# OVERCOMING BARRIERS TO INCLUSIVE MOBILITY: EXPERIENCE OF DISABLED PEOPLE IN TERTIARY INSTITUTIONS OF KANO, NIGERIA

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FACULTY OF BUILT ENVIRONMENT
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## THESIS SUBMITTED IN THE FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

## FACULTY OF BUILT ENVIRONMENT
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**ABSTRACT**

For persons with disabilities Mobility is an essential part of their inclusive participation. Yet, the environment still presents one of the unresolved problems of mobility restrictions. This qualitative research explores the mobility experience of staff and students with disabilities to examine why and how disablement is experienced and negotiated in and within educational setting amidst inclusive policies. The aim is to establish a model for overcoming the barriers to the inclusion of disabled people in tertiary institutions in Nigeria, to inform on decision-making in the practice and policy. Data comprise 19 semi-structured interviews with participants from and across two tertiary institutions offering special education at the departmental level in Kano State Nigeria. The multiple embedded approaches reinforced the interview findings from the case study participants. Physical observations in the form of physical accessibility audit checklist (PAAC) and document review are employed as a source of multiple evidences. Data analysed using an interpretative phenomenological approach are within the framework of the social-ecological model to decode the mobility experience using NVivo (version 10). Mobility experience of persons with disabilities emerged, complex and diverse. For interpretation, the experiences of hearing, visually and walking impaired emerged in four levels of influences: Individual, social, physical and policy. Free nodes identified are barriers to disabled peoples' mobility, barrier impact, and ways to overcome and negotiate the barrier subjectivities. The barriers emerged under psychological, attitudinal, physical and logistical influences. While some barriers are impairment related, there exist impairment and campus specific. From case study site-1, physical barriers are expressed more by the walking impaired, followed by attitudinal, than logistical. In the case study site-2, however, attitudinal barriers frequently emerged from the visually impaired followed by physical barriers. Cross-case analysis revealed the replication logic between intragroup similarities and differences with variations

based on degree rather than kind. Overall, the prominently expressed barrier with the greatest impact on disabled people is physical, followed by the attitudinal, while the psychological barrier is the least of their mobility problems. The impact of the barriers on the individual includes loss of confidence, and demotivation, financial burden, physical stress and time constraints. Overcoming barrier subjectivities involve a resilience-based approach and coping strategy through time management and self-motivation at the individual level. Improving awareness and support, barrier removal and policy improvement and implementation help in overcoming the barrier at the social, physical and policy level respectively. Often, the individuals manage the psychological barriers, but socio-attitudinal at the social level, and socio-spatial barriers at the physical level, as well as a lack of support, communication and policy implementation, becomes impediments to mobility in the form of logistical barriers and they are the hardest to manage by disabled people. The model for overcoming barriers to the inclusion of persons with disabilities in tertiary institutions in Nigeria, have the potential of mitigating problems associated with inequality and disability. These extend at various levels of environmental influence, especially in developing countries and widening participation in the global drive to achieve "education for all".

**Keywords:** Built Environment, Disabling Environment, Higher education, Inclusive Mobility, and Persons with Disabilities

# ABSTRAK

Rata-ratanya, bagi golongan orang kurang upaya, mobiliti adalah merupakan salah satu cara menjadikan mereka sebahagian daripada masayarakat. Tetapi, sifat persekitaran pada masa sekarang tidak tersedia bagi memudahkan pergerakan orang kurang upaya. Kajian kualitatif ini meneliti dengan lebih lanjut mengenai tahap mobiliti para staf dan pelajar kurang upaya bagi mengkaji mengapa dan kenapa wujudnya kekurangan upaya dan penggunaan sumber di dalam kampus bagi penyelesaian masalah dan polisi yang berkaitan golongan kurang upaya. Kajian adalah berfokus untuk mendapatkan bukti berdasarkan cadangan terhadap keperluan dan bagaimana untuk mengatasi masalah ketidaksmarataan sosio-setempat dalam tetapan pendidikan. Data terdiri daripada-19 temuramah separa berstruktur daripada institusi pengajian tinggi yang menawarkan pendidikan khas di peringkat jabatan yang bertempat di negeri Kano di barat laut Nigeria. Beberapa pendekatan yang digunakan menemukan cara dan sumber yang berbeza bagi mengukuhkan lagi penemuan daripada kajian kes oleh responden. Pemerhatian fizikal dari segi audit senarai semak kebolehcapaian fizikal dan semakan dokumen bekerja adalah merupakan sumber bukti pelbagai. Data yang dianalisa menggunakan pendekatan fenomenologi tafsiran dalam rangka kerja model ekologi sosial untuk mendapatkan pengalaman mobiliti menggunakan Nvivo (versi-10). Mobiliti bagi golongan kurang-upaya adalah kompleks dan pelbagai. Kajian pergerakan bagi golongan yang bermasalah pendengaran, penglihatan dan pergerakan fizikal, kajian ditafsirkan kepada empat aspek yang merangkumi; perseorangan, sosial, fizikal dan polisi. Faktor utama yang diperoleh darpada kajian adalah halangan terhadap golongan kurang upaya (OKU), kesan daripada halangan dan cara bagi mengatasi dan mengurangkan halangan tersebut. Halangan bagi mobiliti termasuklah dari segi psikologi, sikap, fizikal dan logistik. Walaupun kebanyakan halangan adalah kelemahan fizikal sendiri, namun terdapat juga halangan sesuatu kampus itu sendiri. Daripada

kajian kes-1, didapati halangan fizikal lebih menjurus kepada golongan yang cacat anggota diikuti dengan masalah perilaku dan seterusnya kekurangan kelengkapan. Manakala kajian kes-2, bagaimanapun halangan perilaku lebih memberi implikasi kepada golongan cacat penglihatan dan golongan cacat fizikal daripada masalah logistik. Analisis *cross-case* menunjukkan replikasi logik antara persamaan dan perbezaan antara kumpulan dengan kepelbagaian berdasarkan tahap perbezaan berbanding jenis perbezaan. Keseluruhannya, halangan yang jelas memberi impak yang besar terhadap golongan-kurang-upaya adalah melalui halangan fizikal, diikuti masalah perilaku, manakala halangan psikologi merupakan impak yang paling rendah kepada masalah mobiliti golongan-kurang-upaya. Selain itu, impak halangan terhadap mobiliti perseorangan dinyatakan melalui temuramah dan pemperhatian fizikal, data diperoleh daripada kesan-kesan sosial kekurangan upaya diproses kepada pentaksiran dokumen. Cara mengatasi masalah halangan dari sudut sosial dan fizikal diperoleh melalui pendekatan berasaskan daya tahan. Faktor ketidaksediaan, kekurangan dan kebolehgunaan peralatan dan servis di sekitar kampus merupakan halangan kepada mobiliti inklusif golongan-kurang-upaya atas dasar kelayakan sama rata dari segi sosial dan fizikal. Manakala halangan bagi sosio-budaya dan sosio-setempat dikategorikan kepada perseorangan, sosial dan fizikal, kekurangan sokongan, komunikasi, dan implementasi polisi yang dinyatakan melalaui kebolehcapaian mobiliti dari segi kekurangan kelengkapan dan sukar untuk diperoleh dari sudut perseorangan. Cadangan yang dibentangkan berpotensi untuk mengurangkan masalah yang berkaitan ketidaksamarataan dan kurang upaya dari pelbagai aspek persekitaran terutamanya dalam soal pembangunan negara dan penyertaan menyeluruh daripada peringkat global untuk mencapai matlamat 'pendidikan untuk semua'.

**Kata Kunci:** Alam Bina, Persekitaran Kurang-Upaya, Pengajian Tinggi, Mobiliti Inklusif, OKU

# ACKNOWLEDGEMENTS

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| | | |
|---|---|---|
| ADA | : | American with Disability Act |
| AT | : | Assistive Technology |
| BCODP | : | British Council of Organization of Disabled People |
| BE | | Built Environment |
| CRPD | : | Convention on the Rights of Persons with Disabilities |
| DDA | : | Disability Discrimination Act |
| DPO | : | Disabled People Organization |
| EFA | : | Education for All |
| HE | : | Higher Education |
| ICF | : | International Classification of Functioning disability and health |
| ICT | : | Information and Communication Technology |
| MDG | : | Millennium Development Goal |
| IPA | : | Interpretative Phenomenological Analysis |
| PAAC | : | Physical Accessibility Audit Checklist |
| PWD | : | Persons with disabilities |
| SEM | : | Social Ecological Model |
| SENDA | | Special Education Needs and Disability Act |
| SSA | : | Sub-Saharan Africa |
| UD | | Universal Design |
| UN | | United Nations |
| UK | : | United Kingdom |
| UNICEF | : | United Nations Children's Fund |
| UNESCO | : | United Nations Educational, Scientific and Cultural Organization |
| USA | | United State of America |
| WB | : | World Bank |

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# CHAPTER 1: INTRODUCTION

This thesis concerns the everyday mobility experiences of staff and students with disabilities in tertiary institutions. The introductory chapter starts with a context that introduces the research and leads to the problem investigated. The chapter then proceeded with the study objectives and rationale. Additionally, the beginning chapter highlights on how the research tackles the identified problems.

## 1.1    Background

*"Overcoming barriers to inclusive mobility: experience of disabled people in tertiary institutions of Kano, Nigeria"* is a study of exclusion in the education built environment. It concerns the examination of factors that paved a way to the marginalization and exclusion of persons with disabilities. Thus, it is a study of disablement processes that work against inclusive design in the educational built environment amidst inclusive policies and guidelines.  Going by the world health organization estimation, 15% represent the number of persons with disabilities in the developing countries. Nigeria accommodates the largest number of persons with disabilities in Africa, due to its population size. The population of Nigeria is proclaimed to be as large if not greater than the collective population of the other 15 west African countries (Eleweke, 1999a). Thus, the number of disabled people in Nigeria is more than 20 million. Yet, only 272 "special schools, special homes, centres and integrated schools" are on record catering for them, and five universities exist offering "special education" with fewer colleges of education (Aromolaran, 2005). A sampling study conducted by Hamilton, Naismith, Scott, Purcell, and Hickie (2011) across 30 villages in northern Nigeria revealed a somewhat disturbing situation. The study involves a population of over a thousand persons with disabilities as 37% visually impaired, 32% mobility, 15% hearing, and the remaining 16% representing other forms of disabilities.

The irony of the situation is that one-third of the disabled enumerated are young people less than 21 years of ages, but most are neither enrolled in schools nor employed. Over half of them do not attend any school. Only 20% attended primary school, 8% secondary. Yet only 2% get the rare opportunity to gain tertiary education. The researcher identified begging as the most common occupation (16%) among them. 11% are engaged in small-scale farming and 8% petty trading. 37% get assistive devices. Even though the author has made an impressive record of statistics confirming the disablement process in Nigeria, at the conclusion, however, the researcher located the disability within the body structure rather than the society. The writer's words, 61% remain unemployed *"due to their disability"*.

While there is a growing body of research focusing on inclusive schooling at the pre-tertiary level in Nigeria, research, which focused on barrier-removal as the root cause of the problem from the perspective of those experiencing it, is under-studied. Knowledge about the barriers from the perspective of those experiencing it is best generated from the independent adults with disabilities from higher education. This is cognisant of the fact that higher education has been described as a gateway to a prosperous future, with a potential for paving a way out of poverty through employment opportunities (Magnus, 2006; Tinklin, Riddell, & Wilson, 2004) and economic emancipation (Osborne, 2003).

Various disability types exist. They include hearing, visual, and physical impairment as well as those from the psychiatric perspective such as cognitive impairments, developmental disabilities, autisms, and schizophrenia. However, mobility through the use of buildings and the built environment is predominantly affected by the consequence of one or more of the following conditions: mobility impairment, mobility impairment which requires the use of wheelchair or crutches, hearing impairment, deafness, or visual impairments (Building and Construction Authority, 2013).

While it may appear self-evident that individuals with hearing impairment cannot hear a sound, or a greater part of it, the significance of not having the capacity to hear need not to be ignored in the design stage. The reality of hearing impairment makes communication difficult. Thus, the most incapacitating consequence of hearing loss is isolation (Albrecht & Neral, 2006). Yet, designing the environment with inclusive requirements of the hearing and visually impaired persons were not significantly accommodated in the literature as the provision of those with mobility impairment (Rooney, 2014), particularly the wheelchair users. In this research, the participants are those persons with hearing, visual, and walking impairments. In this research, cognitive impairment, however, is of necessity excluded. This is cognizant of the fact that the complex evaluation of the needs of people with cognitive impairment is feasible, but at present required more clarification for it to be fully acceptable by the industry and practice as well as policy makers (Hadjri, Afacan, & Gadakari, 2016).

Inclusive design is gaining considerable attention in the world because the built environment is seldom designed with disabled people in mind (Clarke, Ailshire, Bader, Morenoff, & House, 2008; Clarke, Ailshire, Nieuwenhuijsen, & de Kleijn – de Vrankrijker, 2011; Goldsmith, 2000; Imrie & Kumar, 1998). This results in the professional neglect of persons with disabilities and translates into their mobility struggle in the 21st century (Clarkson & Coleman, 2015). Consequently, the root cause of such barriers and their impact on persons with disabilities is the focus of this study. More so, this is from the point of view of those experiencing the barriers, with particular reference to Nigeria as a developing country. Evidence suggested that disabled people in Nigeria are experiencing a degree of exclusion from the mainstream of activities. Moreover, a number of studies declared persons with disabilities as overlooked and not receiving the deserved attention. In a word, they remain marginalized. Insightfully, this issue poses a question about why and how of the

disablement processes and what to do to reduce if not eliminate the root cause of the disablement from various levels of environmental influences. This is what the study cross-examined.

On the platform of marginalization of persons with disabilities, their exclusion from joining the educational system on the basis of impairment was rooted in history (Burgdorf & Burgdorf Jr, 1974; Clarkson & Coleman, 2015; Skiba et al., 2008; Stearn, 2007). Provision of educational opportunity for persons with disabilities is something recent (Skiba et al., 2008). At the onset, persons with disabilities are sent to segregated institutions intended to respond to their special needs. Thus, disablement phenomenon started on the basis of the charity model approach (Mitchell, Mitchell, & Singh, 1987). Concurrently, a medical model approach redefined disability as medical and rehabilitative reliance. This approach motivates the introduction of a procedure for the integration of persons with disabilities into mainstream institutions on the scale that they have the capacity to adjust their physical attributes in line with what a "normal society" required. Holmes brilliantly captures this situation in a statement of Mason and Riser that:

The overall picture is that the *"human being is flexible and "alterable" whilst the society is fixed and unalterable… leaving the disabled people in a hostile environment"* (Holmes-Siedle, 1996).

In this context, physical appearance determines the social acceptability according to the medical model by considering certain body features as normal and any other as deformed and disabled. Thus, an artificial paradigm is established based on the so-called "normal" appearance of the human body rather than the human ability. According to Goldsmith (2000), lives outside the paradigm of a normal body are treated differently.

Extending further on the preceded background, a contemporary social model shows a clearer understanding that disability faced by persons with disabilities is a result of socioeconomic and physical barriers that are not part of the disability itself (Mike Oliver, 1990). Thus, the social model has broadened the human rights elements, to include the right to education, employment, equal opportunity, and social participation. The social model emphasizes that the society is the principal disabling force, marginalizing disabled people socially, economically, and physically. Especially in relation to the oppressive built environment, which seldom favours the needs of disabled peoples' mobility (Bromley, Matthews, & Thomas, 2007). In contrast, human right elements leverage the inclusion of persons with disabilities into the mainstream of activities.

Involvement of persons with disabilities in daily activities is important and a human right element. Yet, this can be ensured not without addressing the barriers to their exclusion (Wirz & Donde, 2009). However, such barriers in the built environment relate to accessibility and mobility (Ashiedu, Festus, Igboanugo, & Anthony, 2011; Baris & Uslu, 2009; Bodaghi & Zainab, 2013; Clarke *et al.*, 2008; Hill, 1992; Hopkins, 2011). Consequently, the public built environment in an institutional of higher learning provides a convenient platform for countering discrimination through the provision of equal opportunity in education, employment, and social participation. In summary:

*"If people are excluded from the facilities that provide homes, education, leisure, entertainment, services, and amenities then not only does discrimination occur, but also opportunities for integration are lost. Integration is also lost if facilities and services are segregated, separate or stigmatizing such that disabled people become unnecessarily dependent on others for support in using the built environment. An inclusively designed environment considers people's diversity and removes unnecessary barriers and exclusion in a way that benefits us all" (Finch, Ormerod, & Newton, 2005).*

Designers of the built environment often ignored the requirements of persons with disabilities at the drawing board stage (Goldsmith, 2000; Rob Imrie, 2003). Consequently, the environment in general and educational environment, in particular, will remain an embodiment of mobility restriction for persons with disabilities as long as the stakeholders in the design of the environment continue to conceptualize it without the requirement of persons with disabilities being incorporated (Imrie & Kumar, 1998). Goldsmith (2000) is of the opinion that *"the idea that building can be designed to accommodate persons with disabilities is a recent one"*. Hence, the struggle for the emancipation of the disadvantaged group continued and extends into the 21st century (Rieser, 2001).

Overcoming the barriers to inclusive mobility in this research is not about remediation of a perceived inability within persons with disabilities' body – "medical model". Nor is it about inclusive schooling that is curriculum inclined (Ballard, 1999; Barton, 2003). Inclusive mobility entails removing the fabricated barriers that impose a restriction or ban the participation of persons with disabilities in educational settings. Accordingly, it goes beyond the tangible problem solving. It is about understanding the embodiment of mobility restriction for persons with disabilities in order to transgress the schism between ability and disability for designers and policy makers.

## 1.2    Research Problems

The research problem that motivates actualization of this study in association with persons with disabilities is in two broad perspectives: disabling environment and the absence of persons with disabilities' voice in the Nigerian context. The existence of these problems creates barriers, which need to be tackled accordingly.

**(i)    Disabling Environment:** entails (a) social interaction and (b) the physical built environment.

This item considers the interaction of persons with disabilities with social and physical built environment. It is in this regard that disability has been described in a number of studies as a social structure of inequality that does not attract significant attention it deserves in the higher institutions of sub-Saharan Africa (Yusuf, Saint, & Nabeshima, 2009). Yet, more than a billion individuals or 15% of the world population are projected to have some form of disabilities (Back, Gustafsson, Larsson, & Bertero, 2011). The number of persons with disabilities is expected to grow because of an aging population and higher risk of disability in older people, and an increase in chronic diseases (WHO, 2011). Today disabled people from developing countries account for 75% of the persons with disabilities population of the world. Consequently, World Health Organization (WHO) acknowledged persons with disabilities as the largest marginalized group in the world, whose slim history is not only a history of "silence of the poor", but also a story of those called the *"poorest of the poor"* because they are disabled and from not so rich countries (WHO, 2011). Accordingly, in 2004, Nigeria was classified among such countries (Mallaby, 2004).

Nigeria is the most populous African country with a population estimated close to 200 million. It appeared, therefore, that the population of persons with disabilities in Nigeria is such as to warrant a study with a potential of paving the way for their social inclusion. It has been proclaimed, Nigeria had the greatest number of "out-of-school" Youth (UNICEF, 2013). How many of these "out-of-school" will get the opportunity to go to the tertiary level, what about the *"poorest of the poor"* among them? The few students that get the rare opportunity to be in the environments that were not designed to include them, how are they coping? What are their experiences, hopes, and wishes, with regards to inclusive built environment?

Worth to note in addition, disability and poverty are socially intertwined (Barnes & Sheldon, 2010; Braithwaite & Mont, 2009; Cardenas & Lopez, 2010; Lwanga-Ntale, 2003; Narayan-Parker, 2002). Poverty is proven to heighten disability and disability to deepen poverty (P. G. Saunders, 2006; Yeo, 2005). Education has poverty alleviation potentials (Wedgwood, 2007). In addition to that, the number of persons with disabilities is growing, which render them important in the society as consumers, labour force, producers, and taxpayers. To sum it all persons with disabilities are also "human resource". Nonetheless, in most cases, persons with disabilities continued to face barriers to inclusion in developmental programs, including those targeted for them. It is, therefore, essential to focus on disability issues in development policies and ensure that persons with disabilities are involved in the planning, design, and implementation of programs for them and about them (Charlton, 1998).

Moreover, Nigeria recognized the need to embrace and the teeming population of persons with disabilities and visitors with disabilities. Thus, Nigeria signed and ratified the United Nations (UN) convention on the rights of persons with disabilities (CRPD). The implication of entering such agreement spell the need and necessity of integrating persons with disabilities in the mainstream of activities (UN Enable, 2011). To achieve such integration several inclusive measures are required. Numerous researchers, however, expressed their sentiments that the laws are only on paper in the Nigerian context (Abang, 2007; Abubakar Ahmed, Awad, & Adam, 2014; Aluko, 2006).

Interestingly, participation as a right of everyone, including persons with disabilities is necessary to neutralize the persons with disabilities exclusion from developmental activities and marginalization (Burgdorf & Burgdorf Jr, 1974; Clapton & Fitzgerald, 1997; Fine & Asch, 1988). Consequently, progressive nations are moving towards the integration and inclusion of citizens with disabilities into the mainstream of the

societies (Havens, 1992; Mannan, MacLachlan, McVeigh, & Consortium, 2012; Westbrook, Legge, & Pennay, 1993). Thus, there is a need to realize this in the Nigerian context (Abang, 2007; Abidoye, 1999). The integration entails persons with disabilities are given a fair chance to lead an autonomous life in theory and practice.

