

Environmental Barriers Affecting Students with Disabilities at a Selected South African Institution of Higher Learning

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Abstract: South African students with disabilities have and are still experiencing various challenges in their institutions of learning. These ills include environmental challenges such as lack of architectural structures like ramps, elevators, and others, which affect the students with disabilities' academic success. These barriers work contrarily with the notion of inclusion in education which seek to uphold equality as well as fair provision of services to maintain successful education for all. Additionally, the effect of environmental barriers towards students with disabilities is overlooked yet their influence has an enormous impact on these students' academic progress. Hence, there is a need to investigate the extent to which these environmental barriers affect students with disabilities in South African higher institutions of learning by using the University of Limpopo as a case in point of such institutions. A qualitative descriptive design undergirded the study; and semi-structured interviews were adopted as a data collection method. Further, six students with physical disabilities from the University of Limpopo were purposively sampled and data was analysed through a thematic content analysis (TCA). Furthermore, the environmental barriers affecting students with disabilities were identified, analysed and the possible recommendations were provided. The findings indicate that the inaccessibility of buildings and uncomfortable surfaces within the university premises are the major environmental barriers which lowering the students with physical disabilities' sense of belonging, self-esteem as well as inhibiting their academic performance. Thus, the study recommends that the institutions of higher learning should provision the students with disabilities with reasonable accommodation for successful learning purposes.

Keywords: Environmental barriers, Students with disabilities, Institutions of higher learning, Maslow' hierarchy of human needs

1. Introduction

Students with disabilities experience various challenges across the globe. Schneider (2006) avers that based on the International Classification of Functioning (ICF); environmental factors play an influential role on individuals including persons with disabilities. The ICF maintains that the environmental factors can either enhance or inhibit one's functional capabilities. In the context of disability, ICF asserts that persons with disabilities encounter more environmental barriers in developing countries as they have limited resources; thus, South Africa is not immune to such barriers as one of the developing countries. Notably, the study of Masoga and Maoto (2021) on challenges faced by students with disabilities at university of Limpopo and university of Venda indicate that most of the students with physical impaired experience challenges that revolve around attitudinal, environmental, and organisational factors. However, the results indicate that the environmental factors such as user-unfriendly environment appeared to

be more dominant as compared to the attitudinal and organisational factors.

Equally, Schneider (2006) describes the environmental factors as all aspects within an environment that can either limit or ease one's functional capabilities. In the context of disability, the environmental factors are described based on the three categories namely, physical world, attitudinal world as well as social world. In the physical world, the focus is on the assistive technologies, accessibility of buildings and the educational resources such as study materials, lesson contents and other study related resources that the students with disabilities may need to succeed in the process of learning; while the attitudinal world refers to the perception of the society towards persons with disabilities and how they view disability. Whereas, the social world includes how the world is organised in terms of services, the societal standards, the set policies of which includes how they are implemented and monitored. Nevertheless, this paper will focus only on the physical world of the environmental factors

as the paper aims to unveil the level in which the environmental barriers affect students with disabilities in the South African institutions of higher learning. Therefore, the physical environmental factors and its barriers will be scrutinised through the lens of Maslow's hierarchy of human needs theory.

2. Maslow's Hierarchy of Human Needs as the Theory of the Study

Maslow's hierarchy of human needs serves as a theoretical lens for this study. The hierarchy has derived from a humanism theory of which the fundamental principles is to fulfil an individual's basic needs until the level of self-actualisation. These basic needs are a need for survival, safety, belonging, esteem, and self-actualisation (Mishra, 2000). The hierarchy is shown in Figure 1.

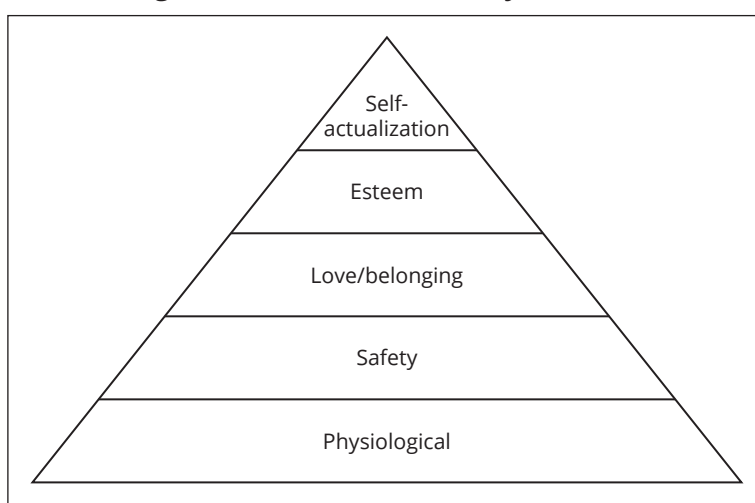
According to McLeod (2018), the above illustrated hierarchy explains these needs as follows; the physiological need known as a survival need refers to a need to satisfy the body, example, with food, warmth, shelter, and others. A need for safety involves protection, security, and freedom from fear. A need for belonging defines as a feeling of being loved, accepted and belonging. A self-esteem need refers to a feeling of independence and confidence. Self-actualisation need involves potential realisation and self-fulfilment. These basic needs are said to be influenced by the contextual influences which later determines one's motivation to perform certain tasks.

