heart of helping people connect with the power of the earth which is people connected with God through connecting with nature. Where we can remove barriers for people to connect properly with each other and creation, let's do it.	IPJ-l87
Why Camps should care	Impaired individuals should be given the opportunity to expand their knowledge	IGC-l67
Why Camps should care	Because why should they include learners with blond hair or why should they include boys and not just girls because a VI learner needs to learn and experience things just as much as anyone ells does, and they often need the experience more because of the limitations they have experienced. So, my answer is why shouldn't they include them?	INE-l91
Why Camps should care	They are part of our community	Q29Q#31
Why Camps should care	They are just kids!	Q29Q#30

Why Camps should care	We need to care for every individual. We need to ensure that no one misses out on developing themselves to their full potential	Q29Q#29
Why Camps should care	Environmental education is important to a holistic education. It also benefits our planet to have young people who are aware and actively maintaining our ecosystems. impaired learners are not lesser part of society and should be offered the same opportunity as any other learners.	Q29Q#27
Why Camps should care	Other than social responsibility ... and good citizenship ... there is not allot	Q29Q#24
Why Camps should care	They are part of society	Q29Q#23
Why Camps should care	So that everybody has equal access to environmental education	Q29Q#22
Why Camps should care	They are part of our communities and should be included. There is such a need to make them feel accepted and also focused on.	Q29Q#21
Why Camps should care	Inclusivity	Q29Q#19
Why Camps should care	All people are important.	Q29Q#15
Why Camps should care	because they also need to be involved in outdoor learning. they are in need of the outdoor environment too.	Q29Q#13
Why Camps should care	The power of adventure should be inclusive and available to all.	Q29Q#2

Benefit School and school system	The school will benefit as it is difficult to teach nature in a classroom.	IGC-l19
Benefit School and school system	a school is a place of learning and learning does not have walls, if an institutions is discovering new ways of helping people learn and new world of how to teach then that is going to make them a better institution and it is going to make an institution that is more capable of helping sighted learners more aware of VI Learners and how the world intermesh and how they are different so sighted and non-sighted people. So as elements of society help people learn more effectively having programmes like that is going to make a school more effective as a school.	IPJ-l27
Benefit School and school system	It will help children to learn to include all kids	Q19Q#31
Benefit School and school system	Increase awareness and may also affect levels of bullying and general emotional wellness of disabled and non-disabled children	Q19Q#29
Benefit School and school system	It will teach kids, parents and teachers to be inclusive	Q19Q#25
Benefit School and school system	Inclusion, compassion, alternative experiential learning.	Q19Q#24
Benefit School and school system	This would enable schools to provide these learners with equitable opportunities for experiences	Q19Q#23
Benefit School and school system	Caring for the environment entails lessening our environmental footprints which also have positive economic and social spin-offs for the schools	Q19Q#22

Benefit School and school system	It would challenge teachers and educators to include kids with special needs in their normal activities. Would support those who already focus on this area.	Q19Q#21
Benefit School and school system	Inclusive education for everyone, and more opportunity to include those schools with high levels of disabled students	Q19Q#19
Benefit School and school system	Outdoor programs have the ability to teach people about themselves, their peers and their responsibility towards themselves and each other. The programs also connect people at a new level in their relationships and this is where it becomes beneficial to the schools	Q19Q#18
Benefit School and school system	Greater involvement and kindness towards those with different needs.	Q19Q#15
Benefit School and school system	It would improve tolerance and a more caring and accommodating society which needs to be inculcated at a young age ie it is the norm for society to accommodate impaired people who usually are held back by unfair and, usually unjustified, discriminatory opinions and actions	Q19Q#14
Benefit School and school system	Disabled children are currently mostly excluded from outdoor adventure education. It would be good if disabled and able-bodied children could attend camp together.	Q19Q#2
Benefit Individual	The individual will benefit as their worldview will broaden. They will develop as a person.	IGC-l18
Benefit Individual	This would enable schools to provide these learners with equitable opportunities for experiences	Q19Q#23
Benefit Individual	Peer networking and support	INE-l32
Benefit Individual	To be able to function in a non-disabled society as well	INE-l34

Benefit Individual	learning is lifelong it is a process of discovery, and discovering who you are and so just engagement with a programme and the people who form part of that programme who are thinking how can I help this child that is visually impaired, to grow and develop as best as possible that deliberate energy given to that child is going to benefit that child.	IPJ-l23
Benefit Individual	Been treated as part of society.	Q18Q#33
Benefit Individual	Interaction Fun Build self-esteem Same outcomes as for people who can see	Q18Q#30
Benefit Individual	The same as for any child with no disability, plus the added benefit of the feeling of acceptance and normality	Q18Q#29
Benefit Individual	All the usual benefits of such programmes would be enhanced for a visually impaired individual. Would make a small impact on an average person may make a huge impact on an impaired individual.	Q18Q#27
Benefit Individual	It will let them feel part of a community and give them the same exposure as all children.	Q18Q#25
Benefit Individual	Novel activities Social Cohesion Groundedness in nature	Q18Q#24
Benefit Individual	They would engage with nature, an essential part of developing as people - proven to reduce stress, use imagination and hopefully create a sense of caring for the world. We need everyone to be part of this!	Q18Q#23
Benefit Individual	Allow them to enjoy the pleasure of experiencing their natural environment first-hand and awaken in them a desire to care for the environment	Q18Q#22