Expanding further on the physical built environment, access to the educational environment is vital, particularly for persons with disabilities (Dowrick, Anderson, Heyer, & Acosta, 2005; Drake, Gray, Yoder, Pramuka, & Llewellyn, 2000). Yet, the built environment in Nigeria presents one of the unresolved problems of mobility restriction specifically for people with disabilities (Hamzat & Dada, 2005). The effect of mobility disability on persons with disabilities' socio-spatial experience needs an in-depth investigation. Very few studies investigated the barriers affecting persons with disabilities in the Nigerian context. Previous studies carried out in the Nigerian context are predominantly for medical rehabilitation or altogether lacks the perspective of persons with disabilities. A study carried out by a medical practitioner in one of the major cities shows that out of 38 public buildings enumerated only 18.4% were wheelchair accessible (Hamzat & Dada, 2005). Provision of accessibility in the built environment is a necessary step to guarantee integration and inclusive involvement of disabled (Ajuwon, 2008; Eleweke & Rodda, 2002; Garuba, 2003; Hill, 1992). The impact of the disabling environment for persons with disabilities' participation in higher education often compounds into a negative result (Imrie, 2000; Riddell, Tinklin, & Wilson, 2005; Tinklin & Hall, 1999).

### (ii) Voice of Disabled People

Considering the voice of disabled people, recently, researchers in the disability arena have upheld the slogan *"nothing about us without us"* (Charlton, 1998; Morgan, Levin, & Risech-Ozeguera, 2006; Oliver & Barnes, 2008), if only to fill the gap in the

knowledge of theory and practice. No doubt disabled persons are the masters of their own experience through the interaction of the body with the environment (Heylighen, Van Doren, & Vermeersch, 2013). Yet, they are in most cases exempted from research (Hill, 1994). The participatory approach has more potential for persons with disabilities liberation (Barnes, 2003; Kitchin, 2000). Consequently, *"disability research has had little or no weight on policy and do not contribute much to improving the lives of disabled people"* because most disability researchers become abstracted for they often use objectivist epistemologies rather than subjective (Oliver, 1992). This research is a retreat from stereotypical. It utilizes subjectivist epistemologies with an ontological reality gain from the participant's point of view. It also focuses on areas with a concentrated disadvantage affecting the persons with disabilities.

In line with previous assertions about the voice of the disabled people, the knowledge of how and why persons with disabilities are experiencing a mobility restriction is seldom taken as an endeavour with high promising results. Simply because, often times data generated from persons with disabilities themselves are statistically insignificant to warrant any meaningful generalization across cases, as disabled people are few in number in most study contexts (Pfeiffer, 1991). It may also result from the obstacles researcher may face in maximizing participant's involvement in the research (Marshall & Rossman, 2011). Persons with disabilities are in the words of a participant *"tired of on the paper survey that seldom materialized into meaningful outcome"*. Thus, it is not surprising, when few studies appear to exist voicing the words of persons with disabilities even in issues concerning their lives in the Nigerian context.

Synoptically, the major drawback that motivates this study is in two stages. First, persons with disabilities interaction with the disabling environment, both social as well as the physical built environment, and secondly, the absence of disabled people voice in

the Nigerian context. The implication of these drawbacks can deter the participation of persons with disabilities in the mainstream of activities. Therefore, the goal is to close the gap between theory and practice in architecture and disability research in one hand and expose the exclusionary tendencies or otherwise, through mobility disability from a location that had allegedly had barrier ridden futures on the other hand. Yet, it remains unexplored.

## 1.3 Aim and Objectives of the Study

The aim of the study is to establish a model for overcoming the barriers to the inclusion of persons with disabilities in tertiary institutions in Nigeria. It is expected that the knowledge from this inquiry would afford a new insight into a more informed decision-making in the practice and policy. Thus, the study will help the stakeholders to fulfil their promises of making the built environment safe and usable for all.

### 1.3.1 Research Questions

The following research questions (RQ) have been provided to respond to the aim of the research.

RQ1: What are the requirements and inclusive rights for persons with disabilities' in the built environment?

RQ2: What are the barriers affecting persons with disabilities?

RQ3: How does the socio-spatial barrier influence the persons with disabilities mobility in and within the built environment?

RQ4: How to overcome the socio-spatial barriers in the campus built environment by persons with disabilities?

The following specific objectives are will help facilitate answering the research questions and are articulated as follows (Figure 1.1):

1. To provide data for the understanding of persons with disabilities' inclusive requirements of navigation and in the built environment.

2. To identify the barriers in relation to socio-spatial mobility experience of persons with disabilities in the campus built environment in the Nigerian context.

3. To investigate the impact of disabling barriers on persons with disabilities in the campus built environment.

4. To assess the physical barriers in relation to persons with disabilities mobility in the built environment.

5. To evaluate the socio-spatial experience of persons with disabilities' mobility and the impact of the physical barrier to the persons with disabilities in the campus built environment.

6. To establish a model for overcoming the barriers to the inclusion of persons with disabilities in tertiary institutions in Nigeria.
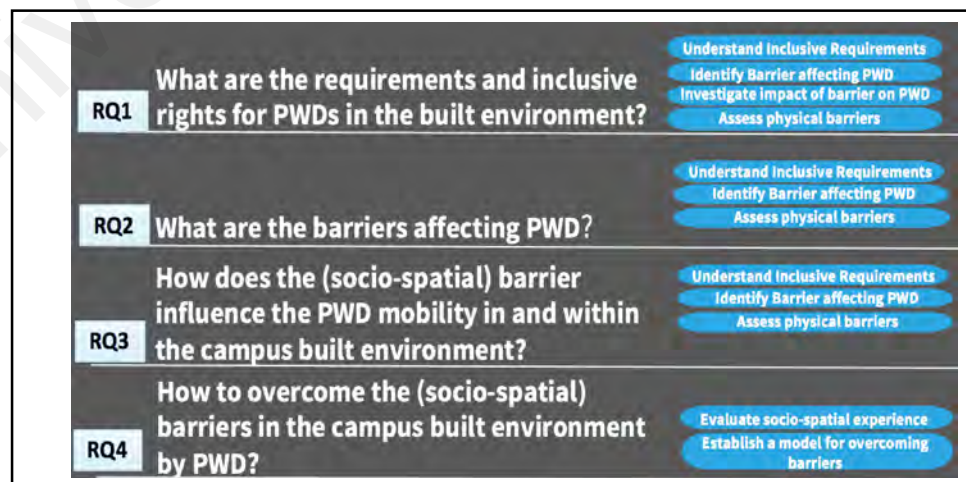


**Figure 1.1:** Specific objectives in relation to the research questions

### 1.3.2    Role of the Researcher

> *"No need to hear your voice when I can talk about you better than you can speak about yourself. No need to hear your voice. Only tell me about your pain. I want to know your story. And then I will tell it back to you in a new way. Tell it back to you in such a way that it has become mine, my own. Rewriting you, I write myself anew. I am still an author, authority. I am still the colonizer, the speaking subject, and you are now at the centre of my talk". (Hooks, 1992), 1990 :(pp. 151-2)*

The introductory extract summarizes the roles and relationship between non-disabled researchers, who work with disabled as the research participant to develop an emancipatory research. Disabled people are hidden and obscured people by a phenomenon of exclusion, taking place daily before their "*eyes*", the mind's eyes with which they can see clearly. They are marginalized because it is assumed that "*they are without eyes and therefore they cannot perceive. They are without hearing faculty and therefore they can't understand, and they are without limbs and thus they cannot move*"-Anonymous

It is absurd. An emancipatory research as the appellation suggests *is for the facilitation of participation in the politics of social oppression at whatever level it may occur (Oliver, 1990).* According to Barnes (1996), the researcher is either with disabled or their oppressor. Thus, the research control was left in the hands of the participants guided by the researcher. Therefore, the role of the researcher in this study is nothing, but an interpretation of participant's ideas.

### 1.4    Rationale for the Study

Despite the proliferation of research that shows the benefits of designing for all with the disabled being inclusive, the root cause of mobility disability in the Nigerian context is yet unaddressed. The presence of inaccessible features all over the environment amidst such compelling policies are also a strong indication reinforcing the belief that

persons with disabilities are experiencing physical and social disablement that needs to stop. Studies in the disability arena should now focus on the elimination of mobility barriers for the inclusion of persons with disabilities. Again, very few studies are conducted from the perspective of those experiencing the barriers (Hill, 1994). These have been evidenced in the literature (Fakolade, Adeniyi, & Tella, 2009; Grace O Vincent-Onabajo & Wasinda S Malgwi, 2015) that researched on the attitude towards persons with disabilities in the Nigeria context, and the limitation of the built environment in supporting the needs of persons with disabilities (Hamzat & Dada, 2005). Those previous studies, however, lack the voice of persons with disabilities as mentioned earlier. The major rationale for this study, therefore, has been in the understanding that mobility experience of persons with disabilities can provide an insight into the disablement process and, therefore, informs on how best to tackle it. Thus, studied data obtained from physical observation, participatory audit checklist on accessibility infrastructures and document reviews are only to complement data from the primary sources, which are the persons with disabilities themselves using interviews.

It is evident that research on education, disability, and the environment is significant in terms of knowledge generation and may give a feedback to the stakeholders. Thus, benefiting from the study includes various sectors of academics and researchers, designers and practitioners, administrators and policymakers, and above all disabled people organizations (DPO) and the disabled people themselves. The study may serve as a design brief from an imaginary client with disabilities in future designs (bottom-up approach). After all, the possibility is everyone in the society can be disabled, even when it is seldom anticipated (Kurawa, 2010). Producing a responsive environment and barrier elimination will improve human resource and ease the burden of dependency created by disabling barriers in any giving society. Finally, the knowledge generated

from the study will augment the global treasure of knowledge through the incorporation of voices previously ignored, but important in disablement literature. Furthermore, a replication of study of this nature coupled with its outstanding uniqueness is possible not only in Nigeria but also in other developing countries experiencing a similar predicament.

## 1.5 The Study Scope

### 1.5.1 Selection of Case Study Areas and Participants

The study is wide-ranged around the mobility experience of persons with disabilities. Therefore, the main criterion used in selecting the participating institutions draws on the presence of persons with disabilities in the selected settings. The selected participants for the case study are having mobility impairments. People with impairment other than cognitive are the primary while stakeholders are secondary sources in this research but for triangulation purposes.

### 1.5.2 The Research Settings

Nigeria (1.2a) has been marked in the research domain around Kano Province. Being the largest population in Africa and covered an area of 932, 768KM$^2$ (Eleweke, 1999a), it constitutes three major ethnic and hundreds of other minority groups. Constitutionally, Nigeria is split into six geopolitical zones (Figure 1.2b). The sharing of economic, educational and political resources is made according to the geopolitical division. The National Bureau of Statistics provided baseline information on adult literacy in the country. Their June 2010 national literacy survey report reads as follows:

"…*North West had the least literacy rate in the English language, … while close to half of the population will like to attain the status of a literate person, rates of literate males are higher than literate females" (National Literacy Survey, 2010)*

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The National Population and Housing Census (NPHC) of the Federal Republic of Nigeria conducted in 2006 confirmed North West Nigeria having not only the highest population but also the prevalence of disability (Figure 1.3). The current projected population estimate puts Kano as the most populous in the country with over 12 million people following the 2006 national population census. According to the National Population Commission (2010) document, there is an almost equal distribution of male (51%) and females (49%) in Kano State. Geographically, Kano is situated at $12^000N$, $8^031'$ E and occupies an area of $20,131km^2$ with a density of $466/km^2$. Kano strategic location and economic significance earn it a leading position acclaimed as the centre of the commercial hub in sub-Saharan Africa. The city maintains economic and business ties with neighbouring countries and produced the richest man in Africa and richest black man. Educationally, Kano suffered some challenges that motivate the declaration of free and compulsory education at all levels in the state by the state administrators. The government sponsors more than two thousand indigenous to pursue various degree programs internationally. Therefore, the need to include disabled persons on this record among the beneficiaries is deemed prevalent.

Kano metropolitan area (Figure 1.2c) covering $449km^2$ comprises of eight local governments (Ungogo, Tarauni, Fagge, Nassarawa, Gwale, Kano Municipal, Kumbotso, and Dala), and a population of over three million (NPHC, 2006). The principal inhabitants of the city are Hausa/Fulani predominantly of the Islamic faith. The main airport serving northern Nigeria (Malam Aminu Kano International Airport) is located in Kano. An analysis of the statistics shows a correlation between disability prevalence (National Population Commission, 2010) and illiteracy rates (National Literacy Survey, 2010) with Kano state as the most populous in the country also having the widest margin between the number of disabled and literacy rate particularly among youth as shown in (Figure 1.3).

Kano state is divided into 44 local governments' areas with a well-developed system of higher education. Two categories of public tertiary institutions are available at the post-secondary level in the state. They are Universities and Polytechnics. Universities are Bayero University Kano (BUK), Kano University of Science and Technology, (KUST) Wudil and North West University Kano. The other public higher institutions at the polytechnic level, includes the College of arts, science and remedial studies, school of technology, school of management studies, Audu Bako School of agriculture, School of Social and Rural Development, Aminu Kano School of Islamic and legal Studies and Saadatu Rimi College of Education (SRCOE). These colleges are provided to respond to the interests of Kano and its neighbouring state. However, among the higher institutions of the state, only two offered special education at tertiary levels. These institutions are located within the Kano metropolitan areas (Figure 1.4 a) right. They are the within *Ungogo* local government and *Kumbotso* local government. The tertiary institutions are Bayero University Kano (BUK) and Saadatu Rimi College of Education as case study setting from which data were collected. Being the only tertiary institutions with a number of persons with disabilities enrolled, they have the capacity to provide enough participants and setting that meets the inclusion criteria in a real life setting as multiple sources of evidence.
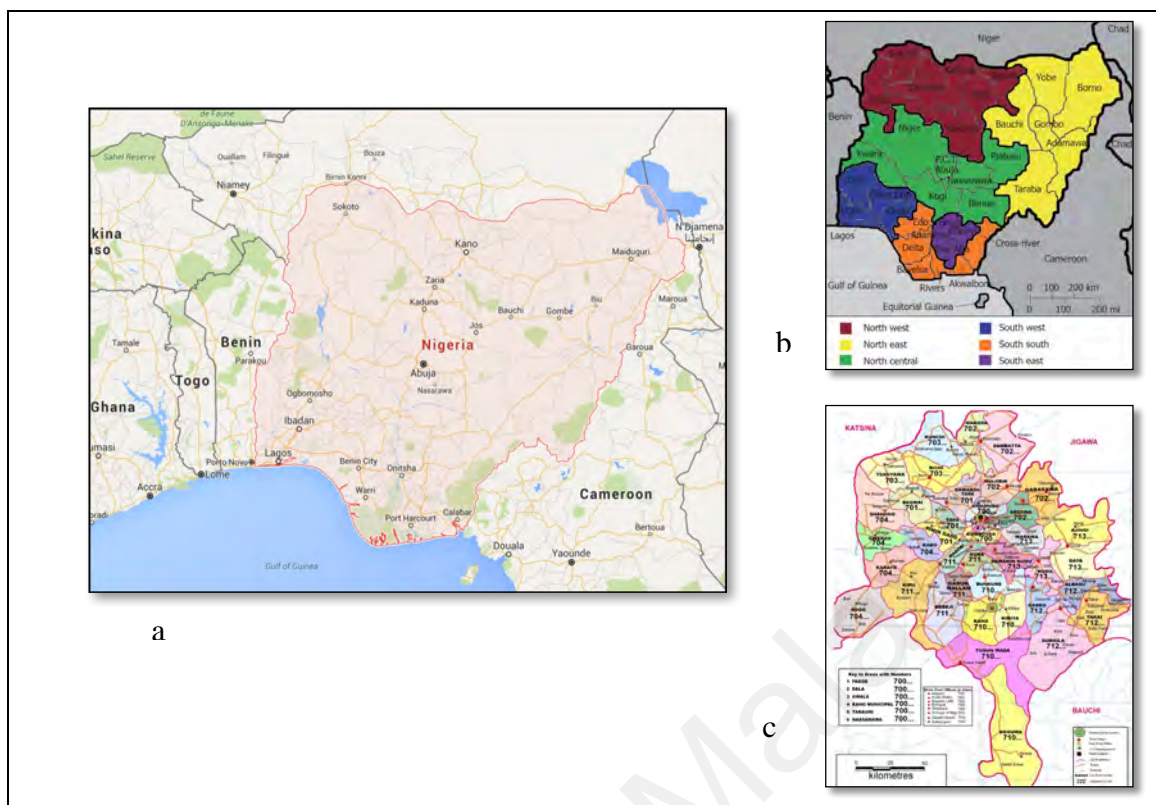
**Figure 1.2:** (a) Left: Map of Nigeria, (b) Right top: showing North West with over 33milion people, and (c) Right bottom: Kano State with its 44 local government's areas and a population over 12million
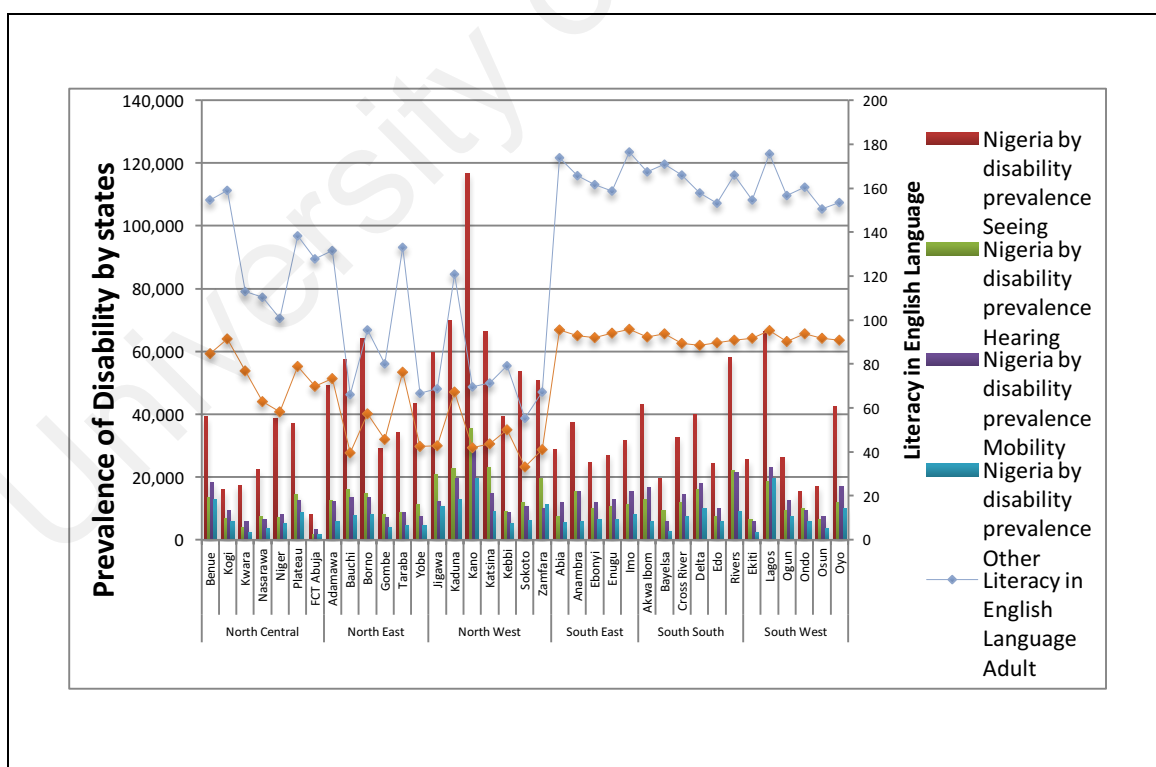


**Figure 1.3:** The Nigerian States by disability prevalence and literacy in the English language among youth and adults

a                                                      b
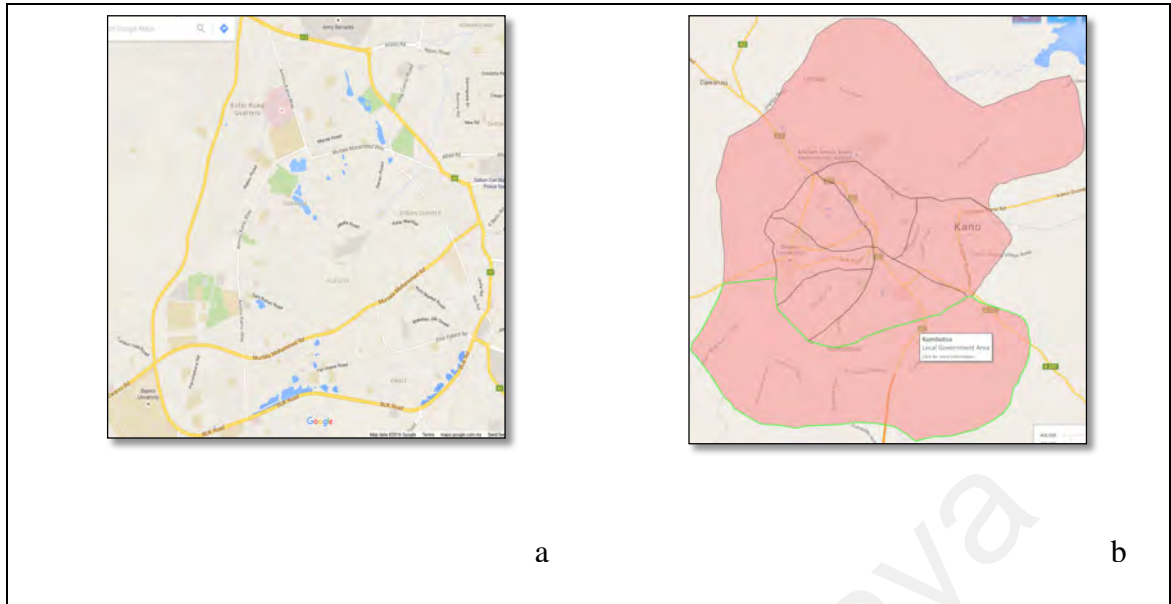
**Figure 1.4:** a) Kano metropolitan boundary (left), b) Case -SA, and –SB within Ungogo (top right) and Kumbotso local government (down right)

## 1.6      Overview of Research Methodology

The research approach employed is premised on the evidence from a subjective epistemology that is gained from the mobility experience of disabled people. This is about what they do, how they feel, and how they make meaning of what is happening to their life. Accordingly, it is neither intended to prove a point or falsify it. Rather, the research is designed to provide interpretation of the meaning persons with disabilities attached to their experience. Moreover, the research frontier is limited to the study area and therefore it is not a representation of what is happening in other settings. The study is mainly subjectivist and qualitative in nature. The methods adopted for the research, therefore, are "soft" in their approach, descriptive and deductive.