In the context of this study, these basic needs will be understood as the need for survival looking at the environmental factors; a need for safety considering the protection based on the law and the freedom of fear within the academic setting; a need for belonging in respect to the feeling of worthiness, loved and be part of the group; a need for self-esteem reflecting on the feeling of self-confidence and valued about others; whereas self-actualisation need involves a need to exercise potential and making difference in life (Moleke & Montle, 2020). This hierarchy will serve as a theoretical lens and a guiding principle for this study to assist in examining the impact of the environmental barriers on students with disabilities.

3. The Influence of Environmental Factors

Each environmental setting has its own factors which can influence an individual's functioning either in a positive or negative way. Looking at the environmental settings in the South African higher institutions of learning, each institution has its own factors that affects the students' function in their learning process specifically the students with disabilities (Masoga & Maoto, 2021). Drawing from Schneider's (2006) disability and the environment perspective, the physical environmental factors such as the quality of assistive technologies, the accessibility of buildings and academic resources as well as the level of distractions within the context affect the functional capabilities of students with

Figure 1: Maslow's' Hierarchy of Needs



Source: McLeod (2018)

disabilities in the educational context. These environmental factors affect these students in two ways, positively or negatively, based on the standard of the setting. For instance, if the assistive technologies are in decent quality and the buildings as well as academic materials are accessible then it affects the students in a positive way, enhancing their academic functioning and performance. On the other hand, if the assistive technologies are not effective and the buildings as well as academic resources are inaccessible then these factors will affect the students with disabilities negatively, for example, creating disabling barriers which inhibit their functioning.

Numerous findings in literature show that the students with disabilities experience countless environmental barriers at the institutions of higher learning (Moleke, Montle & Mogoboya, 2020; Moleke, 2021; Gore, 2021). According to the findings of Moleke, Montle and Mogoboya (2020), assistive technologies such as special computer software like jaws has its own limitations in terms of enabling the students living with blindness to navigate through their academic activities. The limitations of this software include the inability to detect pictorial symbols which result in denying the students the opportunity to reach an advanced level of knowledge and understanding about certain content in their learning process. Thus, alternative special software must be implemented if not updating the currently used one to meet the needs of these students.

Likewise, Moleke, Montle and Mogoboya (2020) continue to point out that some of the academic buildings do not have elevators and the alternative to access other floors is to take stairs. This creates a disabling barrier on students with disabilities more particular those using wheelchairs. The inaccessibility of such buildings denies these students a sense of independency and forces them to continuously depend on their classmates for whatever information that must be acquired from such buildings. Hence, Mutele and Odeku (2014) recommend that the invention of the appropriate infrastructure that promotes a conducive environment is required for the educational success of the students with disabilities. Similarly, Moleke (2021) discovers that students with disabilities at most institutions of higher learning depend on assistive technologies such as recorders, laptops with jaws software, non-visual desktop access (NVDA) screen reader and Braille machine. These assistive technologies

found to have limitations with respect to enabling the students to function well in academic related activities. These limitations became more visible when the remote learning was introduced due to the COVID-19 pandemic of which most of these students experienced academic delays; that being the case, effective assistive technologies that can meet the demands of the needs of the students with disabilities have to be put in place for inclusive and successful education for all.

Moreover, Gore (2021) indicates that inaccessibility of residence and academic buildings in the South African institutions of higher learning is an alarming situation as it creates shortcomings towards the implementation of inclusivity in education. The author continues that the inaccessibility of buildings is a fundamental cause of exclusion as the students with disabilities opt for isolating themselves whenever they feel unwelcomed in a particular environment. For the reason of this isolation, the researcher saw a need to assess the extent on which the environmental barriers affect students with disabilities in the South African institutions of higher learning.