Benefit Individual	Give them a sense of acceptance in society, skills to cope in the challenges of life in general.	Q18Q#21
Benefit Individual	A sense of space, and a better sense of the natural environment	Q18Q#19
Benefit Individual	The outdoors environment has a positive effect on the physical, emotional, psychological and spiritual of people no matter their impairment. Good outdoor programs have the ability to draw this out of a person	Q18Q#18
Benefit Individual	A feeling of being part of what others experience.	Q18Q#15
Benefit Individual	A sense of belonging and self-worth in society...improve self-esteem and unlock individual potential...encourage individuals to attempt activities and challenges which would have appeared to be out of reach	Q18Q#14
Benefit Individual	Involvement helps them feel included within society and they need to learn about environmental conservation.	Q18Q#13
Benefit Individual	Broader life experience. Understanding your disability and maybe how you can still live a full life with it. Overcoming the disability and the ideas associated with it.	Q18Q#2
Benefit Individual	The community will benefit as impaired individuals with broader knowledge will find jobs easier. Knowledge is power	IGC-l20
Benefit Community	Community support and accommodating all within the community	ISR-l89
Benefit Community	it is integration, in our community are many kids who are VI and you probably did not know that, but here they are and there is something they are doing, would you like to be involved? And so, you build something new in the community which is an integrated force.	IPJ-l33

Benefit Community	It will open the communities eyes and hearts	Q20Q#32
Benefit Community	Increase awareness and may also affect levels of bullying and general emotional wellness of disabled and non-disabled children	Q20Q#30
Benefit Community	However, it can only have a positive impact on society. It may help people to be more inclusive of differently abled members of their communities and will improve the lives of the differently abled folk, If the programme help and encourages these folk to be content, contributing members of society the benefits will be obvious.	Q20Q#28
Benefit Community	It will train a community to except people who are different and give them their place to make a difference	Q20Q#26
Benefit Community	Inclusion, caring.	Q20Q#25
Benefit Community	We create awareness across communities and show that it is possible for each of us to be inclusive in many, many ways	Q20Q#24
Benefit Community	We all depend on this planet for our existence- the more people who choose to live sustainable lifestyles the longer our stay on this planet will be.	Q20Q#23
Benefit Community	Families with kids with special needs will be encouraged and supported. The general attitude in communities will be challenged and even changed.	Q20Q#22
Benefit Community	Good for everyone as it means more inclusivity	Q20Q#20
Benefit Community	Visually impaired people would be more equipped to deal with situations, as camping experiences can be taken back to the community and implemented.	Q20Q#16

Benefit Community	businesses would realize that impaired people can also play a valuable role in the economy	Q20Q#15
Benefit Community	Having children and older communities aware of their surrounding environment creates a people with common goals. That will enhance unity amongst the people.	Q20Q#14
Benefit Community	Maybe it will change some preconceived ideas about people with disabilities	Q20Q#3

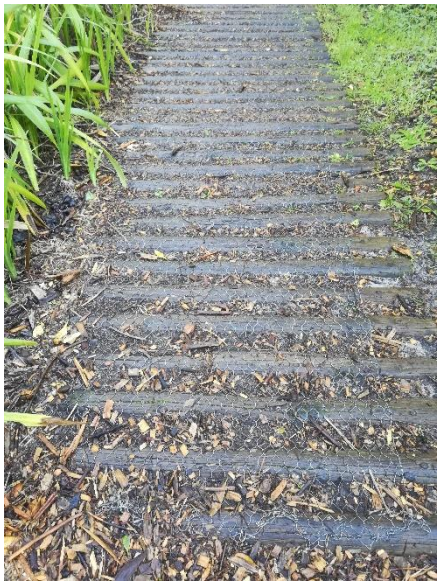
O. PHOTOGRAPH TABLE

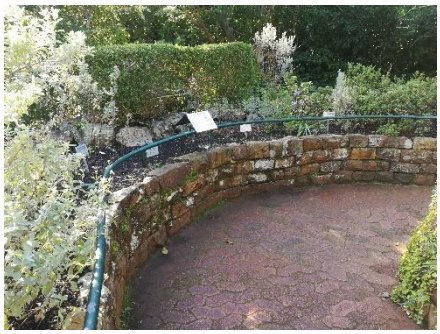
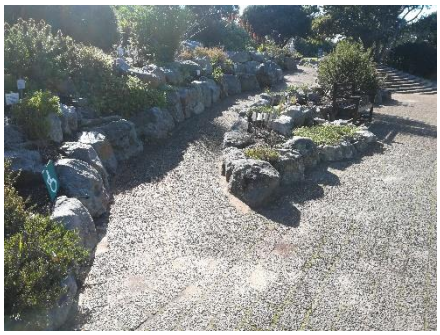
	Artificial grass installed at a school play-area, used here to create a soft surface for playing.	PI-1
	Lowered curb next to a school lay park to make it easier for impaired individuals to walk around.	PI-2
	Swing constructed to be used by multi impaired individuals.	PI-3