In order to find out what is already known, relevant works of literature were reviewed including the eminent work of (Shakespeare) and (Michael Oliver) concerning disability related matters. (Kitchin) and (Gleeson) provided an accessibility related discussions from a geographical background and were immensely utilized. The scholarly works of (R. Imrie) also with geography and planning background provided

an insight into architecture related matters. Architects that pay their tribute to the unexplored world of disability, used in this research include (Holmes-Siedle), (Goldsmith), and (Heylighen *et al.*).

The methodology of the study follows the social constructivist perspective using multiple embedded approaches, which is instrumental rather than intrinsic in nature. It is worth noting that to the researcher, the experience of disability is unknown. As such, the role of the researcher as discussed in (1.3.2) is to become a facilitator. Therefore, concurrently acting in a supporting position to make a case for disabled people living in a disabling environment. Thus, the two units of analysis are disabled people experience and the disabling environment.

Multiple methods employed are in three parts. Documents review, semi-structured interview, and physical observation in form of accessibility audit checklist (PAAC), which consist of physical observation of critical areas. The documents review focus on gaining a better understanding of the persons with disabilities rights and needs in the Nigerian context and beyond. The interview, which is the primary method of data collection, is circumscribed around answering the main research questions. The semi-structured questions steered the interviews conducted with the visually, walking and hearing impaired people and the stakeholders consisting of administrators and designers of the built environment. The participants were selected following snowball-sampling technique. Data generated from the interviews are analysed using interpretative phenomenological approaches. Cross case and within case analysis was aided by NVivo version 10 to expose a replication logic.  The PAAC consisting of physical observation are meant to add strength to the validity of the study. Thus, triangulation of sources and methods are presented in a form of multiple pieces of evidence. This supports the

developed model meant to overcome the barrier to disabled peoples' mobility in the tertiary institutions of Kano, Nigeria.

## 1.7 Contribution to Knowledge

The study proposed a model for overcoming barriers that affect persons with disabilities inclusive mobility in higher education built environment. A view was created afterward that initiates recommendations to decrease or eliminate the mobility restrictive barriers from and within the campus built environment. Thus, the following areas are some of the contributions to the general body of knowledge:

1. Nigeria has had inclusive policies for persons with disabilities for a couple of decades, whose implementation will bring a positive benefit to persons with disabilities and the society at large. How does the implementation or lack of it affect the livelihood of persons with disabilities? Under this auspices, the study exposed how and why the phenomenon occurs. Thus, the study opens a pioneer platform that advocates for a more inclusive environment through policy implementation in the study context.

2. In order to generate a functional and befitting design for the client and users', architects and other designers of the built environment works on the client brief. In this context, knowledge of the mobility experience of persons with disabilities and associated challenges can be incorporated into the National Building Code. Subsequently, the study may serve as a guide for the production of a state of the art architectural design guidelines.

3. This research is original in the Nigerian context and a pioneer to have incorporated the perspective of persons with disabilities in the research process concerning the built environment. Thus, the research is "with" disabled people rather than "on" disabled people.

4. In addition, the study may help in promoting positive awareness about our attitudes towards disability. Similarly, it will enable those in power to fulfil their promises of making the environment, especially the built environment, safe and usable for everyone including persons with disabilities.

5. Incorporating the experience of persons with disabilities from this corner of the world can help enrich the global viewpoint with shades of variations as perceived to influence a local context and motivates its replication elsewhere.

## 1.8 Structure of the Thesis

The thesis is organised in the traditional monograph structure into chapters. In between "*front matters*" containing the preliminaries and "*the back matters*" comprising of references and appendices are the chapters.

### 1.8.1 Chapter 2: Literature Review

The first part of the chapter gives an explanation on the basic rudiments of the study, such as the terminologies used in the research. A critical review of the literature was made in four stages. Stage one examined the policy relevance in the creation of an enabling/disabling environment. Stage two dwelled on physical built environment and the concepts that include disabled people globally. Stage three centred on the social environment to examine attitudes towards disability and disabled people. Stage four concentrated on disabled people and their interaction with the built environment. A theoretical framework was employed following the social ecological model in four stages as mentioned above. Finally, a conceptual framework to help guide the research was advanced.

### 1.8.2 Chapter 3: Methodology

The chapter traces the philosophical framework, which leads to the selection of qualitative case study research design, protocol, and approach as well as research

settings and samples. The sub-topics in the chapter described and explained the ontological drivers, epistemological underpinnings, theories, methodology, and methods as they relate to individual research questions. Finally, data collection and analysis as iterative processes followed by the limitation, delimitations, and discussions on the issues of trustworthiness are presented.

### 1.8.3 Chapter 4: Presentation of Findings

The chapter presents an empirical description of findings without interpretation. It presents a within case scenario of the two case studies. Thus the chapter is segmented into two sections, a section for each case study site. Findings were mainly generated from semi-structured interviews and PAAC, which consist of a physical assessment of facilities and documentation of existing critical areas in the form of physical observations.

### 1.8.4 Chapter 5: Cross-Case Analysis, Synthesis, and Interpretations

The chapter presents a critical discussion attached to the subjective meanings of the individual findings. Cross-case analysis of case study-1 and -2 was designed to reveal similarity and differences across study participants and sites. The synthesis was made of the study findings with collected data. Interpretative Phenomenological Approach (IPA) utilizes in the study is aided by computer assisted qualitative data analysis (CAQDAS), in particular, NVivo Version 10 software.

### 1.8.5 Chapter 6: Discussions on Findings

The discussion is presented with contextual implications as it relates to the study objectives. The arguments warranted by the study findings were synthesised into a model for overcoming the barriers to inclusive mobility in the Nigerian context guided by the conceptual framework of the study. Thus, the emerging findings reflect the study

objectives and theories as they relate to other works of literature in a form of triangulation.

### 1.8.6    Chapter 7: Recommendations and Conclusion

By way of conclusion, the chapter summarises what the thesis is all about through presentation of the findings with at least a conclusion per outcome. Achievement of the research is then discussed with policy implications and recommendations warranted by the study findings. These include a recommendation for future studies in line with the research limitations. Limitations and delimitations in the form of a thrust for additional studies are highlighted. Lastly, final words as concluding remark are presented.

### 1.9    Summary and Link

The initial chapter introduces basis for the research focus on the phenomenon of exclusion as understood by disabled people experiencing it. Thus, the units of analysis comprised of disabled people and a disabling environment. The research looked into the how and the why of the disablement processes. The aim is to advance a model on how to overcome the disablement through understanding the disabled people requirements in navigating the built environment. The identification of those barriers and their impact on persons with disabilities is important in the development of a useful strategy to overcome the identified problems. Thus, qualitative methodology is adapted in line with the gap identified in the literature. This provides first-hand information on how and why the barrier influences persons with disabilities staff and student's inclusive mobility. In addition, the role of the non-disabled researcher in disability research is presented. Finally, the chapter presents the summary outline of the study chapters from the study background.

The succeeding chapter is a review of related works. Issues related to *"overcoming the barriers to inclusive mobility"* and *"the experience of disabled people in tertiary institutions"* is discussed. Accordingly, the chapter begins with a note on key terminologies, presentation of the ideal situation in the form of global literature review and focuses on the existing reality through review of the contextual literature. Finally, a gap is established as dictated by the review and therefore a conceptual framework to guide the study is advanced.

**CHAPTER 2: LITERATURE REVIEW**

## 2.1 Introduction

The chapter reviews available literature related to *"barriers to inclusive mobility"* and *"the experience of disabled people in tertiary institutions"*. It begins with a note on key terminologies. The literature review also outlines the understanding of two key issues, with regards to an enabling and disabling environment for persons with disabilities. Specifically, this mobility focuses on the needs of the hearing, the visual and the walking impaired, because they experienced an unparalleled barrier to inclusive mobility when their requirements are not taken into consideration. As an instance, the requirement of visually impaired persons is under-researched in the literature (Rooney, 2014). Even though it is feasible to include people with cognitive impairment, their exclusion from this research is based on the premise that the complex evaluation of their needs is at present in need of clarification for its acceptability by the industry and practice as well as the policy makers (Hadjri et al., 2016).

Whatever is good for the disabled is good for everyone. Thus, following the bottom up approach to universal design, whatever satisfies the requirement of these three groups of persons with disabilities (the hearing, the visual and the walking impaired) will satisfy most of the population.

The chapter is structured in three parts. The first part outlines on disabled people and the struggle for physical and social inclusion in and within the environment. The environment is both physical such as the built environment and social which includes the people's attitude. The second section centred on the understanding of disability and the disabling environment through the conceptualization of man-environmental relationship. The third part of the chapter provides a conceptual framework to guide the study.

## 2.2    The Basic Rudiments

### 2.2.1    Disability and Disabled People

The shade of meaning a language may convey, though may seem insignificant can portray a deeply rooted set of derogatory and ideological dispositions of the society towards a particular group of people. Ware (2004), belief is that such negative connotations with exclusionary tendencies need to be resisted. Phrases like "special education" or "special needs" have been vehemently contested. Such terminologies represent a devalued exclusionary undertone, with a tendency to build a mind-set that perpetuates isolation (Mittler, 2012). Accordingly, Ainscow, Farrell, and Tweddle (2000) and Mittler (2012) opined that the concept of special education has to be abolished because it projects an image of difference as compared to the mainstream in a way, that is not valued. The terminologies are avoided in this work, unless when unavoidably referencing the works of others, in which case they are cited in quotes. Old "medical model" styles of definitions by WHO, was disregarded:

*"Impairment: as any loss or abnormality of psychological, physical or anatomical structure or function; Disability as any restriction or lack of ability to perform an activity in a manner or within the range considered normal for human being and; Handicap defined as a disadvantage for an individual, resulting from an impairment or ability, that limits or prevent the fulfilment of a role that is normal (depending on age, sex, and social and cultural factors) for that individual* (Holmes-Siedle, 1996) p.4.*

In their place, the British Council of Organization of Disabled People (BCODP)'s socially inclined definitions were prioritized, which stated that:

*"Impairment is lacking, part or all of a limb, or having a defective limb, organ or mechanism of a body. Disability is the disadvantage or restriction of activity caused by a contemporary social organization which takes no or little account of people who have physical impairments and thus exclude them from the mainstream of social activities"* (Holmes-Siedle, 1996) p.4.

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From the foregoing, impairment is a natural limitation on functioning that everyone is susceptible to. Disability, however, is the result of the artificial response of the society to the body functioning limitations. Wherever disability is regarded as an individual problem- in the medical model, execution of a task or action by an individual becomes difficult; activity limitation results (Shakespeare & Officer, 2011). Moreover, a disabling environment is a setting that incapacitates or imposes some difficulties for people with impairment.

Scholars continued to be divided between the nomenclature and the concept of disability based on the sensitivity and power of human language. The language used to define people with impairment is still evolving. Numerous scholars used the term disabled people, disabled students, etc. Those opposing and criticizing these nomenclatures are of the view that the emphasis is on disabilities rather than human beings. Therefore, the preference is for the use of the term "people/persons with disabilities" or "students with disabilities (Lewthwaite, 2011). However, Oliver, (1990) is quoted in Lewthwaite (2011) rejecting this idea of people first, because the disability is recognized as a part of individual attributes. Yet, the impairment, which qualifies people with the impairment to be regarded as persons with disabilities is not based on their inability. In this research "disabled people" and "persons with disabilities" are used interchangeably for the fact that the study participants use them both.

### 2.2.2    Enabling and Disabling Space for Inclusion/ Exclusion of Disabled People

**Enabling Space:** Commitment to a comprehensive civil right for persons with disabilities is realizable in the provision of enabling space. The enabling space, therefore, is an accessible space, which describes a facility, structure, building, or pedestrian path, as well as public transport and transport facilities, which a person with impairment can Reach, Enter, Circulate, and Use (RECU) independently with ease. The inaccessible as used in this research is a disabling space or a barrier-ridden environment that causes mobility restriction.

**Disabling Space:** Disabling space causes mobility restriction as a result of the hindrance, obstacle, or barrier, which restricts independent and easy movement. The access restriction can either be vertically or horizontally, around, inside or outside a facility or premises situated or placed temporarily or permanently along the access route (Goldsmith, 2000; Holmes-Siedle, 1996).

**Accessible Route** is a continuous unhindered pathway linking spaces and elements in buildings or facilities that can be negotiated safely by a person with impairment (Holmes-Siedle, 1996).

**Mobility** is an area of growing concern. Where accessibility relates to environment that is approachable, obtainable and attainable, *mobility by its nature is interactive, a fundamental human need, and an important component of achieving independence* (Albrecht & Neral, 2006). Thus, *mobility and movement are central to the socio-cultural identities of people, while mobility disability or inequality of movement pattern are restricted by a wider social or situational conditions, over which they have almost no control* (Imrie, 2000). For this research mobility is given prominence based on the researcher's background as an architect rather than general access to education.

Mobility is a one of the crucial aspects of independent living. Such that no participation in major life activities is possible without the ability to move from one place to another, including mobility in educational setting. Moreover, persons with disabilities need to be able to make use of physical built environment (PBE). Persons with disabilities use buildings and other facilities effectively when access and accessibility are provided. Over the last few decades, several countries around the world took steps towards affording access and accessibility to people with diverse socio-economic backgrounds. These equity struggles, however, is just beginning to reach persons with disabilities, especially in the developing countries, more so in Africa. The

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United Nation convention on the rights of persons with disabilities (UNCRPD) to which Nigeria is a signatory stipulated that persons with disabilities are entitled to equal treatment with regards to the provision of access to goods, services, facilities and places. Since 1993 it is illegal for services providers including architects and environmental designers to provide services without taking the requirements of persons with disabilities into consideration. It has become imperative for designers to take reasonable steps to change practices, processes, and policies, which do not recognize persons with disabilities as users of the facilities and services. The consequence of such lack of consideration resulted in making it impossible or unreasonably difficult for persons with disabilities to use facilities and services, which non-disabled people take for granted.

With few notable exceptions, the African built environment is barrier ridden, partly because of the lack of awareness and insensitivity to the plight and needs of persons with disabilities. The social attitudes of the societies and the physical environment and facilities conceived without the requirements of persons with disabilities negatively affect the persons with disabilities. Thus, largely, overcoming the barriers to the inclusion of persons with disabilities depends on the government commitment at the policy level.

## 2.3 Enabling/ Disabling Built Environment and the Relevance of Policy

One of the key aspects of having an inclusive environment relies on having a sound and workable policies followed by implementation commitments. The policies include international, national, local and institutional. Auditing board is also important and it includes researchers that assessed the policy implementation coverage. Nigeria having signed and ratified the United Nation convention on the rights of persons with disabilities (UNCRPD) in 2007 and 2010 respectively has undertaken the responsibility

of bringing persons with disabilities into the mainstream. In addition to UNCRPD Nigeria promulgated Nigeria with Disability Decree (NDD, 1993).

National disability policies are offshoots of international policies; meant to accommodate and guarantee access to the persons with disabilities. This includes access to Education, employment, transportation, buildings, leisure activities, sports and public spaces in general. The policy guaranteed a barrier-free environment for persons with disabilities. Sensory disabled are the visually impaired and the partially sighted. Mobility impaired includes a mother-pram pusher, elderly and senior citizens and the people with a walking impairment, crutch, and cane users as well as the wheelchair users. To attain a disability friendly nation status requirement differs from country to country. Legislations are highly developed in countries such as the UK and USA, Germany, and Canada. Countries like Singapore, Malaysia, and South Africa with relatively lower per capital expenditure may provide a promising practical approach.

### 2.3.1 The Mobility Rights of Persons with Disabilities as Contained in the Disability Policy

An individual person with disabilities has the right to integrate into the national economy, to enjoy medical support, and get access to education. Similarly, persons with disabilities are guaranteed employment opportunity and equality in treatment. Table 2.1 presents the persons with disabilities for inclusion as provided in the policy documents promulgated in Nigerian.

**Table 2.1:** Documents review of national disability decrees

| Policy rights | Policy provisions in the Nigerian with disability decree (NDD) |
|---|---|
| **persons with disabilities** has right Integration into the national economy | *"The government shall ensure within the context of political, economic and social idea and an objective that disabled are fully integrated into the national economy- Section 8 (NDD)* |
| **persons with disabilities** has right to enjoy medical support | *"Public health institutions should provide free medical and health services including general medical needs- Section 8 (NDD)* |
| **persons with disabilities** has right to education | *Disabled persons are provided equal and adequate education- Section 2 (NDD)* |
| | *.... Disabled persons should be provided in all public educational institutions free education at all levels... Government organs and authorities shall ensure; adequate training for personnel to cater for the educational development of disabled in educational institutions... promote socialized institutions that will facilitate research and development of disabled- Section 5 (NDD)* |
| | *"Government must ensure the education system at all levels is inclusive and geared towards supporting disabled people to achieve their full potential and participate equally in society... disabled people should be able to achieve their full potential and participate equally in society. Disabled people must not be excluded from the general education system (at any level) because of their disability. Disabled people have rights to reasonable adjustments and extra support to take part in education- (Article 24, UN CRPD)* |
| | *... Free educations for disabled, at all levels in the public educational institutions, are guaranteed. While government should ensure that no less than 10% of all educational expenditures are committed to the educational needs of the disabled at all levels- Section 5 (NDD)* |
| **persons with disabilities** has right to employment | *The government shall take measures to promote the employment of disabled accordingly... skills to enhance the potential of* persons with disabilities *should be established in all government areas... guidance and counselling shall be available to the disabled" ... no less than 10% of the workforce shall be reserved for disabled.... Private employees who employ disabled employees are entitled 15% of all payable tax deductions- Section 6 (NDD)* |
| **persons with disabilities** has right to equality of treatment | *Disabled persons shall be guaranteed as equal to other Nigerians for all purposes in the Federal Republic of Nigeria. Accordingly, it should be the duty and responsibility of organs of government and of all authorities and persons to adopt and promote policies that will ensure full integration of the disabled into the mainstream of the society.... Disabled persons are provided an equal and adequate opportunity in education (Section 2: NDD).* |
| | *Disabled persons are not discriminated in all sporting and rehabilitation facilities (Section 11: NDD).* |
| | *Equality and non-discrimination (Article 5: UN CRPD)* |
| | *Governments should recognize that disabled women and girls face more discrimination (worse treatment) - (Article 6: s UN CRPD).* |

Source: Author's compilation

The laws assured taking immediate action to raise awareness of the persons with disabilities positive values, guaranteed persons with disabilities right to choose where to live and independently. The table represents the policy directives in these regards Table 2.2

**Table 2.2:** Documents review of disability decrees- UNCRPD

| Policy rights | Policy provisions in the UNCRPD |
|---|---|
| Promote awareness of the **persons with disabilities**' positive values | *Government should take immediate, effective and appropriate steps to raise awareness through society, including at the family level and to encourage respect for disabled people. Eliminate prejudice and abuse against disabled people. Raise awareness of the value of the contribution disabled people makes to society (Article 8: UN CRPD).* |
| **persons with disabilities** has right to choose where to live | *Disabled people have an equal right to live and take part in the community... the government should do everything they can to ensure disabled people enjoy the right... to choose where they live and whom they live with... disabled people should enjoy a wide range of support services... including personal assistance to prevent isolation and support inclusion.... Disabled people can access the same community service as everyone else (Article 19, UN CRPD).* |
| | *Government must take effective steps to enable disabled people to maximize independence, develop their independent living and work skills and manage their impairment or health condition. Government must make sure disabled people have access to services, which are available as soon as people need, them and as close as possible to where people live (Article 26, UN CRPD).* |
| **persons with disabilities** has right to live independently | *Section "To enable people to live independently and take part in all areas of life Governments should take action to ensure accessibility, equal to that of non-disabled people. This includes taking action in relation to the built environment, Transport, Public services, Housing as well as Information and communication services and Emergency services"* |

Source: Author's compilation

Persons with disabilities mobility and transportation are assured. In addition to that, accessibility rights adaptation of all institutions, public facilities such as telecommunications services as well as the education built environment to serve the needs of persons with disabilities as much as possible Table 2.3.