4. Students with Disabilities at Institutions of Higher Learning

Most South African institutions of higher learning, advantaged and historically disadvantaged ones, have established units for students with disabilities to monitor and find solutions for the issues that affect the students with disabilities (Tugli, Zungu, Ramakuella, Goon & Anyanwu, 2013). The authors further mention that several employees under the disability units assert that they feel overwhelmed at some point as they receive a little support from the management; as a result, they work understaffed and render services to these students with inadequate resources if not outdated ones (Tugli, Zungu, Ramakuella, Goon & Anyanwu, 2013). These are one of the rare findings of which one may turn a blind eye and begin to put blames on the units rather than looking at where the problem emerged. That is, it is a challenge for the disability units to meet their objectives without a proper support from the universities management; hence, appropriate provision of resources is needed beforehand for successful support services to take place. Henceforth, Gore (2020) recommends that the development of the quality of teaching and the creation of enabling environments at the universities should be continuously promoted to maintain equality in education for all.

Mutanga and Walker (2017) find that lack of disability awareness creates misconceptions between the students with disabilities and the lecturers, for example, these students expect their lecturers to be cautious about their special needs and respond; accordingly, While the lecturers also expect the students with disabilities to cooperate like any other students without making their job difficult. In other words, both the lecturers and the students with disabilities have expectations towards each other with little or no knowledge about their responsibilities to promote inclusive education and this result in misunderstandings and pointing of fingers. Hence, the authors recommend that disability awareness should be promoted to maintain inclusiveness in teaching and learning activities so that both the students with disabilities and the lecturers should be aware of their responsibilities and corporate accordingly.

Sefora and Ngubane (2021) assert that the success of inclusive education depends on the 'provision of reasonable accommodation' which involves changes in terms of academic materials, the setting, teaching methods as well as assessment techniques. The provision of reasonable accommodation will assist in maintaining equal educational access to all students including students with disabilities. However, the authors found that lack of will in terms of implementing reasonable accommodation for students with disabilities remain a constrain to make inclusive education a success. Hence, the present study aims to take another angle and unpack how this struggle affects the students with disabilities' wellbeing through the lens of the hierarchy of human needs.

5. Methodology

This paper employed a qualitative descriptive research design to obtain and provide the in-depth knowledge about the level in which the environmental barriers affect students with disabilities at institutions of higher learning. This design is helpful to this study as it will help the researcher to explain the nature of the situation and to determine new meaning about the phenomenon being studied (Dulock, 1993). The researcher further purposively sampled six (6) students with physical disabilities to attain detailed information about the phenomenon being studied. These sampled participants were selected based on their disabilities, physical impaired, as they are affected mostly by the environmental factors. The participants were selected from the University of Limpopo as a miniature for

the South African historically disadvantaged institutions. In addition, Masoga and Maoto (2021) investigated about the challenges that students with disabilities faced at university of Limpopo and Venda; ergo, this study selected the university of Limpopo students with disabilities to determine the extent on which the environmental barriers affect the students with physical disabilities. Further, data was collected through interviews to obtain detailed information from the participants through follow-up questions. The interview questions were asked based on the objectives of the study. Furthermore, thematic content analysis served as a method of analysis which helped the researcher to identify, discuss and analyse the findings as well as generating themes based on the objectives of the study (Creswell & Creswell, 2018). The objectives of the study are to determine the environmental barriers affecting the students with disabilities, and to unveil their effects towards the students with disabilities based on the hierarchy of human needs.

6. Results and Discussion

The following findings from the interview responses are categorised based on the objectives of the study. Inaccessibility of buildings and uncomfortable surfaces found to be major barriers on the life of students with disabilities. The responses are as follows:

6.1 Inaccessibility of Buildings as Environmental Barrier

Inaccessibility of buildings found as a foremost obstruction to students with physical disabilities. Most of the participants mention that limited access to both academic and residential buildings due to the lack of elevators restricts their freedom of movement. These constrains affect the physical impaired students, wheelchair users as they cannot be accompanied through stairs as alternative way like the ones living with blindness. The students continue to indicate that this inaccessibility limit their level of independence and give them no other option but to depend on others. This is the gap that was also realised by Mutele and Odeku (2014), hence they called for the invention of appropriate infrastructure to accommodate students with disabilities by creating a disability friendly environment.

Disability unfriendly environment makes students with disabilities to feel inferior to their peers. One

of the participants indicates that "it is not good to be reminded that you are not like others" as she indicates that at some point when they are given a group task and the classmates decided to choose a certain wheelchair unfriendly user residential space to work on the task. As a result, she was forced to not be part of the discussion as she was unable to reach that specific place. Although she said that the group mates did not have a problem of collecting her ideas for contribution, writing in her absence, and coming back to update her; however, she just felt alienated which affected her sense of belonging. The participant asserts that this is not only about group discussions but also for socialisation which is beneficial for academic success through informal learning; however, due to environmental limitations these students are being denied the opportunity to socialise with their fellow students.