 	Merry go round for multi-impaired learners. It is installed level with the ground so there are no steps	PI-4
 	Seesaw for multi-impaired learners	PI-5

	Braille trail in a South African national park with instruction both in writing and braille.	PII-1
	Braille signs in a South African national park both in braille and writing.	PII-2
	Braille trail in a South African national park stops with no warning and continue much further on.	PII-3
	Touch and feel stations situated along the braille trail in a South African national park.	PII-4

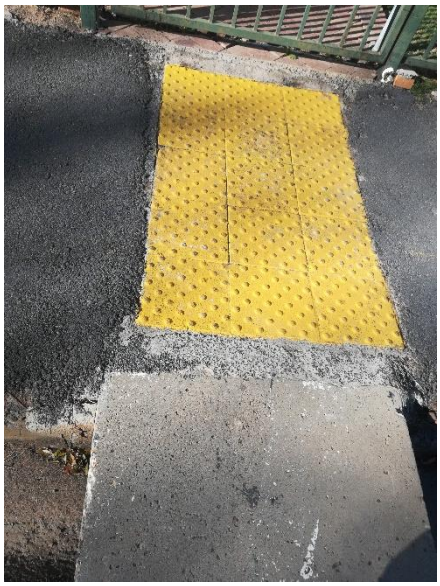
	Braille trail in a South African national park is laid out with a plastic coated cable to protect the hands of the users.	PII-5
	Braille trail at a botanical garden.	PIII-1

	Signage has braille on a user-friendly angle for easy reading. The user does not have to lean in a backward position to read but can stand upright and read from the bottom up.	PIII-2
	Big wooden stopper blocks on the guideline indicate braille stations.	PIII-3
	Paths on the braille trail are covered with wire to prevent slippery bridges. 	PIII-4

	Sensory trail in a botanical garden, with handrail and braille signs.	PIII-5
	Ramps instead of stairs for disabled guests in a botanical garden.	PIII-6
	With the new paths, stones are laid upright to create a smoother navigable path that still prevents erosion at a botanical garden.	PIV-1

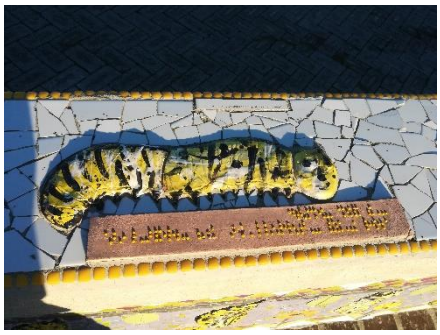
	Old paths in a botanical garden were easier to build but ended up with large areas of uneven pieces of stone that made disabled users unstable. Paths are getting redone, see picture above.	PIV-2
	Knobbled concrete along the path in a botanical garden indicating danger to that side of the path. This is used to warn visually impaired guest as they can pick up the tile with their walking canes.	PIV-3

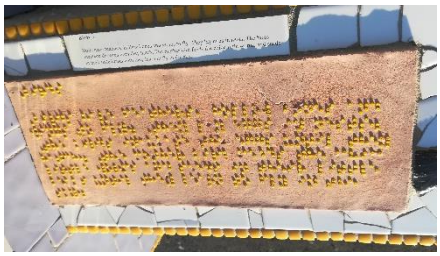
	Ramps from the street to the paths at a botanical garden.	PIV-4
	These knobbled slates on the pavement are textured to indicate a crossing in the road. Visually impaired users can feel the knobbles through their canes.	PV-1

	Signage placed around in a town in South Africa, these signs are near schools and amenities.	PV-2
	These textured tiles indicate a gated entry off the street.	PV-3
	A braille sign with a scannable QR code that will, when scanned, read aloud.	PVI-1

	A sign stating that guide dogs are welcome.	PVII-1
	Tables with braille messages.	PVII-2

 	A swing modified with a bell. This bell will ring just before the swing changes direction so the visually impaired learner does not get disorientated.	PVIII-1
	Goalball court in a city park. Goalball is a sport played by the bind.	PVIII-2
	This is a quad see-saw. 4 learners can play at once. It is ideal to pair sighted and impaired learners together.	PVIII-3

	The play area surface is soft and made from chipped rubber - recycled tyres. This surface creates a soft landing should impaired children fall on it.	PVIII-4
	Swings with some extra support of disabled learners	PVIII-5
	A braille mosaic wall has 3D Figures and braille to tell a story	PVIII-6
	Braille mosaic story wall	PVIII-7

	The braille wall's braille was made with ceramic beads. The spacing is off and makes the braille unreadable.	PVIII-8
	These paths are tiles laid into the road. They are used by blind people to navigate with their white walking canes.	PIX-1
	These signs are placed up around a school for visually impaired learners.	PIX-2
	Sensory garden in a city park, with fragrant plants	PX-1