**Table 2.3:** Documents review of disability decrees (continues)

| Policy rights | Policy provisions in the Nigerian with disability decree/UN CRPD |
|---|---|
| **persons with disabilities** has right to mobility and transportation | *The government shall ensure "Access and mobility within its facilities" (Section 8: NDD). A disabled person shall be entitled to free transportation by bus, rail or any other conveyance (other than air transport) ... priority shall be given to the disabled in all publicly supported transport systems. Accordingly, reasonable number of seats shall be reserved solely for the use of the disabled (Section 9: NDD).* |
| | *"Government should do everything to ensure disabled people can get around as independently as possible including.... Travelling when they want at a price they can afford, ensuring people have access to quality, affordable mobility aids. Including new technology or help from other people to help them get around... providing mobility training to disabled people and staff working with them, encouraging manufacturers of mobility aids and technologies to think about all aspects of mobility for disabled persons" (Article 20, UN CRPD).* |
| | *All public transportation system shall take steps to adapt required fittings for the needs of the disabled (Section 9: NDD).* |
| **persons with disabilities** has accessibility rights | *To enable disabled people to live independently and take part in all areas of life government should take action to ensure accessibility, equal to that of nondisabled people. This includes taking action in relation to the built environment, transport, public services or facilities, housing as well as information and communication services, and emergency services. Government should take steps to develop and monitor minimum access standard and guidelines for public services and facilities. Improve facilities in "easy read and Braille"... ensure assistance and sign language interpreters (Article 9, UN CRPD).* |
| Structural adaptation of all institutions | *Government should ensure the:" Structural adaptation of all institutions at all levels" (Section 5:3:2: NDD)* |
| | *"Improve University education facilities to ensure maximum benefit for the disabled" (Section 5:4:2:5: NDD)* |
| | *"Housing access and accessibilities" (Section 7: NDD)* |
| | *"Accessibility to public institutions and facilities are hereby guaranteed to the disabled" (Section 8.1: NDD)* |
| | *Governments shall provide: adequate mobility within its facilities and Suitable exit for* persons with disabilities *(Section 8.2: NDD)* |
| | *The government shall ensure the structural adaptation of all educational institutions to the needs of the disabled as much as possible.... Improvement of facilities and equipment in educational institutions to facilitate the education of the disabled... improvement of university education facilities to ensure the maxim benefit of university education for the disabled (Section 11: NDD).* |
| **persons with disabilities** has an accessibility right to telecommunication services | *Telecommunication "facilities are guaranteed under this Act,. Sign language in programs with national significance, provide at reasonable price devices for hearing impaired and free postal services for* persons with disabilities *.... All telephone companies shall provide at a reasonable price, special telephone devices for the hearing impaired. (Section 12: NDD, 1993)* |

Source: Author's compilation

**Table 2.4:** Documents review of disability decrees (continues)

| Policy rights | Policy provisions in the Nigerian with disability decree/UN CRPD |
|---|---|
| **persons with disabilities** has right to a reasonable and subsidized accommodation | *"Reasonable subsidized accommodation for the disabled, apportion for* persons with disabilities *not less than 10% of all public houses. Improvement of existing housing facility in order to render them accessible for disabled (Section 7: NDD).* |
| Provide and monitor minimum accessibility standard | *Section 9 continued:*<br><br>*Government should take steps and: (1) "Develop and monitor minimum access standards guidelines for public services and facilities. (2) Ensure that the private sector makes services accessible to members of the public. (3) Provide accessibility training. (4) Ensure signs in public buildings are in easy read and Braille. (5) Ensure more assistance and sign language interpreters are available to support access to public buildings and facilities. (6) Promote accessible information and access to information and communication technology for the disabled; from the start, these are designed to be accessible to, and easy to use for disabled people (Article 9)* |
| **persons with disabilities** has access right to information | *Government should take steps to ensure that disabled people can express their views freely and access information on an equal basis with everyone else by doing things like; providing disabled people with information in accessible format and technology at no extra cost and in a timely way. Urging private sectors including the media to provide accessible information and accessible websites and make their services accessible (Article 21: UN CRPD).* |
| | *Disabled people have the right to access books, films... in accessible formats, for example (book in large prints), and disabled people have the right to access libraries, theatres... and develop their creative potentials (Article 30, UN CRPD).* |
| **persons with disabilities** has right to special needs provisions | *Take into consideration special needs and requirements of the disabled in the formulation, design of educational policy and programs (Section 5: NDD, 199), and promote specialized institutions that will facilitate research and development of education of the disabled.* |

Source: Author's compilation

The policies guaranteed persons with disabilities right to information and communication, subsidized accommodation, and access to special needs provisions as well as monitoring access standard guidelines. Table 2.4 presents the policy statements.

### 2.3.2 Enabling Environment for Disabled Persons and the Relevance of National Building Regulations

A review of selected codes on access and accessibility standards following the concept of Universal Design was prepared by Betty Dion Enterprises Ltd (C. H. R. Commission, 2007). The study makes a comparison between Canadian building and landscape B651-M95 Barrier-free design standards with that of U.K., U.S., China, Japan, Australia, the Nordic countries and Fiji (C. H. R. Commission, 2007). Consequently, the C. H. R. Commission (2007), identified about half the countries of the world, having access criteria for either a separate accessibility or integrated within the national building codes.

A thorough review and analysis were made consisting of thirty-one design elements from both the developed and the developing countries by a committee of an expert panel. The committee observed that the best practice was not necessarily the cheapest or with largest dimension. Other conditions such as construction and implementation procedures are equally important in judging the success of access criteria. Nigerian disability decree guaranteed persons with disabilities accessibility rights into the built environment. The NBC and the NDD are not in synchrony. This may have an effect on the on persons with disabilities inclusive requirements as seen in the findings of this study. Comparison between the two policy documents shows a clear disparity as presented in (Table 2.5).

**Table 2.5:** Connection between disability and accessibility policies

| Disability Policy: NDD 1993 | Accessibility policy: Nigerian NBC |
|---|---|
| Section 1: General Principles- clear and comprehensive legal security…. Standards for enforcement applicable to disabled in Nigeria | |
| Section 2: Declaration of policy- disabled guaranteed equal treatment… for all purposes... All authorities to adopt policies and ensure full integration and mainstreamed of **persons with disabilities** | *Except the ramps required for the physically challenged maximum gradient should be one unit vertical eight units' horizontal* |
| (d) Purchase, transfer or gifts to **persons with disabilities** devoid of levies or tax | |
| Section 5: Education- free education at all levels | |
| 5.3.2-structural adaptation of all educational institutions at all levels | *Access to additional floor without public facilities are not required (p. 82)* |
| 5.4.2.1 - Provision of special needs of the disabled | *"Physical impairment which limits their ability to use building effectively"* |
| 5.4.2.2 - Establish a national institute of special education to facilitate the needs of the disabled | *People suffering physical limitation need access to "medical facilities and other care or treatment"* |
| 5.4.2.5 Improve University educational facilities to ensure maximum benefit of the disabled- | *Ramps for physically challenged should have rail... places of assembly and education shall have not less than two seating arrangements for persons in wheelchairs* |
| "Government shall ensure that no less than 10% of all educational expenditures are committed to the educational needs of the disabled at all levels" | *Provide equal opportunity* |
| Section 7: Housing: Reasonable subsidized accommodation for the disabled, apportion for **persons with disabilities** not less than 10% of all public houses. Improvement of existing housing facility in order to render them accessible to disabled (section 7: NDD) | *Where there is "more than twenty dwelling units, at least one should be allocated to the physically handicapped".* |
| Section 8: Accessibility- 8.1- "accessibility into the public institutions and facilities is hereby guaranteed for the disabled" | *Where access by physically challenged is required... at least one... separate facility... shall comply with the requirements* |
| 8.2- governments shall provide (a) adequate mobility within its facilities (b) suitable exits for the disabled | *Elevators must be provided for the physically handicapped as indicated (p. 176)* |
| Section 12: Telecommunication: Facilities are guaranteed under this act: (a) Sign language in programs with national significance (b) provide at reasonable price devices for hearing impaired (c) free postal | |

Source: Author's compilation

### 2.3.3 Enabling Environment for Disabled People and the Relevance of Institutional Policies

Karlan & Rutherglen, (1996), recommended the concept of reasonable accommodation to overcome the barriers to the participation of persons with disabilities in different aspects of life. Example, in sporting, employment and above all educational domains (Croft, 2013). Reasonable accommodation for persons with disabilities entails modification to the existing and conceptualization of the new where appropriate Karlan & Rutherglen, (1996). Thus, the concept of reasonable adjustment became an integral part of American Disability Discrimination Act (Cooper, 1991), and a legal obligation in British disability law and many other nation's policy frameworks.

### 2.4 Design Concepts that Include Persons with Disabilities

A review of the typical concepts that include persons with disabilities shows several examples with a promise that may prove adaptable, but with little modification. In most countries, the concepts are in the form of accessibility code to guide the academics and practitioners. For example, the recent Accessibility code of Singapore is comprehensive and was the driver behind the observable improvement in Singapore. The concept employed in the accessibility code of Singapore prioritizes the principles of Universal Design (UD) (BCC, 2013). Thus, the national document has fully incorporated the perspective of disabled users.

Whereas the lines of an accessible built environment are strictly standardized and conventionalized, universal design gave birth to a much more flexible and user-centred approach. In other words, accessibility is only one subset of universal design. Accessibility can generate integrating the on-going needs of the users, but the universal design is strictly user-centred. Thus, the inclusive design will always contain access solutions, while accessible design focuses on satisfying building regulations and

guidelines. Thus, where the building regulation is all inclusive of the needs of disabled persons with different impairments, in such cases the difference between accessible and inclusive design may become slim. Where the national building code on access and accessibility is deficient or even totally absent, however, the inclusive approach herein called Universal Design (UD) may prove the best practical way towards persons with disabilities integration.

## 2.5 The Concept of Universal Design

The term Universal Design (UD) associated with the American architect Ronald Mace in 1985 (Afacan & Elsevier Science, 2011; Ostroff, 2001), evolved as a possibility that attempt to go beyond the minimum standards (to create a design) that is sensitive to the needs and therefore usable by the largest number of users throughout the variety of life changing circumstances. The practice involves expanding the accommodating considerations of normal provisions. By so doing, it reduces the need for a special provision to be made for persons with disabilities. Thus, with UD concept threats from the architectural disabilities are minimised if not eliminated. To ensure the concept of UD is met, a top-down approach to design should be replaced with a bottom-up-approach (Goldsmith, 2000).

As the appellation implies, UD is a holistic approach attributed to American architect Ronald Mace in 1985 (Afacan & Elsevier Science, 2011; Ostroff, 2001). Ever since UD has been accepted widely and implemented all over the world, it becomes a hallmark of inclusive design and "design for all" (Story, Mueller, & Mace, 1998). Mace describes UD as a design of building and products that are to incorporate the requirements of the majority of people as much as may be practically possible (Preiser, 2003). Thus, UD disregard age difference, ability, or social status of the users. One of the leading proponents of universal design tenants is architect Selwyn (Selwyn, 1967) whose work

preceded all others in defining free access for the disabled Goldsmith (2000). UD is considered by the Centre for Universal Design to be the best possible approach to serving people in any field through the incorporation of access for everyone (Afacan & Elsevier Science, 2011; Story et al., 1998).

### 2.5.1 Bottom-up Approaches to Universal Design

The bottom-up approach to universal design is a method employed in practice and designs with imaginary clients(s) and user(s) with varying functioning limitations and therefore accessibility requirements. Studies indicated that following a bottom-up approach to universal design at the conceptualization stage eliminate the need for a modification, adjustment or a separate provision for persons with disabilities. Ultimately, there is no conclusive proof that buildings conceived in top-down are less expensive when compared to those conceived with a bottom-up approach to universal design.

### 2.5.2 The Principles of Universal Design

Universal design is a term, which led to the creation of a set of principles that applicable to a wide range of design disciplines. While not all the principles may be relevant to all designs, they are useful to evaluate existing designs and help in the design process of new products. They were drawn up in 1995 and were initially 10 principles that were quickly refined into the seven principles of universal design (Connell et al., 1997; Watchorn, Larkin, Ang, & Hitch, 2013). The principles have definitions and guidelines.

### 2.5.3 Equity: Improve Access and Accessibility in all Domains

Universally appropriated and practiced measures foster physical and social inclusion of persons with disabilities, as stipulated by international and national policies. They include improving awareness, access and accessibility to different environmental

domains (Tinklin et al., 2004). To such an extent that improving access, and accessibility in one domain without another is tantamount to discarding important human right element. This is because the domains are related and interconnected- such that persons with disabilities will not be fully involved when a good portion of the environment remains inaccessible (WHO, 2011).

### 2.5.4    Accessibility in the External Environment

Providing physical accessibility in the external environment is as important as in the internal environment. For a visioning approach, viewing the futures of sustainable transportation relies on a constructivist approach, which prioritises the society's perception over the scientific prediction (Tight et al., 2011). Thus an inclusive planning cognizant of people's perception should provide equal opportunity for pedestrian and car users (Mullen, Tight, Whiteing, & Jopson, 2014). Literature shows that priority is usually to car users over the pedestrian in most study contexts. Conversely, pedestrian access hardly considers disabled people such as the wheelchair and the tactile users. Nonetheless, the external connection between spaces in the environment involves an access link chain from one destination to another (Figure 2.1). A comprehensive review of accessibility provision from the best practices (BCA Code, 2013; Goldsmith, 2000; Holmes-Siedle, 1996) for persons with disability revealed that environmental domains are interconnected such that providing access in any one domain and not the other is tantamount to not providing the accessibility altogether (WHO, 2011).  Connectivity between buildings is very important for the visually impaired and the wheelchair users. Specifically, the visually impaired rely so much on the use of tactile strip around buildings for their mobility inclusive requirements.
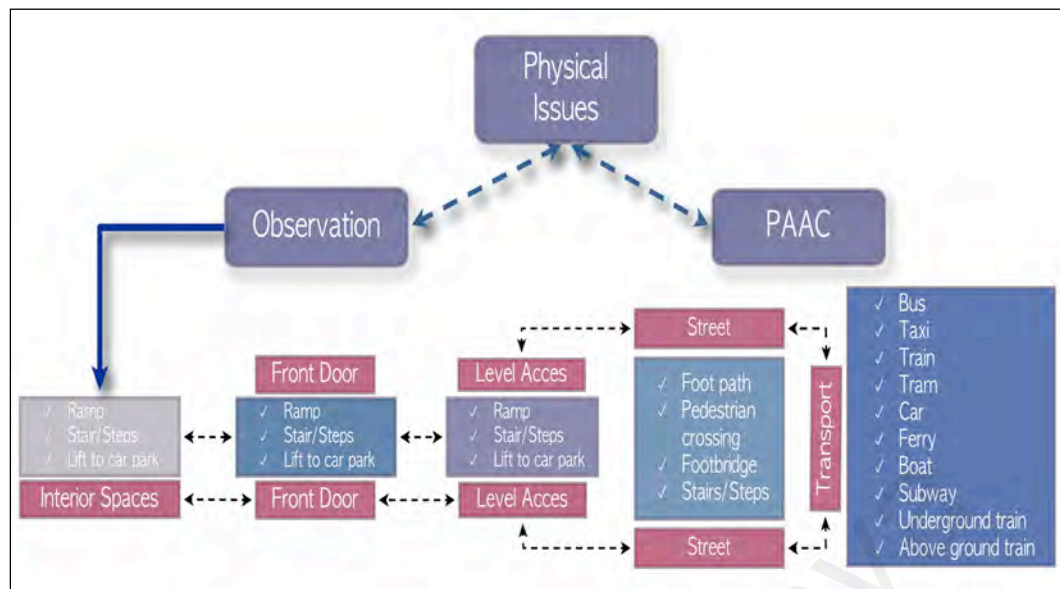
**Figure 2.1:** Accessibility barrier elements in the external environment

Source: (Access: Accessibility and safety research centre, 2002)

## 2.6    Persons with Disabilities and the Disabling Physical Built Environment

No one is free from facing the barriers. These barriers could be physical or psychological. Thus, some barriers are unavoidable. Yet many are intentionally placed or situated in our path and are avoidable. There are barriers that are necessary and intentionally placed for a reason. An example includes traffic separators, safety barriers, and water and security exclusion barriers. Equal status in affording access to persons with disabilities in both theory and practice may be associated with the planning, Architecture and the design of products and environments (Aslaksen, Bergh, Bringa, & Heggem, 1997).

### 2.6.1    Demand for Equal Access to the Built Environment

The demand for equal status for disabled people entails giving equal treatment at the design stage. This has not reached a realization status in most study locations because of either lack of knowledge of possible solutions or prior differences. The prohibition against discrimination in America becomes strong in 1990 (Lindberg 1996) in

(Aslaksen et al., 1997). From then on, access into a public building in general and the education building, in particular, is integrated into the social dimension. Not only physical structure should be made accessible, but policy and services within each public space according to ADA- legislative mandate.

### 2.6.2 Equitable Access through Planning

Planning wise, the environment should include activities and facilities for diverse groups of the population. Central to the inclusive goal of planning process a designer at the city scale is to have a wider understanding of the relationship between the subject and the objects, meaning to say human users and the environment. Inclusive perspective on the planning stage entails the adoption and affording accessibility with a user-participation approach (Aslaksen et al., 1997).

Aslaksen et al. (1997), continued, in his belief, the planning priority is evolving. Early planning was inclined towards solving the problems associated with defence, fire safety, and sanitary conditions. Last 50-60 years witness a shift in emphasis towards planning for economic growth, full employment, and the living condition equalization. The last 10-20 years, however, witness yet another shift in emphasis towards a global culture of inclusion. Planning in that era is beginning to be oriented to be cognizant of the environment, women, sustainability, children and youth and then older people (Aslaksen et al., 1997). Recently, planning is about social inclusion of people with disabilities.

### 2.6.3 Architectural Disabilities

Historically, architects and designers of the built environment have continued to use the Leonardo de Vinci's *"average man"* as guidelines for their work. It has become the basic model on which the majority of designs are based. Yet, there is no such thing as the average man. One of the most influential works on architecture is the Le Corbusier's

"Le Modular concept", based on the same principles, which recognize "male adult" as the ideal proportion and therefore provides the yardstick for architectural anthropometry. A trend continues to provide a framework for assessing and assigning dimension of a building and their constituent parts. This character of the globalisation of architectural vocabulary resulted into a ranging survey, which unfortunately marginalized and excludes disabled people (Iwarsson & Ståhl, 2003). As an example, Neufert (2012), began in 1926 painstakingly to collect the experience gain in varied practices and teaching of architecture and developed a theory of planning based on the human proportion of an average man.

Consequently, the opening pages of Ernst's monumental book "The architect data" depicted Leonardo de Vinci's "average man" as the parameter for setting architectural design standards in the world. Ernst may be blameless for following an established trend. However, in a book that became the standard reference material for a spatial conceptualisation of architectural space till date is an indication of architect's obsession with the use of "abled-male-body" to dictate the scale and proportion of the building and planning of architectural space. This universal practice is a detrimental exclusion of disabled bodies' right from the design stage.
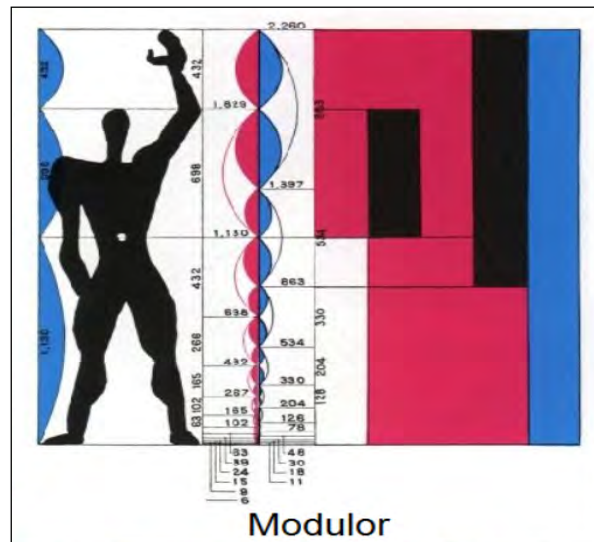
**Figure 2.2:** Le Corbusier, the Modular Man, 1925

Source: (Sawadsri, 2011; Siebers, 2003)

Not only do the influential theories and practices of architectural space fail to identify with the diversity in appearance, size, and shape, but also as Rob Imrie (2003) pointed out: the perceptual uniqueness of the human person is so often ignored in architectural practices. The practice of scaling human body into standard geometrical parts paid much to the industrial mass production. Nonetheless, Imrie (1999) persuasively argued out that Le Corbusier's modular man as a de- contextualization of the human body in favour of mass production that precludes the richness of persons with disabilities quality of life. Building in the era of "*mechanical civilization*" in the words of Le Corbusier is a machine for living in (Corbusier, 1931).

The idea that building ought as a matter, of course, to be accessible to disabled people is regarded as a new one (Goldsmith, 2000). One of the first published works that became the standard textbook for practicing architect is the Royal Institute of British Architect (RIBA) publication titled: *Designing for disabled* published in 1963 is (Selwyn, 1967). The book is reflecting the presumption that it is appropriate to conceive

a building in a normal "top-down approach" and then updated with disabled peoples' physical requirements like an afterthought. Thus, like the medical model architects are required to make an architectural prescription. This has been admitted by the writer himself; in his words: like an "*adds-on to an already non-disabled architecture*" in (Goldsmith, 2000). Drawing on the social model of disability, persons with disabilities suffered where buildings are without their inclusive requirement, which makes it impossible or very difficult to use. Persons with disabilities would not become disabled or subject of exclusion and discrimination had the building been designed to include their needs. The less holistic solution conceived the building with a specialized approach and it is the normal practice. The holistic approach is the bottom-up approach to universal design.

### a) *Infrastructures Accessibility*

Participation restriction results from unavailable, inadequate or unusable accessibility infrastructure. Thus, discrimination may result from the lack of facilities or what Pivik, McComas, and Laflamme (2002) called pure architectural deficiencies. Concisely, there is an agreement that disability is socio-spatially constructed, thus, it possible to eliminate it.

### b) *Horizontal Mobility*

Horizontal mobility around a campus ought not to be lengthy from one destination to the other and there should be clearly defined walkways, directed to the desired destination (Tinklin et al., 2004). Facilities for the visually impaired such as tactile and Braille need to be put in place and without obstacles called street furniture. The pathways should also be spacious enough to accommodate a wheelchair (Raheja &

Suryawanshi, 2014). The surface finish is best made a slip resistant and rough (Holmes-Siedle, 1996).