Another challenge that the participants highlighted is the issue of unavailability of elevators in some of the academic buildings. The participants aver that although buildings like disability units and administrative buildings remain accessible however they still feel isolated when they are unable to access all other buildings within the campus like other students without disabilities. One of these participants mentions that these environmental barriers within the university affect them more than how we could think of. She said that at a certain point she was left with no choice but to specialise with a course that she was not interested in it at an honours level, because the one that she was good at the department does not have an elevator. She continues that her classmates were surprised that she opted for something that she never shows interest in it not knowing that she is forced by the environmental limitations. She then concludes that "we end up accepting what is available to avoid being called attention seekers although it hurts." This alumni participant is hurt and broken because she is now a master's dropout since she did not manage to continue to specialise with something that she was not interested in. This response shows how deep the environmental barriers affect the students with disabilities. Hence, Masoga and Maoto (2021) recommend that the university context should be accommodative for all students with no exception to students with disabilities to maintain successful education.

It is challenging for the students with disabilities to succeed smoothly in education due to the environmental obstruction that inhibits their academic

progress. One of the wheelchair users indicate that it is understandable when an elevator takes few days or a week not operating but it becomes unbearable when it goes beyond a month not operating. He continues that this kind of limitation affects their freedom of movement and their level of independency as they must keep on relying on other students if not disability unit staff members for accessing whatever they may need from the needed departments. On other thing the participant mentioned is that the problem is that the messenger would not present the exact given information, in that, there will always be a feeling that something is missing and the what ifs. This response displays an inside cry for independency as the participant is not satisfied by the information given by the messenger. This accord with the findings of Moleke (2021) who states that although the students with disabilities appreciate the assistance they get from others; however, they long for independency to unlock their inner potential and display their capabilities.

6.2 Uncomfortable Surfaces as Environmental Barriers

Uncomfortable surfaces are also found to be environmental constraints that inhibit the movement of students with physical disabilities. The participants who are using crutches, special shoes and angle caps are experiencing difficulties on unfriendly surfaces such as rocky pavements, slippery surfaces, and inappropriate ramps. One of them indicates that it is difficult to walk on the rocky pavement because it causes imbalances and movement difficulties. The participant states that this kind of environmental barriers are overlooked, hence they choose to avoid such places ask for assistant to avoid being called attention seekers. Another one said that he asks for assistant especially on the slippery surfaces and he really appreciate the kind of assistant he gets from his mates but at the same time he wishes to do things on his own as independence boosts confidence. The participant concludes that situations such as this demotivate them to be actively involved in academic activities and lowers their motivation to attend classes. As Sefora and Ngubane (2021) stress that students with disabilities are drowning in the process of learning due to the lack of will by those who are in power to implement reasonable accommodation for the students' academic success.

Unaccommodating university environment imposes students with disabilities to isolation. One of the

angle cap participants indicates that she limits her movements around the campus especially during winter because it is painful to walk on rocky surface. "I make a point that I study in my room and avoid going to the library by all means" she said. The participant further mentions that it is not that she does not want to go to the library, but she is just avoiding the discomfort because not everyone will understand that a mere rocky pavement can give a person movement challenges. This participant was further asked a follow up question about the level of attendance by persons without disabilities. The response was that persons without disabilities within the university community rarely attend disability events hence they have a limited knowledge about disability issues. This is consistent with the findings of Zongozzi (2020) who proclaims that lack of attendance for disability awareness by the university community lead to misconceptions which result in lack of will for the implementation of reasonable accommodation for students with disabilities.

Another challenge faced by students who are using crutches is to climb ramps and the slippery surfaces. One of the participants indicates that it was very embarrassing to require assistance because the only assistance that one can get while on crutches is to be lifted. The participant further mentions that it became better when the disability unit borrow her a wheelchair although is still facing ramps issues, but it is better because the assistance that she requires does not involve being lifted like a baby. The findings show how these students are affected by the barriers within the environmental setting of which they affect them deeper than one may think because when they refrain from going to certain place, they remain affected. Thus, it is not a solution but a way of avoiding reality. That being the case, Masoga and Maoto (2021) suggest that the institutions of higher learning need to hasten the provision of reasonable facilities to accommodate students with disabilities.