### c)  *Vertical Mobility*

To achieve a vertical mobility not too steep ramps with balustrades intermittently are required. Elevators, escalator, and lifts are also useful for vertical mobility, but often expensive and difficult to maintain. Accordingly, the centrality of design and location is paramount at the design stage to avoid modification cost later. Thus, location, material, and specification are important to achieve vertical mobility in architectural design. Taking advantage of topography and steeped environmental feature in design is also a requirement with a promising result rather than to allow it to create an unnecessary difficulty to persons with disabilities.

### d)  *Internal Circulation*

Well-lighted internal circulation ought with both natural and artificial means is important. Furniture and workshops should be low enough to serve the convenience of wheelchair users. Provision of the multilevel worktop help provides alternative to persons with varying abilities and requirements. The door must not be excessively heavy to operate and ought to be wide enough to accommodate wheelchairs and the direction of its opening is very important especially in a public toilet (Goldsmith, 2000; Holmes-Siedle, 1996).

### e)  *Availability of Basic Services*

Central and basic services such as the cafeteria, toilets, bus stop, library, dormitories, theatre, and laboratories ought to be located at the ground level; otherwise, there is a need to provide a vertical mobility device such as a lift. The use of colour contrast is

useful to visually impaired persons with partial vision. The presence of directional signage- size, height, colour and illumination deeply influence way finding.

### f) Design of Products and Environment

The design is a term related to a vast area, which is difficult to define. It involves a way of putting the components together to achieve the best solution to a given problem. The solution ranges from aesthetic to function. Thus, the ability of a designer to come up with a simple solution to a technical and functional problem is what distinguished a good design. The relationship between industrial aesthetics and function dated back to Victorian times in England (1929-52). In the period of 1930-1950 designs becomes an institutionalized profession in the USA. However, unlike in architectural design, the design of products is used to underplay ergonomics as against the market research (Aslaksen et al., 1997). The challenge is, therefore, to make marketable products to as many people as necessary in product design.

## 2.7     Persons with Disabilities and the Enabling Social Environment

Disability issues are no longer about the exceptions. They are increasingly becoming the expectations as ageing takes its toll without discrimination, even in the healthiest of people (Carmona, 2010). Yet, P. Hall and Imrie (1999) observes that:

"*Most buildings are not wheelchair accessible and few contain sufficient tactile colouring or colour contrast to enable vision –impaired people to navigate with ease. The design of specific items, such as doors, handles, and toilets, are also standardized to the point whereby many people with the range of physiological and/ or mental impairments, find them impossible to use*" (Carmona, 2010; P. Hall & Imrie, 1999).

Understanding the phenomenon of exclusion is essential in providing an overarching basis for mobility disability experience by persons with disabilities. Thus,

knowledge about the why and the how a person with disabilities can experience mobility restriction is complex to itemize without an in-depth inquiry. Complexity and variation of disability experience are deeply rooted in attitudes and practices across ages and milieu (Akhidenor, 2007; Munyi, 2012; Watson & Woods, 2005). Nonetheless, some theories and models postulated may give an explanation as to why and how persons with disabilities experience exclusion in attitudes and practices, for example, the market model theory.

Market model theory encourages competition in the educational system to increase the standard rather than equity or fairness (Barton, 2013; Slee, 2001). This exclusionary market equilibrium according to Kearney (2009) and Slee (2001) gives preference to "students that add value to their schools rather than invite risk" (Kearney, 2009). Reinforcing this view, Ballard (1999) has the belief that the "take care of yourself" concept of "self-managing schools" is incompatible with an inclusive approach in New Zealand. In Australia, a similar conclusion has also been reached (Slee, 2001). In Britain, the examination system was reported to have led to the rejection and therefore the exclusion of students that fail, including disabled students because of the curriculum incompatibility (Searle, 2001). While persons with disabilities in Nigeria are mostly educated in publicly owned institutions, unlike in New Zealand and Australia, the exclusionary forces still need investigation.

### 2.7.1    Disabling Attitudes: Influence of Intra-Personal Factors

Intra-personal factors often become disabling and they can come in different ways. Congenital, accidental diseases and ageing aggravate or speed up debilitating effect on people. Older people are not necessarily disabled people but become more prone to such disabling conditions. The way disabled make sense of their disability is influenced by several factors among which Clinard (1974) in Albrecht and Neral (2006) identified

three points, within which persons with disabilities react to the societal labelling. They are:

*Disabled reacting may react by denying accepting or seeking benefits from disability. Individual that attached great value to their physical appearance are more likely to be devastated by the societal attitude and disability experience. The most likely reaction from them is a pretentious denial of its reality. Hearing impaired may pretend to listen, visually impaired may wear dark glasses to mask their impairment, so as to be regarded as normal (Albrecht & Neral, 2006).*

Nonetheless, the feelings remain inside disabled person and the "significant others". The second group of disabled accepted their fate as real, but not ideal. They accepted their apparent disability with strong determination that keeps them away from hopelessness and despair:

*Such group of individuals exert themselves to the utmost to overcome barriers and limits their indulgence to what they can no longer do, knowing full well that everybody has limitation. Their psychological reaction to the marginalization experience is a gradual immunity acquired to resist disabling forces of the society* (Albrecht & Neral, 2006).

The next categories of disabled people are those who gladly adapt to the changes rather than the challenges posed by the disabling circumstances. For the most part, these groups are the opportunist and marginal people and therefore like a *"soul lost in the lonely crowd"*:

*Out to seek benefit from being impaired rather than from being disabled; thus, restrictions they promote and capability they undermine and curtail.* (Albrecht & Neral, 2006)

The disability of this group of people is legitimate, but their gain from disability status is illegitimate and their reaction to negative forces is hopelessness. The definition of disability adopted in this study is neither a denial of disability nor its celebration. Disability is a bio-psychosocial construct is phenomenon affecting the people with

impairment when the environment ceases to support, but oppress them through marginalization.

**2.7.2     Disabling Attitudes: Influence of Interpersonal Factors**

The attempt to trace the evolutionary trends of attitudes towards disabled shows a discrepancy in perception and treatment, from one society and period to another. Most of which are negative in nature. In their attempt to fill the knowledge gap created by inadequate disability history, M. Adams, Bell, and Griffin (2007)   presented a comprehensive catalogue review on cross-cultural lamentation on the historical plight of the disabled. The study portrayed a negative attitudinal treatment of disabled supported by historical occurrences in a different location and the period around the world. There is no doubt the study is a comprehensive one. However, as comprehensive as it is, it does not follow any prescribed methodology or criteria for inclusion, rather a whole world becomes a case study area, and samples selected are of negative treatments because of their fitness to the description of marginalization and negative attitude. Examples that favour the effect of environmental barriers appeared to have been ignored.

A more detailed survey is followed by Munyi (2012), which emphasizes the value of history and highlighted the patterns that explain systematic characteristics of discrimination as they manifest in different period and contexts. Thus, the study is an illustrious one in its ability to explain how persistent and changing variables of discrimination are evolving and how active and creative we must be, to rise to the challenge they pose at a point in time. Mji, MacLachlan, Melling-Williams, and Gcaza (2009) like Munyi (2012) pointed an accusing finger to attitudinal oppression, but, unlike (Munyi) stress that socio-educational environment poster helplessness the more of the disabled population. A view which concurred with R. M. Smith and Erevelles

(2004)'s that if schools become accessible to disabled as it is to the "abled"; then social justice and economic emancipation are ripe in the society.

## 1) *Exclusion and Segregation*

Exclusion is a complex phenomenon that is difficult to determine because it is relative and subjective. Exclusion cuts across different discipline and context. Within each domain, it can be approached from different perspectives (Kearney, 2009). Marginalization is often linked to social exclusion, where those perceived to fall outside the normal are regarded as outsiders, and therefore needs a socio-political backing to be included (J. M. Hall, 1999). Although the study targets are the primary pupil rather than matured adults in the tertiary level, still the normality is a socially created notion because the criterion for defining membership eligibility is vague, relative and subjective. Whereas the way of the marginalization process is difficult to justify the how it occurs can be seen and perceived. This is what this thesis intends to explore. Whereas exclusion is tantamount to neglect and marginalization, segregation implies that persons with disabilities are different and therefore may require separation from the mainstream because of their variation.

## 2) *Integration and Inclusion*

Integration is often confused with inclusion. They are related but different. Inclusion is an antithesis of exclusion. Integration incorporates the exclusionary and the segregation tendencies, therefore, defined persons with disabilities as people with limitation called "special needs" and therefore, on that basis, become separated from the mainstream. The diagram below (Figure 2.3) clarifies the definitions.
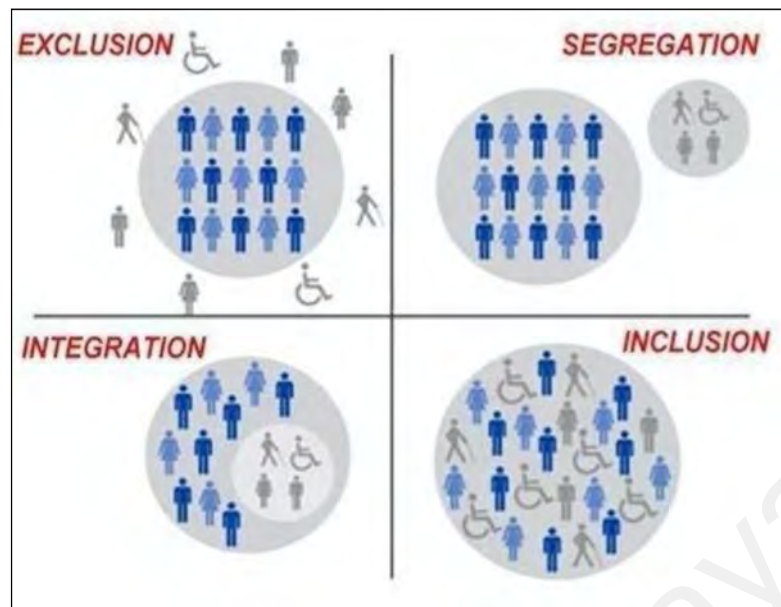
**Figure 2.3:** Exclusion, Segregation, Integration and Inclusion

Source: https://mobile.twitter.com/thedangercat

### 3) *Low Expectation*

Low expectation is included among the factors responsible for the exclusion of persons with disabilities in an inclusive socio-spatial setting (Keary, 1998). The expectation of a lower standard, for example, has been reported in (Priestley & Rabiee, 2002; Shevlin, Kenny, & McNeela, 2002). While motivation is linked to the academic performance of disabled at lower levels of education, much remain to be done with regards to higher levels (Wiest, Wong, & Kreil, 1998). Low expectation may undermine student's achievement and may not help in bringing out the best out of the student persons with disabilities (Alton-Lee, 2003). High expectation of disabled student where facilities and services do not respond to their needs may have a repercussion on the student's ability either through unnecessary exertion to strive amidst barriers or surrender to the one's own fate.

*4) Lack of Support*

Lack of support in the low-income countries particularly, in the sub-Saharan Africa is associated with scarcity of resources and services (Croft, 2010). Unjustifiably, persons with disabilities are ignored, because of the belief that persons with disabilities are not significantly much to merit resource investment at policy and practical level (Croft, 2010).

*5) Gender Perspective*

Generally acknowledged is that at least half of the populations are women with infinite diverse groups like men. Yet, either intentionally or otherwise they suffer a higher degree of exclusion (Carmona, 2010; Day, 1999). This gender blindness is in different ways. For example, women often:

*"Frequently experience inconvenience and obstruction in the design environment, inadequate solutions are imposed on them and they encounter a widespread lack of knowledge and understanding among professionals about how they use space" (Cavanagh, 1998; Greed & Roberts, 2014)*

Greed (2003) study illustrated the point vividly when she said the insensitivity of men policy makers:

*"While the majority of the user group are female, the majority of providers and policy-making groups are male, and according to women toilet campaigners, it simply does not occur to them, it's not important to them, they don't find it a problem"(Greed, 2003).*

Interaction of persons with disabilities with the social and immediate environment is related to impediment and barriers (Fuller , Healey, Bradley, & Hall, 2004). These barriers are social and physical, thus, they are related to the social model of disability. Assessment of the satisfaction level of students with disabilities related to gaining

access to services and infrastructures indicated dissatisfaction. The barriers they encountered relates to social interaction with fellow students and administrative staff and the inaccessibility of the built environment (Fuller, Bradley, & Healey, 2004; Fuller et al., 2004; Holloway, 2001). Barriers encountered by persons with disabilities in an educational setting are a starting point towards understanding how facilities and services can be improved for the inclusive participation of persons with disabilities.

### 2.7.3     The Individual Model of Disability

Disability, when considered as an individual misfortune, is associated with the cause rather than the effect of the problem as defined by limitation in functioning. This is what Oliver (1996) termed the *"personal tragedy theory"* which is rooted in the medical model of disability. The meaning of disability in this sense is that the disabled person is not "normal", but somebody with an inbuilt abnormality that can be corrected with medical advice or prescriptions. This misconception started from the idea that some people have "ability" and therefore "others" have "no ability". Oliver pointed out that, that assumption leads to the categorization of people into two groups: the dependent called disabled and the independent called the non-disabled.

### 2.7.4     The Social Model of Disability

The social model of disability claimed that impaired people are the oppressed groups. In Britain, disability right movement commenced as far back as the 70's championed by the Union of the Physically Impaired against Segregation (UPIAS). (UPIAS) made a proclamation, which Hasler (1993) called "the big idea" (for the liberation of the oppressed group). The British disability movement[1] received endorsement by renowned academics like (Barnes, 1991; Flinkelstein, 1981; Oliver,

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[1] The British social model is not the only one emphasizing social disablement; others explored the sociocultural and political elements of disability although they fail to make a clear distinction between biology and social dimension.

1984, 1996; Shakespeare & Watson, 1997) and even (Shakespeare & Watson, 1997). Today social model is what (Shakespeare & Watson, 2001) call "*the litmus test of disability politics in Britain"*. The core definition of the social model in the UPIAS document as put forward by Oliver (1996) is abridged hereunder:

*The view is that the society disabled people with impairment, not the impairment itself. Disability results from constraints impose on the impaired people through isolation and exclusion from participation in the so-called normal society. The distinction is necessary between "physical impairment" and the social state of people popularly called disability because of such impairment. Impairment is lacking or having a defective limb or part of it, while the disability is the outcome or result of the restriction of activity by the present-day social organizations, which plan without taking people who have physical impairments into account, thereby excluding them from participating within the mainstream of activities (Oliver, 1996).*

Persons with disabilities in the social model are an oppressed social group and disability as an experience of oppression rather than the output of impairment. The adoption, of the slogan "*disabled by society, not by our bodies*" is to distinguish between "disable people" (individual model) and "disabled people" (social model), which the research seeks to employ.

The process of incapacitation as highlighted by Campbell and Oliver (2013) in the book "*Disability Politics*" was a social construct. The definition of a social model of disability of the late 80's was a critique of the medical model that attributed disability to physical dysfunction of a body part(s). The social model of disability gave birth to a more logical and multifaceted point of view (Barnes, 2012). The argument of the Social model is regarded as superior because the environmental barriers are the most disabling components of disability (Oliver, 1984). The need to change the environment (both

social and physical) becomes apparent, because, most buildings built well before the social model of disability comes into purview. Several countries agree to change the built environment. Nigeria is included. Now the questions arise. What is the present situation and what are disabled individuals' experiences both positive and negative?

A number of studies socially connect disability with poverty, particularly in developing countries. Thus, the variation in income level between developed and developing countries often translates into the quality of life of disabled persons. Descriptive data for educational attainment in developing countries are suggesting that persons with disabilities are at a disadvantage (WHO, 2011). Filmer (2005) argued that the inclusion of persons with disabilities is a way to overcome poverty, which was traditionally and recently associated with disabilities. Yet hardly till date are persons with disabilities ever involved (Kitchin, 2000). Consequently, widespread exclusion becomes an explanation of the effect of impairment through the process of preventing access to basic amenities and shared resources. Example inaccessibility to the built environment to gain knowledge can be a cause of poverty. Thus, poverty is not a direct consequence of disability, but rather a product of environmental barriers that are preventing access to poverty eradication measures.

Borrowing from the social model, the research opted to see if disabled people have the same participatory rights as their peers as accorded by the environmental provisions. The study looked directly at the intersection of environmental influence, socio-cultural and individual bodily limitations in a particular setting within some selected Nigerian tertiary institutions. Social aspiration and the ability to participate in educational acquirement can only be realizable, if, and only if, the environment can guarantee accessibility to all facilities and services necessary for easy campus livelihood. Yet, several other forces exist in a form of barrier to limit such basic and attainable need.

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## 2.8 International Perspective: Persons with Disabilities and the Participation in Higher Education

*"Education for all"* is a movement, which focused on meeting the learning needs of all, irrespective of age, gender status or ability, championed by the UNESCO. The argument is that disability is associated with inequality, social exclusion and poverty (Barnes & Sheldon, 2010), such as negative social status and financial dependency (Dovidio, Pagotto, & Hebl, 2011; Hannon, 2007; Grace O. Vincent-Onabajo & Wasinda S. Malgwi, 2015). Universally, the overarching theme focuses on how persons with disabilities face disabling barriers within an environment of higher learning. The emphasis, however, is placed on "southern majority perspective on disability" (Meekosha, 2008; Paul, 2000). In the globalise knowledge economy, there is a question of participation and participation restriction, and how higher education can help reduce poverty through social and economic empowerment (Yusuf et al., 2009). Croft (2010), observed from low-income countries, there is limited knowledge in the participation and exclusion rate of persons with disabilities.

Within the sub-Saharan Africa, some countries are lagging behind and harbouring segregation through marginalization and exclusion. To such an extent that UNESCO (2005), proclaimed that being disabled in sub-Saharan Africa doubled the chance of one not having the opportunity to attend school. Few disabled students that get the opportunity to attend school usually drop out before completion (Filmer, 2005; Hunt, 2008). Additionally, in sub-Saharan Africa, education is often denied to disabled individuals consciously (Karangwa, 2008) or systematically (Howell, 2005).

Recently, disability study in the higher education sector is beginning to gain prominence in the developing world (Chataika, 2010), as it has in the developed world (Fuller et al., 2004). Education, health, environmental access, mobility, assistive

technologies are but few from the endless list of areas requiring human right intervention for persons with disabilities. To meet up with the inclusive demands, UN CRPD (2006), in its convention on the rights of persons with disabilities (CRPD) acknowledged and identified the disabled people rights from all works of life. The convention pointed out the Mobility rights persons with disabilities have in and within the built environment. Adequate and appropriate resources are necessary to reduce the burden of disablement. Yet, disability suffers poor resource allocation (Wilkinson-Meyers et al., 2014), because it is not an attractive issue in the politics of possibility (Slee, 2001). Put simply, inadequate funding translates into disability disregard. Thus, disability, lack the ability to gather sufficient evidence capable of influencing policy (Ajuwon, 2008). Inclusive policies incorporating the experience of Persons with disabilities are important, particularly in the context of higher education (Brandt, 2011). Yet, disability concerns are often a specialist issue treated in isolation. Duties of higher institutions for persons with disabilities include (1) admission procedure, (2) Special needs provision, (3) Examination regulation, (4) infrastructure, and (support).

Globally, anti-discriminatory practices in higher education were introduced to enhance widening participation (David et al., 2009; Lane & Van-Dorp, 2011). The content of the convention is a welfare-matter's related meant to facilitate the inclusion of persons with disabilities, and curtail their exclusion at the policy level. Countries that ratified the convention are obligated to ensure the provision and equalization of opportunities through the provision of facilities and services for persons with disabilities, particularly in educational settings. Education built environment is a setting with the potentiality of countering discrimination through the facility and service delivery as well as equal opportunity in education, employment, and social participation. A review of "the Nigerian with disability decree, 1993" shows correlations with charity approach, with several promises that are yet to see the light of

the day (Lang & Upah, 2008). Nigeria was at the forefront of signing and agreeing with the many positive policy agreements towards persons with disabilities inclusion, how the treaty translates into reality for the inclusion of persons with disabilities has not been addressed (Abubakar Ahmed et al., 2014).

About 45 countries enacted anti-discriminatory and disability specific policy architecture (UN Enable, 2011). Most countries including Nigeria have or have had a disability law. The USA practice the American with Disability Act of 1990 (ADA) and the UK exercise Disability Discrimination Act (DDA) to protect against discrimination. The Australian government introduced the Australian Disability Discrimination Act (DDA) in 1992. Exactly a year after, Nigerian promulgated a national disability decree. An overarching theme in the global literature survey in high-income countries indicated that persons with disabilities also suffer barriers in the environment amidst inclusive policies. There remains a limited knowledge about the disability experience from low-income countries (Croft, 2010).

### 2.8.1 A review of Inclusive Policies for Persons with Disabilities in the UK and Other Countries

Higher education provides a gateway for employment options, which leverage opportunity that is most likely to double against those without it (Tinklin et al., 2004). The rights of persons with disabilities to pursue education are enshrined in the literature through the provision of services and support. Disabled people are significantly underrepresented in higher education (Hill, 1992). Historically, however, there has been little effort to increase access to education alongside their peers without disabilities (J. Hall & Tinklin, 1998). This is more so in Africa, where evidence indicated that persons with disabilities often faced poverty resulting from their exclusion from schools (Mike Adams, 2002). Thus, globally, the long standing debate concerns mainstreaming, which

focused on providing equal opportunity for persons with disabilities, but has been, mainly at the pre-tertiary level (Borland & James, 1999). The Warknock Report (DES, 1978) introduces a watershed for educating disabled learners alongside their nondisabled peers (Terzi, 2005; Warnock, 2005). Thirty years later, a radical review of the same policy challenges the statuesque (Warnock, 2005).

The "dilemma of difference" arose, in the premise of capability differences. The question then becomes of whether to give the same treatment to disabled and nondisabled students or acknowledge the difference arising from their individual differences and needs (Trani, Bakhshi, Bellanca, Biggeri, & Marchetta, 2011; Warnock, 2005). Of recent, Warnock (2005), shifted position and subscribed to the later opinion, while Gasper (2007), maintained the former position on the ground that the notion of capability upheld by the adherents of the "dilemma of difference" is difficult to work with because it is an abstract hypothesis that contradict the everyday reality. At the tertiary level, the problem concerns the provision of facilities and services for disabled people rather than their mainstreaming. In essence, acknowledgement of diversity is required to ensure the provision of equal treatment opportunity in higher education (DRC, 2003; Wray, 2003), removal of physical barriers, financial assistance, adequate funding for special equipment and support services, which may affect disabled positively or negatively (Low, 1996).

Evidently, higher institutions, in the UK were largely barrier ridden for the convenient inclusion of disabled people, such that inclusionary measures are usually through goodwill and generosity of nondisabled staff and students (Barnes, 1991; Leicester & Lovell, 1997). As an instance, a rota of volunteer students is expected to carry disabled students onto the upper and down to the lower level to participate in a classroom activity (Leicester & Lovell, 1997). This ad hoc arrangement continued to be

practiced where there is limited policy support (Sharp & Earle, 2000). Thus, barriers continued to flourish in those days and in those settings. To achieve these goals of barrier removal in higher institutions, it becomes a mandate to ensure the existence of explicit policy and strategies cognizant of the implementation of those policies. Consequently, higher institutions in the UK come under mounting pressure to provide services and support to persons with disabilities, because of the growing evidenced confirming discrimination (Konur, 2002).

Positive step taken in the direction of widening participation in the UK education system stimulated an increment in the enrolment rate of students with disabilities through facility and service provisions. To achieve this reality, policy initiative and anti-discriminatory approaches become imperative. In part four of the disability discrimination Act (DDA), emphasis is placed on the institutional managements to publish disability statements containing the past, present and the future information on the activity and policy initiatives for the improvement of disabled people quality of life. Discrimination, is then regarded as "a failure to make reasonable adjustments or providing less favourable treatment to students for a reason relating to their disability without justification" (Riddell et al., 2005). The new special educational needs and disability Act (SENDA) upheld the notion of "reasonable adjustment" to ensure disabled students are not discriminated against (Needs & Act, 2001). Making "reasonable adjustment" often involved a change in procedure, new curriculum, provision of additional facilities or services (such as printing materials in braille) or altering the physical environment to include the requirements of disabled people (J. Hall & Tinklin, 1998; Needs & Act, 2001). Furthermore, widening participation involves much more than getting poorer students into functional institutions, but how well supported are those students within those institutions (Vignoles & Murray, 2016). Noteworthy, it is a requirement under SENDA for the institutions to anticipate disabled

people need rather than wait until persons are admitted before incorporation of changes (D. R. Commission, 2005). These tasks include having:

1. A permanent disability officer is designated to disability matters.

2. A comprehensive disability statement including the admission procedures

3. A committee tasked with a specific commitment towards disability issues

4. To monitor the application/enrolment rates of disabled students

5. To introduce staff development initiative on disability and disabled people needs.

6. A clear system of monitoring the translation of disability policies of into meaningful outcomes.

Concisely, the policies provided on the above onset are not all exhaustive. There is evidence in practice that SENDA, in the UK, and similar policies advanced elsewhere have yielded dividends. While SENDA policy is a minimum policy requirement protecting the needs of disabled students, it has its limitations. Foremost, it is not holistic as it concerns only the needs of the student's in higher education excluding the requirements of disabled staff. Nonetheless, SENDA, provided a baseline for the elimination of barriers in higher institutions of the UK and beyond, and it is still evolving. An additional inclusive measure from other developing counties such as Malaysia, including (Hussein & Mohd Yaacob, 2010; Hussein & Yaacob, 2012; Kadir & Jamaludin, 2012; Kamarudin, Hashim, Mahmood, Ariff, & Ismail, 2012b) may serve

as a benchmark and a study example for the institutions in Nigeria. Attached herewith in the appendix[2] is the university of Malaya disability policy for a reference purposes.

### 2.8.2    Mobility Experience of Disabled People in Higher Education Setting

Realizing the experiences associated with mobility struggle by persons with disabilities in their interaction with a complex setting like higher institutional campuses require careful attention to empirical evidence from both persons with disabilities themselves and the physical environment. Previously, human relationship with the physical environment relies on the concept of wayfaring associated with a person travelling on foot to a given destination for environmental navigation (Arthur & Passini, 1992). Way back in the sixties, the concept of way-finding evolved out of the need to relate to spatial information and cognitive mapping (Lynch, 1960). The concept involves users' ability to translate the image of the physical environment into their mental faculty.

Later studies suggested that not only perception and cognitive mapping but decision making equally played an important role in the study of man-environmental relationship (Golledge, 1999). From then on, architects and environmental psychologist promoted the use of empirical evidence to get user feedback on human-environmental relationships. Such feedbacks are not just important, but also necessary, especially during evacuation and emergency (Passini, 1992). Thus, the need to have a clear understanding of what might have constituted a barrier to persons with disabilities about mobility is grounded in history and theory of architectural design.

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[2] http://www.um.edu.my/docs/default-source/student-suport/inclusive-university-policy-of-university-malaya-(english-version).pdf?sfvrsn=2

Recently, some organizations adopted a resilience approach with the use of assistive device or graphical information to minimize mobility disorientation (Borg, Larsson, & Östergren, 2011; Brown, 2011; Buhler, Schmitz, Sischka, & Wallbruch, 2005; Moellenbach, Gale, & Hansen, 2008; Papavasiliou, Saridaki, Mourlas, Van Isacker, & Ieee, 2014; Reisinger & Ripat, 2014). Yet, the studies conducted by Eide and Øderud (2009) and that of Jefferds et al. (2010) described the situation of disabled people in low-income context with regards to acquiring and maintaining assistive devices as gloomy, but not hopeless. Assistive devices are often costly and beyond the reach of most persons with disabilities. Graphic communication and information are only practicable where the general layout and associated services are functioning. As an example, a lift can provide mobility medium, yet without electricity to make the lift function, becomes unsafe. Similarly, a building can be accessible in the midst of inaccessible pathways connecting it to the surrounding environment. Thus, selective modification of the environment often resulted in an unconscious segregation of persons with disabilities mobility wise. Additionally, the environment and socioeconomic factors play a part in the elimination of mobility barriers that need not be ignored to attain industrialized nation status (Jayasooria, Krishnan, & Ooi, 1997).

How the exclusionary barriers affect the persons with disabilities in and within the built environment is difficult to determine, quantitatively. The manifestation of a negative experience is an intangible thing. It concerns attitude that devalues people (C. H. R. Commission, 2007). The effect, of such barriers, often translates into psychological negative feelings (Villa & Thousand, 2005). Example it affects behaviour and causes demotivation (Osterman, 2000), harbour the feeling of depression, grief, jealousy anxiety and loneliness (Baumeister & Leary, 1995). Exclusion from education often limit employment opportunities, restrict freedom of access and participation and therefore increase poverty.

Factors catalysing research in the area of resilience are in congruence with its associated all-embracing meanings. According to Heiman (2002), resilience identifies with a sense of mastery and optimism, self-esteem adjustability, problem-solving, coping strategies, interdependency, social integration, and a measure of self-efficacy. To sum it all, resilience is the ability to overcome barriers.

### 2.8.3    Disabled People Response to Disability

Resilience regarded as an asset-based approach to responding to disability (Ehde, 2010; McGeary, 2011; E. D. Miller, 2003; Stuntzner & Hartley; B. White, Driver, & Warren, 2008) involves a complex interplay between individual and a given environment (Richardson, 2002). Individual response to a disabling experience differs from person to person (Livneh, 1986). Confronting the difficulties in a bid to negotiate disabling barriers transcendent the ability to resist medical ailments by persons with disabilities, it encompasses the ability to break the barriers consciously or unconsciously placed on persons with disabilities' path (Hartley, 2012; Smart, 2001). To cope with the growing challenges of restriction to major life activities most disabled people sing along with popular lyrics "*Give us our rights*" (Fleischer, Zames, & Zames, 2012). Others select the path of self-determination to develop "*a thick skin*" to strive and even prosper in the midst of disabling experiences (Sands & Wehmeyer, 1996; Stroman, 2003). While the former group is appropriate to demand such rights (UN Enable, 2011), this research is about the latter. Cognizant of the fact that demand for the implementation of inclusive treaties has been consistently advanced with non-disabled researcher's orientation and therefore are not yielding fruitful results (Kitchin, 2000). Put another way, "*disability research has had little or no weight on policy and do not contribute much to improving the situation of disabled people"* (Oliver, 1992). Thus, the ability to advance in the world of compounding inequities defined, as resilience-based approach is becoming a popular way out of the disabling experiences to a future in

disability research (Ehde, 2010; McGeary, 2011; E. D. Miller, 2003; Stuntzner & Hartley; B. White et al., 2008).

### 2.8.4 Resisting Disability and the Role of the DPO

Almost in every social activity, persons with disabilities can have a role to play given the opportunity. Anecdotal evidence advocates that wherever there is a disabled person integrated and included attitudes, perception about disability and therefore attitudes towards disabled people changes automatically (WHO, 2011). Thus, disabled people, organizations (DPO) have a role to play in ensuring that the environment is structured to prevent disabling attitudes and practices (Shakespeare & Officer, 2011; UN CRPD, 2006; UN Enable, 2011). To realized and tap the potentialities of persons with disabilities, UN CRPD stipulated that persons with disabilities should be given the opportunity to open, inclusive and non-discriminatory environment. For the realization of this noble endeavour, a concept of reasonable accommodation is worth considering.

Shared human experience has shown that at a point in time everyone will be disabled either on a temporary or permanent basis (Kurawa, 2010). This may disable us, or increase our dependency, especially when the socioeconomic environment is not favourable (Adnan & Hafiz, 2001; Liasidou, 2016). Thus, a number of useful strategies are relevant to overcoming the barriers at the social level. They include changing the mind-set and improving the awareness and role of the media.

Furthermore, people are diverse in preference, size, and ability, thus, it is impossible to have anything like "average man". Consequently, the concept of universal design precludes anything like the average person. The special-for-disabled standards were replaced with a design for all including disabled. Additionally, an inclusive campaign is yielding dividends in many quarters of the world. This includes the inclusion through the establishment of special education, programs, and the environment in or as close to

the mainstream of activities as practically possible. Similarly, improving information, communication and media publicity campaigns reported have had a positive impact on the attitudes towards disabled.

## 2.9 Frameworks for the Study

Frameworks for a given study can be conceptual or theoretical. Both conceptual and theoretical framework are often used interchangeably, but they have different meanings. A conceptual framework is a logical organization of the researcher's ideas related the way to study the problem. A conceptual framework is inclusive of theoretical framework, established on time-tested theories that embody the findings of numerous studies. Consequently, a conceptual framework is appropriate where existing theories are insufficient or inapplicable. It can serve also as a platform for deducing a theory. In this research, the conceptual framework is to guide the research based on an already established theory. Thus, the conceptual framework is the researcher's synthesis of those theories, experience, and reviewed literature, meant to provide guidance for the study.

The framework considers the concept of higher education and the mobility experience of persons with disabilities within the context of the research. It is an uncommon knowledge how disabled people are experiencing a degree of exclusion and marginalization, even in the environment purposely designed to cater for their educational needs. Yet, research into disablement issues seldom considered persons with disabilities as informational. The study seeks to interpret the persons with disabilities' experience of disablement that may underpin socio-spatial inequality in, within and across the selected education settings. The knowledge gain from persons with disabilities experience can generate new knowledge. This is because research is about generating new knowledge based on evidence (Gillham, 2000). Research is

carried out to gain knowledge or understanding, explain a phenomenon or drive initiative (Siti-Uzairiah, 2014). The path through which knowledge is generated defined as "*method*" is often through a structured process of empirical study called "*methodology*" (Kothari, 2004). The research approach is determined by the philosophical stance of a researcher. Thus, philosophical ideas according to (Guba, 1990) are the basic beliefs that guide a researcher. Those philosophical ideas are what J W. Creswell (2012) called world view. Guba and Lincoln (1994) called them paradigm. Crotty (1998) and Sexton (2003) simply referred to them as ontology and epistemology.

D. E. Gray (2013) identified two approaches to research as inductive and deductive from which categorization into qualitative and quantitative originates. Thus, a methodological stand of a researcher can either be quantitative, qualitative or mixtures of the two called mix methods, which can be done sequentially or concurrently (John W Creswell, 2013). This study, therefore, is in the following stages: defining the study area, collecting relevant data, analysing and interpreting the data, and representation of findings and its implication based on empirical evidence obtained in the study. In order to define the conceptual framework for the study a holistic approach defining the man-environmental relationship is appropriate to use, which utilises the social ecological model.

### 2.9.1 Social-Ecological Model (SEM)

This section presents the social ecological framework (SEM) that underpins the study. The section started with the justification for the adoption of the social ecological model as it relates to the study. The social ecological theory involves four stages of influence in the interaction of man and environment. The stages are individual, social, physical and policy in relation to the study research questions.

### 2.9.2    The Ecological Psychology

The notion of ecological psychology encompasses both static and dynamic attributes. Behavioural exemplify the static attributes while the physical typified the dynamic. Thus, it concerns two intersecting approaches, ecology, and psychology. Ecology herein referred to as the relationship between living things and their environment while psychology sought to establish the complexity of a phenomenon within a given environment. The ecological model attributed to Barker (1968) sought to measure the behaviour of a living species in varying environmental factors through the concept of holism.

Criticism against this approach becomes laden with facts. For example, the understanding of the behaviour of living organisms in a controlled environmental setting is not a valid representation of the real world. In a word, the world is more complex than the psychological laboratory with controllable variables. Some barriers are manifest others are hidden. Likewise, the impacts of the barriers for individuals are as varied as the variation between the individual responses to the barriers. Therefore, the physical and social environments have a role to play in the way an organism behaves in it. Again, the behaviour is unpredictable, especially when such organism involved is the complex human. Any attempt to underplay the complexity of human action or inaction is bound to fail for its shortcomings. Ecological psychology, therefore, has one major drawback: that of objectifying the conceptualization of human behaviour. Another shortcoming of this model as pointed out by a system theorist is that it fails to provide the detailed mechanism for development (Thomas G., 2011). Thus, systems thinking approach extend Roger and Baker ecological psychology.

### 2.9.3 System Thinking

The system thinking attributed to Urie Bronfenbrenner focuses on a wide-angle lens to scrutinize a more all-inclusive situation (Bronfenbrenner & Bronfenbrenner, 2009). The model reflects a synthesis of ecological model and system thinking. The first consideration under this model is the life of a living thing as affected by the nature and quality of the environment it inhabits. Therefore, the system thinking attempts to generate an understanding of the complexity of a whole through reductions into constituent parts. Thus, it is a veritable tool for a multiple case study research as it seeks to understand the whole in relation to parts represented by cases in the form of units of analysis.

In system thinking, the ecological psychology model was preserved but extended with the inclusion of tools and roadmaps to information on the methodological analysis. System theory is applicable to a variety of foci, from biology to applied science like engineering, in as much as there is a need to examine the relationship between the social world and man. Ecological model, system thinking, and case study research sought to address the need for holism and they succeeded at the individual capacity (Von Bertalanffy, 1950). According to Thomas G. (2011), understanding from one field of research using system theory provides insight into another field. Yet, unlike case study research, which utilizes several methodological approaches, system theory has a methodological standard. Therefore, instead of it to become more general as its proponents assume, it becomes more confine to a single branch of thinking. Beyond all this, system theory has benefited case study researchers in a number of ways. One of this is the advancement of soft system theory, expounded by (Checkland, 1999).

Soft system thinking developed by Checkland (1999) falls within the context of industrial psychology. Its concern is on the "complex whole" that uses "adaptation and

control action" to respond to the changing environment. The model was successful in drawing lines between the *"real world"* and the system thinking. In a word, it is a synthesis of the subjectivity of biology and objectivity of Engineering (Checkland, 1999; Thomas G., 2011). Thus, it becomes a popular choice model for several researchers and ultimately it becomes the recommended planning tool for structured system analysis and design method (SSADM for the UK government in 1990). One of the major criticisms against this popular choice model is, it has been a top-down approach and therefore non-emancipator that lends credence to the statuesque of the existing powers. The methodology itself is not a top-down, thus, critiques have negated the claim. Rather, it is the researcher's bias that favours one approach over the other. Such bias is often associated with scope of coverage set by the researcher. System thinking theory was extended further to include and focuses on several goals to help explain person-environment interaction as a two-way process in what is referred to the social ecological model (Thomas G., 2011).

### 2.9.4    Social Ecological Model Theory

Progress is usually a concern about man-environmental development. The narrow scope that characterized the previous models such as the "self-efficacy" and "behavioural theories" models were criticized based on their focus on small settings on one hand. Anthropological theories are faulted for their too ambitious scope pursuing several disjunctive investigations on the other hand (Boholm, 1996). Alongside these dipoles, lay the social ecological model (SEM). Its argument is on the premise that no one, but several factors influence individuals in a given environmental setting.

Accordingly, SEM sought to further the understanding of the factors related to man-environmental encounter by mediating between the two polarities. Man as the focus of research at a micro level and environment as the focus of research on the

macro level. An examination of the human interaction with the larger environmental context is critical. Each level of interaction is complex and may have a consequence on human experience, with a tendency to produce a ripple effect throughout the other layers (Figure 2.4).
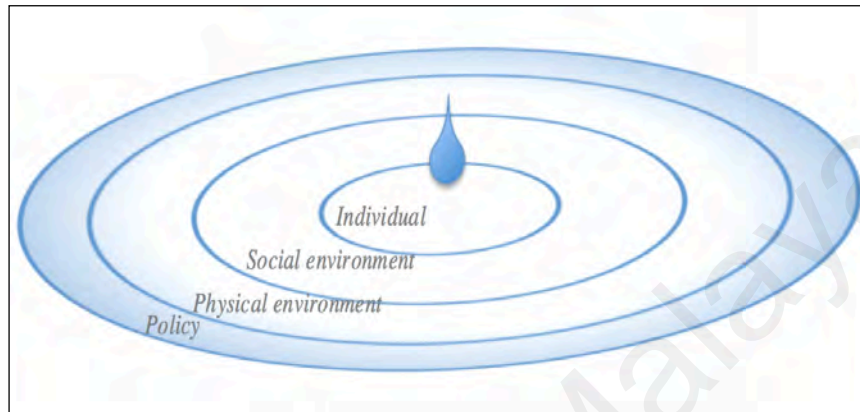


**Figure 2.4:** Social ecological model showing man-environment relationship

Source: Author's compilation

Factors influencing the engagement of people with the environment at varying level of interaction as they impact on the participation or lack of it is the core principle of the (SEM). Social-ecological model discusses the connections of the following areas: the individual social, physical, and the policy domain. Property of the four levels of interaction of man and environment highlighted on the above onset has the tendency to hinder or facilitate the participation of individuals with impairment. Evaluation of man engagement with the environment as a single environmental factor is inadequate to give a holistic picture of the human experience of the environment.

The social-ecological model holistic coverage made it a popular choice model. As a result, it has been widely accepted to integrate multiple factors affecting man-environmental interaction. It concerns how the individual relates to the wider

environment. Each level of interaction is a key point for understanding the relationship between man and the environment.

### 2.9.4.1    Level 1- The Individual (Intra-personal) Domain

A human being interacts with the environment. Existence outside the environment is almost unrecognizable. Yet, any change in the environment can either positively enhance or negatively affect the livelihood of individuals if not the human race in general. The man is the starting point of the ripple (Figure 2.25). Often, the individual behaviour or action dictates the nature of the environment. However, just as external factors have a role to play in affecting the individual relationship with the environment, so also are internal demographic factors at the level of individuals and they are age, gender, social status, income, the level of education, knowledge, values, beliefs and preferences.

### 2.9.4.2    Level 2- the Social (Interpersonal) Domain

Social, interpersonal domain is the immediate external force affecting the individual. It includes attitudes of people or institutions around us. The example includes family, relatives, neighbours, friends, colleagues, and institutional managements.

### 2.9.4.3    Level 3- the Physical Environmental Domain

Physical environmental domain comprises of both natural and man-made changes to the environmental enclosure of micro and macro scale. At the micro scale is the design of products and environments. At the macro level are the geographical and planning factors. The quality of these sub-environmental levels will determine the adequacy and usability of facilities and services available or otherwise.

### 2.9.4.4    Level 4- the Policy Domain

The policy consists of the authoritative decision made by federal, state or local governments. Changes in these domains, greatly, affect the environment. Likewise, international policies are equally important to the growth of a nation. Thus, policies are the bedrock of organizing development through physical changes, societal reorientation campaigns through media, provision of regulatory and enforcement mechanisms, job creation, and distribution of resources. Appropriately, institutional bylaws, mission, and vision, as well as funding, are the important variables in the policy domain. The policies relevant to this research include disability policies, policies on education and regulatory frameworks such as national building codes and bylaws, policies at the state levels and institutional levels such as university missions and vision and institutional disability and admission policies. Table 2.6 summarizes the parameters within the (SEM), and the corresponding factors that may potentially increase negative experiences concerning man engagement with the environment. Column three-3 exemplifies strategies with the potential to increase a positive influence.