6.3 The Effect of Environmental Barriers and the Hierarchy of Human Needs

The participants were further given a chance to express how the inaccessibility of buildings and uncomfortable surfaces affect them based on their basic needs, a need for survival, safety, belonging, self-esteem, and self-actualisation. Below are the responses:

6.3.1 Survival Need

Based on the environmental obstructions that the students with physical disabilities encounter, the fulfilment of their survival need is at moderate. The participants indicate that alone they cannot survive as the environmental constraints limit their movement. For instance, unavailability of elevators at certain buildings forces them to seek for assistance which affects their level of independence and the fulfilment of survival need. Additionally, one of the participants mentions that the fact that they avoid certain uncomfortable surfaces it means that they cannot survive on their own due to unfriendly structured environment. Hence, the findings of Moleke (2021) emphasise that freedom of independence will remain a dream to the students with disabilities if they are still facing a paramount obstacle that are related to their academic needs.

6.3.2 Safety Need

The safety need involves a feeling of being protected and the freedom of fear. The participants were asked to rate their safety need level based on the environmental factors that affects them within the campus premises. The participants' responses were divided on this matter as most of the wheelchair users mention that their inaccessibility of buildings does not affect their level of feeling protected if not safe. Whereas others, special shoes and angle cap users indicate that their fear of walking around uncomfortable surfaces affect their safety need as one of them emphasised that, "there is no way that I can feel safer on rocky and slippery surfaces." In this regard, the safety need was rated both poor and moderate due to divided responses. Thus, the inclusive education policy argues that the community in education should be knowledgeable about the students with disabilities' individual difference for better mediation, understanding and provision of reasonable services (Gous & Mfazwe 1998).

6.3.3 Belonging and Self-Esteem Needs

The above needs involve the feeling of worthiness, loved, belonging, valued, and self-confidence as previously defined. The participants rated their belonging and self-esteem needs poor as they mention that the fact that they still experience challenges in terms of accessibility of buildings and other challenges that are not part of the scope of this study such as assistive technologies, their sense of belonging will remain a dream. For example, the fact that they are unable to join their classmates for either socialisation or group discussion in their respective

residence due to environmental constraints it shows that they are staying in the environment that is not accommodative. As a result, this lowers their sense of belonging as well as reducing their self-esteem because one cannot feel confident in an environment that threatens his/her safety and sense of belonging. One of the participants avers that "the fact that a lesson and group discussion proceed in my absence because I am unable to reach the chosen setting affects my sense of belonging and makes me feel less valued, which also drags my confidence down." From these responses, it shows that the environmental barriers not only affect these students only physically but also emotionally and psychologically. Hence, there is a need for urgent intervention. This was realised by McKinney and Swartz (2020), who assert that the students with disabilities are underrepresented, and their challenges are overlooked at higher education level despite the non-discrimination legislative and inclusive policies that promote equality.

6.3.4 Self-Actualisation Needs

The self-actualisation need refers to a need to exercise potential and have influence in life. The participants indicate that there is still a lot to fix before they can think of making a difference through their potential. There are still mountains of barriers that need to be levelled for their potential to be unlocked. One of the participants states that she knows very well that she is good in singing but with the stigma that is attached to disability she is struggling when coming to boost her self-esteem and come out of the closet to show the world her potential. She further states that she believes that there are many people with disabilities who recognised their potential but unable to bring them out due to attitudinal and environmental constraints those persons with disabilities face in day to day living. Another one mentioned that he was involved in a certain society within the campus for academic development purposes, but he had to withdraw due to the majority rule decisions that were always taken based on the procedural arrangements of settings and other activities related to the organisational objectives. "We really want to make a difference in life, but the challenges related to disability needs always haunt us back even when we are trying to bury them" he said. This response shows that when these students avoid certain things to cover up the barriers should not be taken as a solution because it does not solve but build more barriers than before. Thus, their needs must be met, and the

barriers must be removed for them to have a sense of belonging and able to reach their level of self-actualisation. As Lee (2019) stresses that the learning context should be accommodating to all students including those with disabilities to meet their needs, enhance their motivation to learn, unlock their inner potential which will help them to reach their level of self-actualisation.

7. Conclusion and Recommendations

This study intended to investigate how the environmental barriers affect students with disabilities. These students found to be disturbed by the inaccessibility of buildings and uncomfortable within the university premises. These environmental obstructions compel them to solitude to avoid embarrassment and the feeling of not belonging. The idea of isolation helps them to run from the problem but not solving the problem as they continue to be affected psychologically and emotionally. As a result, these students turn to become demotivated and perform poorly in their studies. Thus, the institutions of higher learning should pay attention to their infrastructure to assess how accommodative they are towards the students with disabilities with respect to their basic needs, survival, safety, belonging, self-esteem, and self-actualisation.

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