**Table 2.6:** Influencing factors at different domain of environmental influences

| Level of SEM | Factors that potentially increase the negative experience | Example of strategy by level of influences |
|---|---|---|
| **Level one- the individual characteristics**<br><br>• **Demographic attributes**<br>• **Beliefs**<br>• **Behaviour**<br>• **Personal experience** | • Age<br>• Gender<br>• Level of education<br>• Income level<br>• Impairment type<br>• Opinion and belief<br>• Impairment type | • Guidance and counselling activities<br>• Provision of reasonable accommodation<br>• Design of a responsive curriculum and method of teaching<br>• Motivation and support<br>• Inclusive policy practice |
| Level two- the social, environmental domain<br>• **Attitude of people around us:** *(Family, Relatives, Neighbours, Friends, Colleagues and Institutional managements)*<br>• **Interaction between people** | • Power struggle between groups of people<br>• Attitude of others<br>• Poor communication barriers<br>• Lack of guidance<br>• Unsupportive groups<br>• Limited economic opportunities | • Positive attitude towards persons with disabilities<br>• Provision of services and support<br>• Improving awareness and disability struggle |
| Level three- the physical, environmental domain<br><br>• **Accessibility infrastructure**<br>• **Horizontal mobility**<br>• **Vertical mobility**<br>• **Internal circulation** | • Planning and layout<br>• Geographical factors<br>• Transportation<br>• The built environment *(Physical access, Decoration, Sanitary facilities, Way-finding, Communication equipment, Refreshment/Recreational facilities, Health and Safety)* | • User responsive design<br>• Provision relevant facilities<br>• Maintenance and improvement of facilities |
| Level four- the policy domain<br><br><br>• **Educational policy**<br>• **Disability policy**<br>• **National building code** | • Inappropriate policy guidelines<br>• Lack of policy implementation/enforcement<br>• Lack of legislative mandate<br>• Cumbersome procedures for approval<br>` | • Appropriate policy provision<br>• Policy implementation guidelines<br>• Standards for enforcement<br>• Financial support at budgetary level<br>• Media campaigns |

Source: Author's compilation

### 2.9.5 Conceptual Frameworks

Both Robert Stake and Robert (R.K. Yin, 2009) mentioned the need for a conceptual framework in their monumental works. Stake (1995), defined it as the pivotal idea guiding the stages of the research in order to answer the research questions. R.K. Yin (2009), on the other hand, emphasizes the need for a conceptual framework in guiding the structure of a final report. Both agreed that the conceptual framework is the medium for linking the themes of the final report with initial propositions to ensure that the research is reasonable and within the scope. Those eminent scholars do not, however, go any further to elaborate or exemplify the conceptual framework for reference purposes in their monumental works. Thus, the work of (Miles & Huberman, 1994) becomes indispensable in this regard.

The literature review and the researcher's background experiences contributed to the development of the research conceptual framework.  In line with (Miles & Huberman, 1994) guides, this research, adopted a conceptual framework geared towards explaining the main factors to be studied and those to omit. The framework of the study shaped the research process and informed on the methodological design as well as the data collection instruments. Thus, it provides the basis for the iteration of a coding scheme (Bloomberg & Volpe, 2012). The research questions guided the categories of the conceptual framework. Thus, the study it is in four main themes, in line with the research questions and specific objectives itemised in section 1.3.

The first RQ seeks to determine why mobility restriction of persons with disabilities in and within tertiary institutions is an issue of concern that needs investigation. Thus, the logical conceptual categories for this segment of research are to define the inclusive policy given rights of persons with disabilities in the study context. The second RQ seeks to explore why persons with disabilities feel they are being excluded or otherwise.

The category barrier is about obstacles, hindrance, and impediments and therefore is to uncover the why and the how of the exclusionary elements and phenomenon. Be they tangible or intangible. The tangible barrier herein represents the physical, environmental entities that are measurable and observable objectively. The intangible environmental attributes are the social and attitudinal construct that paved the way for the feeling of exclusion by persons with disabilities. Validation of the study findings is through triangulation of sources and methods. Nonetheless, the research is not purely for verifying the assertion of the study participants rather uncovering the meaning persons with disabilities attached to their respective experiences. Thus, the generalization of the outcome is not part of the study scope and objectives. The cumulative experiences of individual persons with disabilities sought to converge to confirm the propositions that: "*The reality of the built environment for disabled is of social, physical, and attitudinal barriers…. (Imrie & Hall, 2003),* or otherwise*.* The factors that either help or hinder participation on equal merit fall under the category facilitator or barriers to inclusion.

The objectives behind reporting the disabling experience of persons with disabilities are to determine the environmental conditions, both physical and social that can facilitate or hinder the participation of persons with disabilities on an equal merit as guaranteed by the laws. Both positive and negative experiences will help in defining the facilitators and impediments to participation. A positive experience will define enablers and facilitating conditions while adverse experience may give insight into the barriers and disablers. Towards making recommendations to reduce if not eliminate the marginalization phenomenon from and within campus built environment.

The third RQ lies between the intersection of the social and physical environment for persons with disabilities. Thus, it is a two-way relationship: (1) how social understanding of disability leads to the creation of disabling space for persons with disabilities and (2) How disabling space impacted on the social interaction of persons with disabilities. Thus, literature review and interview with environmental designer shed light on the construction of enabling or disabling space for persons with disabilities. Interview with disabled people gives an insight on the impact of disabling space to persons with disabilities inclusion.

The fourth RQ is a wish list of persons with disabilities, in the form of suggestions and recommendation to reduce if not overcome the disabling barriers. During the course of data collection categories were added, deleted, or renamed. After which an arrangement of the selected ones followed a hierarchical order. Thus, a conceptual framework is a continuous process. A conceptual framework in Figure 2.25 is to guide the study.
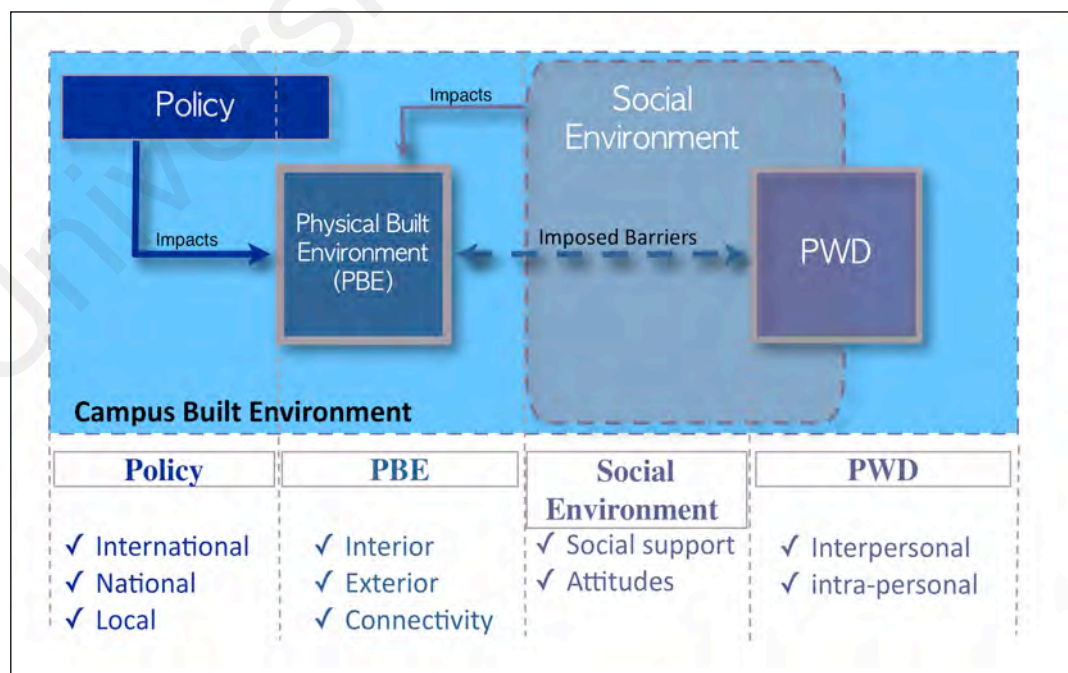


**Figure 2.5:** Conceptual Framework of the Study

### 2.10    Summary and Link

The literature review outlines the understanding of the interrelationship of persons with disabilities with the disabling/enabling environments, the effect of disabling environment on persons with disabilities. The review revealed subjectivity in relation to the use of the term exclusion, segregation, integration, and inclusion. The second section under the analytical framework examines the understanding of research concept. It touches on the understanding of man engagements with the environment through the utilization of the social ecological model. Thus, a conceptual framework generated from the synthesis of literature and the theoretical model is to guide the study.

The next chapter provides the methodology adopted and the basis for choosing the search approaches, description of samples used in the research, overview of the required information, research design, methods of data collections, analysis, and synthesis, as well as ethical considerations, trustworthiness in research, and the study limitations.

**CHAPTER 3: METHODOLOGY**

**3.1      Introduction**

As a recap, the previous chapter addressed the main components and research issues from an extensive literature review. Hitherto, this research adopts a multiple embedded case study approach with the sole purpose of establishing a model for overcoming barriers to the inclusion of persons with disabilities in Nigeria tertiary institutions. In seeking to understand how to overcome the barriers, the study addresses the research questions itemized in subsection 1.3.1. The synopsis of the chapter entails elucidation on the methodology adopted and includes a critical discussion around the following areas: (a) rationale for choosing the qualitative research approach; (b) selection of case study sites; (c) selection of participants and recruitment; (d) methods of data collections; (e) data collection (fieldwork); (f) general   data analysis strategies; (g) presentation of findings; (h) ethical consideration; (i) methodological rigor and trustworthiness in research; (j) Summary of the required information for the study; (k) limitation associated with the methodology, and (l) summary and link.

**3.2      Methodological Framework**

Several authors posit that there are a number of stages or layers that give a sense of the sequence to a study (Adam Mastura, 2013; Siti-Uzairiah, 2014). The stages of this research are following a qualitative research process consisting of four steps. The steps are identification, development, application, and refinement stages as shown in (Figure 3.1).
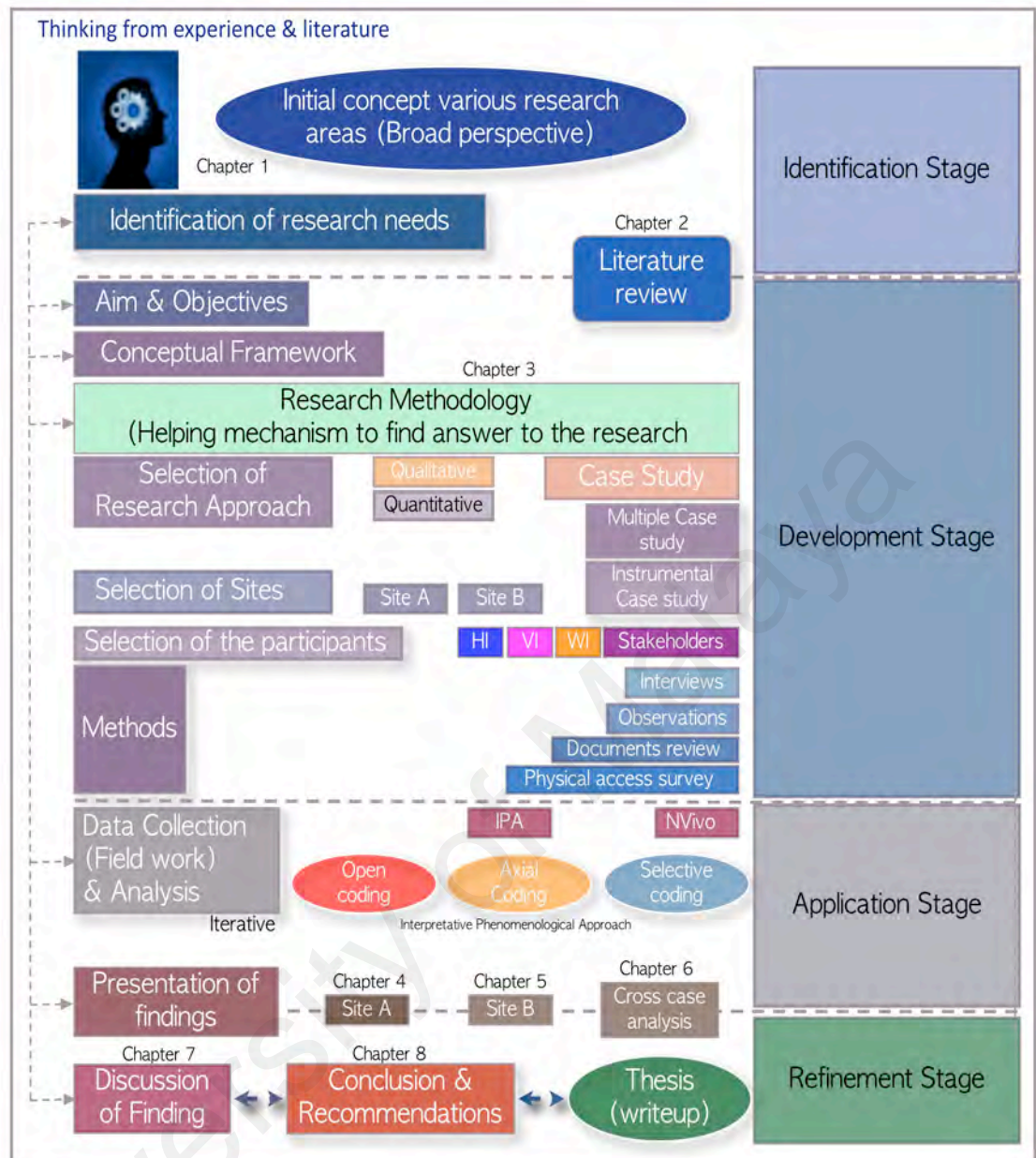
**Figure 3.1:** Proposed research methodological framework

### 3.2.1 The Identification Stage

The initial phase of the research involves the identification of research needs from the researcher's background knowledge and experience gained from being from the study area and work as both an academic and practitioner in North West Nigeria. Thus, a broad area of research was identified within researcher's interest and capability. The areas covered by the research include architectural practice and the role of architects in the conceptualization of enabling or disabling space. Seemingly, lack of consideration

of the persons with disabilities mobility requirement at drawing stage and the absence of workable guidelines in the design of disability friendly built environment may have a negative impact on persons with disabilities. Chapter one presents findings from this identification stage. This is then followed by an appraisal of literature related contribution of other researchers in the broad area of research involving the built environment of higher education and persons with disabilities in chapter two.

From these reviews, it becomes apparent to the researcher that construction of inaccessible environment is not a standalone activity. It is a socially created phenomenon that needs investigating from the perspective of social science research. After all, architecture is both an art and a science that gives expression to the accomplishment and ideas of people and their time. In other words, architecture is both a physical and social activity. In addition to that, there appeared to be an apparent underrepresentation of persons with disabilities in an academic setting. This background experience reinforced by a literature review becomes a thrust for the study of disability, environment, and education in the field of history and theory (Architectural Design).

### 3.2.2 Development Stage

The second stage of the research covered the questions and objectives to achieve the aim. As depicted in (Figure 1.1) the research problem identified guides the study aim. At the development stage, the research methodological design mechanism finds an answer to the research issues identified. The foremost basis of the research methodology is informed by its philosophy following a synthesis of the literature and theories of holistic approaches. The philosophical stance that guides the research undertaken was based on the researcher's ontological position to answers the question about the nature of (social) reality of disablement for disabled people being investigated. Consequently, the way in which the persons with disabilities view the

world around them shaped the research the research philosophy. The methodologies employed in a research served as the basis for adopting the methods in the research. This is anchored with a theoretical perspective derived from the research epistemology as elaborated in the (Figure 3.2).
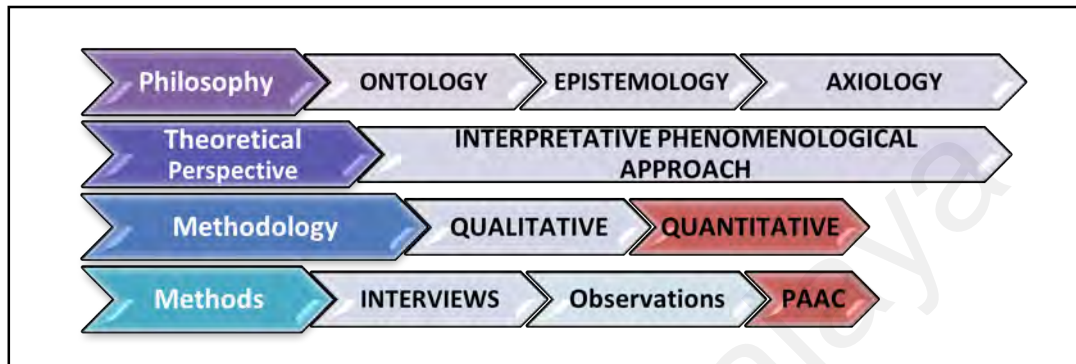


**Figure 3.2:** The basic elements of the research process

The realities being investigated concerned an unknowable reality perceived in different ways. Realism is an objectivity approach while idealism is constructivist see (Figure 3.3).
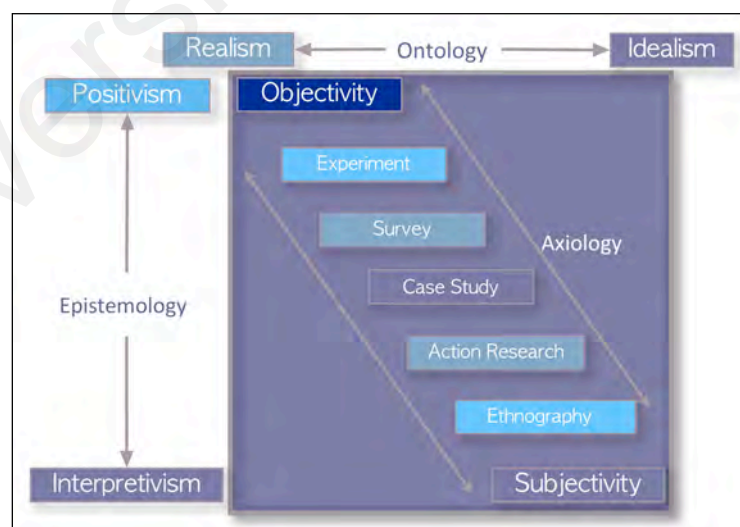


**Figure 3.3:** Dimension of the research philosophy

Source: adapted from Sexton and Barrett (2003 p. 22)

The epistemology for the study explains how such knowledge is known, gotten, accepted, or discovered and what it means to know it. Unlike objective reality, which has a positivist epistemology, which purports that reality is irrespective of experience or context, this study has a subjective epistemology. Thus, its context is not universally applicable. A research is interpretative when it has subjective meaning from multiple realities (Crotty, 1998; Sexton, 2003; Siti-Uzairiah, 2014). The realities in this sense are the multiple explanations of human action through an understanding of the way in which different individuals construct the world (Table 3.1).

**Table 3.1:** Contrasting between positivism and social constructionism

|  | Positivism | Social Constructionism | Adopted from |
|---|---|---|---|
| The observer is | Independent | Part of what is being observed | (Easterby-Smith, Thorpe, & Jackson, 2012) |
| Human interest | Is irrelevant | Is the driver of science | |
| Explanations | Established causality | Increase understanding | |
| Progress is through | Deduction and hypothesis | Gather data and induce ideas | |
| Concepts | Operationalized for measurements | Incorporate stakeholder viewpoints | |
| Unit of analysis | Reduced to simple expressions | Include the complexity of the situation | |
| Generalization through | Statistical probability | Theoretical abstraction | |
| Sampling is | Randomly selected large number | Specifically chosen a small number of cases | |
| The difference is | Quantitative | Qualitative | (Collis & Hussey, 2003) |
| | Objectivist | Subjectivist | |
| | Scientific | Humanistic | |
| | Expertise | Interpretative | |
| Alternative knowledge claims | Determination | Understanding | Creswell (2002) |
| | Reductionism | Multiple participant meanings | |
| | Empirical observation and measurements | Social and historical construction | |
| | Theory verification | Theory generation | |
| Advocacy/Participatory | Political | Consequential | |
| | Empowerment-oriented | Problem-cantered | |
| | Collaborative | Pluralistic | |
| | Change-oriented | Real world practice | |

Adopted From *(Collis & Hussey, 2003 (John W Creswell, 2002; Easterby-Smith et al., 2012)*

Understanding of disability and disablement is relative and subjective varying from individual to individual. Likewise, the way the researcher interprets the persons with disabilities' experience of disability and disablement is influenced by the researcher's background and experiences. Consequently, knowledge about the experience is not a scientifically provable fact. Such knowledge is neither positivist nor objectivist, measurable or quantifiable. Social constructivists, therefore, inform the axiology of the research. Thus, it is prone to individual judgmental interpretation with value-laden axiology see (Table 3.2).

**Table 3.2:** The research within the philosophical continuum

| Positivism | Ontology | Interpretative |
|---|---|---|
| **Realism (predetermined)** | ←——————→ | Idealism (Socially constructed) |
| | The belief about the reality. | |
| | ↕ | |
| **Objective measure (Facts and figures)** | **Epistemology** ←——————→ | Subjective measure Idealism (exploratory/explanatory) |
| | **How to acquire, discover and accept the knowledge** | |
| | ↕ | |
| **Value-free (Systematic/ scientific)** | **Axiology** ←——————→ | Value-laden Idealism (Interpretation & experience) |
| | What values go into the knowledge | |

Source: Author's compilation

Similar to critical the inquiry or critical theory, which has its origin linked to a theory founded upon a critique. Researchers that seek to develop a model for overcoming barriers meant to change the situation of the affected people. Thus, the German philosopher and sociologist Max Horkheimer called any theory, critical insofar if it is meant to liberate humanity from the situations that overpower them (Horkheimer, 1993). Critical theory established by five Frankfurt School of theoreticians upholds that

ideology is the major obstacle to human liberation. Therefore, critical theory was designed to accelerate developments that reduce discriminations in the society (Peters & C., 2003). This research is instrumental rather than an intrinsic case study.

Although literature provides differing explanations of critical theory, D. B. Gray, Gould, and Bickenbach (2003) asserted that critical theory demands that researchers should, together with participants discard what they regard as "*false consciousness*". Accordingly, instrumental case study like the critical theory is not limited to interpreting the world, but also to change it. This makes this research instrumental rather than intrinsic. Borrowing its rationality from the writing of Karl Marx (1818-1883), (Kincheloe & McLaren, 2003) re-conceptualized critical theory for the 21$^{st}$-century mind. Stating that just as the economic factors are important in shaping everyday life, so also is an unstable social practice, whose implication varies with context. Critical theory is applicable to this research as it relates to marginalization as a phenomenon that subjugates individuals from making a decision and exposes the hidden forces behind social; inequality. Concurrently, Codd (2007) also recommended the use of critical theory to challenge the prevailing practices in educational settings.

### 3.2.2.1    Selection of Qualitative Research Approach

The qualitative research is meant to be more intensive than extensive focusing into a particular context. Equally, a reasonable boundary was set for the study to avoid attempting to answer questions that are out of scope. To achieve this, the study is limited to Nigeria where evidence suggested the presence of more persons with disabilities than anywhere in Africa as previously discussed. Also, research which involves social justice is best carried out using qualitative but with quantitative support to reinforce the claim of the social group (Anthony J. Onwuegbuzie, Johnson, & Collins, 2014). Furthermore, this case study fits for the Merriam's criteria of qualitative

research, because it sought to uncover a phenomenon of mobility struggle within a bounded system of educational settings. The question is about why and how the experience of exclusion or inclusion occurs and what need to be done to overcome the negative mobility experiences and facilitate the positive phenomenon from the perspective of persons with disabilities.

The embedded design involves the nesting of a different sort of data within an established quantitative or qualitative research design. An example of qualitative data within a quantitative design or vice versa is shown in (Figure 3.4). Its advantages included the accommodation of collecting concurrent data within the premises of another research design (Heigham & Croker, 2009b). The challenge poses to the research includes the need to analyse and present separate sets of results.
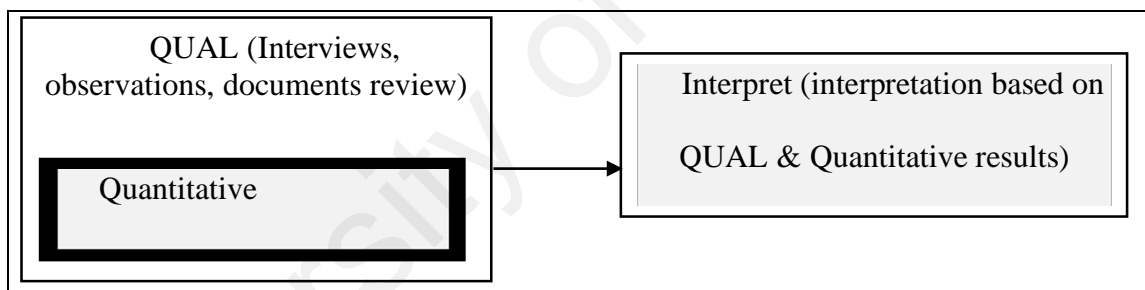


**Figure 3.4:** Embedded Design procedure in Andrew's (2006) study

*Sources: Nataliya V. Ivankova and John W. Creswell in (Heigham & Croker, 2009b)*

### 3.2.2.2 Selection of Case Study Research Approach

Case study research design resonates with the primary objective of this research. A case study is said to be applied "*to get the best out of the minority group*" and towards "*making a case in order to change the situation of the oppressed*" (Norman K Denzin & Yvonna S Lincoln, 2005). Hamersley in (Gillham, 2000) rightly put it; *case study can be used to speak to policy makers about how people make sense of their action and priority related to their context (Gillham, 2000).* A case study of qualitative approaches

allows the researcher to explore the world of others through holistic rather than reductionist approach (Merriam, 1988). Thus, in this study, the approach is located within the framework of Qualitative methodology, which is grounded in constructivist epistemological position because it is concerned with the complexity of man experiences as understood within a particular context. Both Robert (R.K. Yin, 2009) and Robert Stake (Stake, 1995) concurred that the case study focuses more towards a constructivist paradigm, but with flexibility to accommodate objectivity.

This case study is capable of utilizing several sources of substantive evidence. Accordingly, this Case study research draws from multiple sources and a variety of tools to study the subjects. Accordingly, R.K. Yin (2009) stated that a case study design is appropriate where the research focuses on; (1) answering the "why" and "how" questions; (2) the behaviour of the study subject(s) cannot be manipulated; (3) the study seek to cover contextual conditions that are believed to be related to the phenomena being studied; and (4) boundaries between context and phenomenon are not clear.

Based on that preceded idea, Case study is deemed appropriate, firstly, in order to answer "why" and "how" disabled people experience mobility barriers in and within the educational built environment, how the barriers impact the persons with disabilities, and how to reduce if not eliminate the barriers. Secondly, the researcher is to interpret rather than to manipulate the behaviour of those involved in the study (i.e. Disabled participants and the disabling conditions). Thirdly, contextualized contemporary issues related to the phenomena of mobility disability and exclusion were the focus of the research. Fourthly, the boundary between the nature of mobility restriction and the factors that cause the restriction is not readily apparent. Fifthly, a study limited to the settings and subject which sought *to get the best out of the minority group* through in-depth analysis and understanding is what was defined as a case study (Norman K

Denzin & Yvonna S Lincoln, 2005). Components of the case study as a research approach is elucidated in the next section.

### a. Meaning of a Case Study Research

Though the meaning of a case study research can be elusive because of the multiple, but conflicting meanings different researchers attached to it. The researcher considers this qualitative research a case study for several reasons. For clarification, "*case study is not a method*" (Stake, 1995). It is not a methodological choice either (Dezin & Lincoln, 2005). A case study is an object or subject to be studied (Dezin & Lincoln, 2005; Stake, 1995). The object in this research is the disabling environment causing disabling experience. The subjects are the disabled people. Consequently, they form the units of analysis in the research. Moreover, a study can answer the name of a "case study" when it is made to an established protocol with a boundary for it (Heigham & Croker, 2009a). By consensus, an empirical investigation of a contemporary phenomenon within its contextual setting of a bounded system is what was defined as a case study (Norman K Denzin & Yvonna S Lincoln, 2005; Gillham, 2000; D. E. Gray, 2013; Marriam, 1988; Robert K Yin, 2014). This study is an empirical investigation of the phenomenon of exclusion within the setting of higher education in Nigeria and therefore is defined as a case study.

### b. Placing Boundary for Case Study

The choice of cases in a case study research is contingent upon the overall study purpose case (J W. Creswell, 2012; Dezin & Lincoln, 2005; Gillham, 2000; D. E. Gray, 2013; Patton, 1990; Stake, 1995; R.K. Yin, 2009). Thus, each case was carefully selected so as to predict literal replication (similar result) or theoretical replication

(contrasting result), but from anticipated reason. Having determined the unit of analysis is the study. The researcher sought to avoid the tendency for attempting to answer questions that are way out of scope and ensure the study is reasonable in scope. The boundary for the study is higher educational settings within Kano, Nigeria. The boundary of a case study can be time and/or place bound (John W Creswell, 2002). Points that are favouring a single case study selection usually reflect its uniqueness and artificial conditions surrounding the case. According to R.K. Yin (2009), a single case study is tantamount to putting *all eggs in one basket*. Thus, a preference for more than one case study was reported by a number of eminent qualitative researchers, including (Norman K Denzin & Yvonna S Lincoln, 2005; Merriam, 1988). Thus, a boundary is set to the case to study to determine the type of methods or relevant data capable of shedding light on the issue. Consequently, this study contains more than a single case. Two case study locations are selected for two reasons. First, they are the only locations offering special education at the departmental level. Thus, they are the only places disabled people are found on the record. Secondly, is to have multiple pieces of evidences for greater effect as suggested in (R.K. Yin, 2009).

### c. *Case Study Categorisation*

Multiple methods are to enhance rigor, credibility, dependability and transferability in the research (R.K. Yin, 2009). It is also meant to allow for triangulation and complementarity of purpose (Leech & Onwuegbuzie, 2007). R.K. Yin (2009), categorises case study as either (1) explanatory, which seek to answer questions about casual links and cause and effect relationships of a program; (2) exploratory, for an in-depth study to define question or hypothesis of a situation with no clear set of outcomes; (3) descriptive case study, which define a phenomenon and the real life context it occurs or finally (4) a multiple case study, which compares and contrast

within and between cases to predict similarity or differences based on a theory or a model.

Stake (1995), on the other hand, classified case study as: (1) Intrinsic, to understand the case because of its peculiarity rather than generalization; (2) Instrumental to understand something external to the issue being studied so as to provide insight into the issue or assistant in refining a theory that is or is not typical of other cases or (3) Collective case study that describes multiple cases either intrinsically, instrumentally or both. In connection with the overall study purpose this research uses multiple (R.K. Yin, 2009), which Stake (1995) referred to the collective case study. Single case or multiple cases can either be embedded or holistic as represented in the figure 3.5.
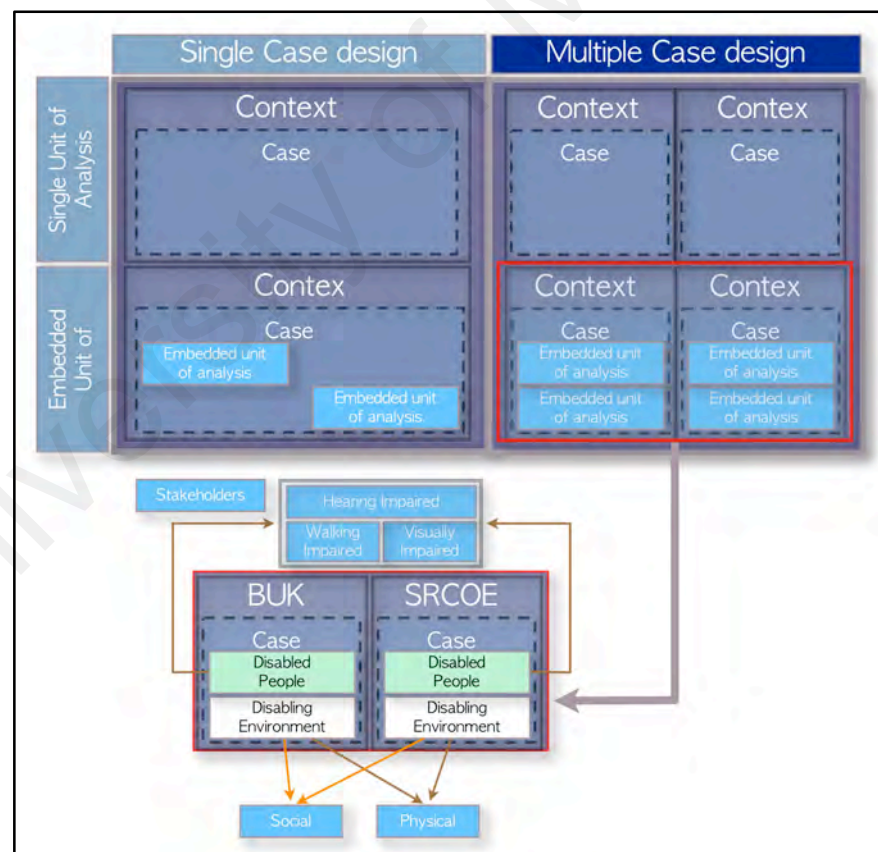


**Figure 3.5:** The selection of multiple embedded approaches

Source: adapted from (R.K. Yin, 2009).

### d.  *Multiple Embedded Case Study Designs*

To prevent the possibility of insufficient evidences to support the research question and the direction in case study research multiple embedded case study research was employed following. The choice is informed by the fact that embedded unlike holistic allow for a cross case and within case analysis. Furthermore, multiple case studies are equated with experimental research where generalization is possible. The difference, however, lies in the fact that experimental research is generalizable theoretically, because it uses multiple cases manageable within a relatively short time frame, while the in-depth nature of the case study requirement may not allow its completion within limited timeframe (R.K. Yin, 2009). Thus, case study becomes no different from experimental research given a substantial allowance, scholarship and a timeframe. Multiple methods employed are also expected to enhance rigor, credibility, dependability and transferability. Moreover, multiple method allows for triangulation and complementarity of purpose (Leech & Onwuegbuzie, 2007). Thus, the study exploits it.

The approach in the research will help explore the differences and similarity between the selected campuses under study the "*cases*" and between selected units of analysis within each individual campus "the case". The researcher here prioritize multiple case studies over single or several cases, because they limit the in-depth nature of case study strong points and that the question of how many participants are enough will start to rise. A single case uses a single unit of analysis and is therefore vulnerable and risky, while multiple cases uses multiple circumstances and therefore is capable of deriving a critical analytical benefit from the research.

Multiple case studies are justified, but using (rather not several but only) a few cases to avoid the problem of limiting the in-depth requirement of the research question and the unusual and rare circumstantial nature of the study cases. The quality of case study research is enhanced by the use of different data sources, including documentation, direct observations, interview, and notes.

### e.   Unit of Analysis for a Case Study

Disabled people involved are the staff and students with mobility disabilities comprising the visual, walking and hearing impaired and they are the cases to be studied as mentioned earlier.   The disabling environment is the socio-spatial environment in tertiary institutions offering special education at the departmental level. Relatedly, the study is about disabling phenomenon of exclusion by disabling environment examined from the point of view of persons with disabilities. The unit of analysis, therefore, is defined by what is to be studied, ranging from an individual, a group, institution(s), an organization, community, a process or relationship (Siti-Uzairiah, 2014; R.K. Yin, 2009).

### f.   Theoretical Propositions for a Case Study

Although, not always are propositions necessary in case study research, nonetheless, they are helpful in assisting the researcher to choose what to study and what to ignore wisely (D. E. Gray, 2013). Thus, propositions, which Stake, called issues direct the attention of the research to the research process, and help keep research on track and within the feasible limits of the study. Proposition help in determining the right data to collect and assist at the analysis stage. During the analysis stage propositions are usually employed to support or reject the study findings (R.K. Yin, 2009). Proposition exposes preconceived notions about research by the researcher and therefore

strengthened the interpretative capability of the researcher. This proposition is fully utilized at the analysis stage of this research in a form of triangulation.

### g.  *Linking Data to the Theoretical Propositions*

Theoretical propositions and research questions are connected in an iterative manner. In this research data linking based on the theoretical proposition is employed at the analysis stage. Thus, key findings are linked to theoretical propositions to match information to support or reject what was previously established from the review of literatures (R.K. Yin, 2009). For example, often policy statement is regarded as a proposition in this research with which the key findings are matched to determine whether it is being practiced and implemented or not.

### h.  *Criteria for Interpreting Research Findings*

This qualitative research focuses on causal relationships by counting occurrences to establish an association between entities statistically. The study sought to provide a rich description of meanings individuals attached to a phenomenon. Thus, the study can be described as a double hermeneutic process, because the researcher tries to put meaning into the meaning participants put into their experience (J. Smith, Jarman, & M. & Osborn, 1999). To do so, R.K. Yin (2009) suggestion is followed as follows: (1) the use of theoretical propositions, (2) developing a case description, (3) using both quantitative and qualitative data, and (4) the examination of a rival explanation.  Four strategies underlie the analytical techniques as described below:

   i.   Pattern Matching: compares predicted with empirically based pattern. Where the two patterns coincide internal validity becomes strengthened.

   ii.  Explanation Building: as analytical techniques use pattern matching with a focus on case study data to build an explanation about a case.

iii.    Time series analysis focuses on locating difference or changes between an observed trend and events over time.

Logic model: Postulate a complex set of events over an extended period of time.

### 3.2.2.3    Selection of Case Study Sites

Bayero University Kano (BUK) and Saadatu Rimi College of Education are the case study setting from which data were collected. Being the only tertiary institutions with a number of persons with disabilities enrolled, they have the capacity to provide enough participants in a real life setting as multiple sources of evidence.

### *(a)*  **Background of Bayero University Kano- Case Study 1**

Situated in Kano, Nigeria, Bayero University Kano (BUK) started as an umbrella under the banner of the Ahmadu Bello College in 1960. With the establishment of Ahmadu Bello University, Zaria (ABU Zaria) in 1962 it becomes Abdullahi Bayero College, and graduated its first set of graduates in 1964. In 1975, the college was converted into a full-fledged university. Its Mission reads:

*"To provide a world-class academic and professional training, community services and conduct research for the advancement of the society. To produce a high-quality human resource with the requisite skills for the development of the host community, the nation, and humanity."*

The university comprises of two campuses. The faculty of Education is located in the Ungogo local government area, 12.8km from the city along Gwarzo road. The department of Special Education was centrally placed within the campus before it was relocated to the periphery of the campus academic premises.

*(b)* **Background of Sa'adatu Rimi Colledge of Education – Case Study 2**

Sa'adatu Rimi College of Education (SRCOE) Kumbotso, Kano established in 1978 as the Kano College of Education as a teacher training institution before it was renamed following the assassination of Hajiya Sa'adatu Rimi (the wife of Abubakar Rimi- the first executive governor of Kano). The institution has a population greater than 45,000 in 2012. Even though it is a higher institution with the largest number of disabled students in North West Nigeria, persons with disabilities population is still less than 50. Its location is 12km away from an old Kano city within Kumbotso local government area.

### 3.2.2.4 Selection of Participants for the Case Studies

The samples used in the research include both the subjects and the objects. The subjects are the interview participants. The objects are the settings. Interview participants include the primary targeted participants and the secondary stakeholders. The settings include both the case study research area and the sites within the research areas. The justification for the choice of the participants and settings is what the next section elaborated on. Selection of the Research Participants

There are qualitative scholars that object to the use of the term "study sample" in a qualitative research, with a preference for terms such as "research participants" or "selected participants" (Bloomberg & Volpe, 2012). Nonetheless, the sampling procedure or the selection of participants is not affected by such linguistic disagreement. The sampling procedure is generally about who will take part in a research and why (Anthony J Onwuegbuzie & Leech, 2007; Sarantakos, 2005). Different approaches have been employed to develop an inclusion and exclusion criteria in this research. Primarily, purposive sampling was used for the selection of the research participants. This is because purposive sampling can yield information about

the phenomenon under study with representativeness that ensure the sample matches the population characteristics (Patton, 1990).

This research is about individuals from different campuses within the same regional territory. Therefore, snowball-sampling strategy, which is sometimes referred to network or chain sampling, is used as a strategy. It allows the researcher to choose a few participants from the general population based on the recommendation of the selected participants (Miles & Huberman, 1994).

Study locations are the departments of special education. Case study settings are selected, because the preliminary study conducted by the researcher revealed that they are the tertiary institutions with persons with disabilities on records, in the most populous state in Nigeria. By implication these places are the only places purposely intended to accommodate the educational needs of persons with disabilities in Kano.

### 3.2.2.5 Sampling Strategy

Sample provides a way of getting a representative portion of the larger whole population to whom you are able to gain access. The bigger the sample the better, but the most important thing is covering a considerable segment of the population (Trochim, Donnelly, & Arora, 2015). The population to which generalization of the research finding is possible is the theoretical population, while the population that is reachable to the researcher from the accessible population. The listing of accessible population from which to draw samples is the sampling frame. Snowball sampling is useful for a population that is hard to find through their social network (Trochim et al., 2015). Sample is selected group for the study rather than the selected group in the study (Trochim et al., 2015). The researcher may select some but they may not be disposed or available for one reason or the other. Others could dropout in the course of the study. These make sampling a multistep task, with a possibility of introducing a systematic

error or bias intermittently. For instance, where we try to extend a conclusion that generalizes beyond the experience of the participants. One key disadvantage of this method is the selection bias, because the participants are not randomly selected, but based on subjective choice of the first respondent. Thus, the need for external validity in a research arose.

### 3.2.2.6 Overcoming the Limitations Associated with the Sampling

To overcome the limitations associated with purposive sampling or sampling with a purpose, the focus should be in understanding the likelihood of over representation of readily available participants over the unavailable subgroups. Nonetheless, purposive sampling is useful in situation where the sampling proportionality is not the ultimate goal (Sarantakos, 2005; Trochim et al., 2015). What is important is the idea that emerged from the experience of the participant, whether it is replicable or repetitively deducible. Snowball sampling is a purposive sampling technique deemed appropriate in this research. The research begins by identifying people who meet the inclusive criteria of having hearing, visual or walking impairment in the higher educational settings be it students or staff. The participants are then asked to recommend whom to interview next.

### 3.2.2.7 Sampling Size

The intractable question is how big should be the sample in qualitative research. The "right" estimate for a sample size depends on many factors. Included is a resource constraint, cost of obtaining data, and finally the intended research outcome Trochim et al., 2015). For quantitative research that sought precision, relationship comparison, or generalizability, statistical justification is essential. Such includes correlation and regression coefficients. In quantitative research, however, little significant generalization is possible, but power of exemplary knowledge from the limited sample size (Thomas G., 2011). In this research data for saturation are deemed prevalent.

According to Trochim et al. (2015), sample selection is based on knowing (1) to whom the findings is to be generalized- Theoretical population, (2) what population you can get access to- the study population, the sampling frame- how you can get access to the population- the sampling frame and finally (4) who is in your study. The process is depicted in the figure 3.6.
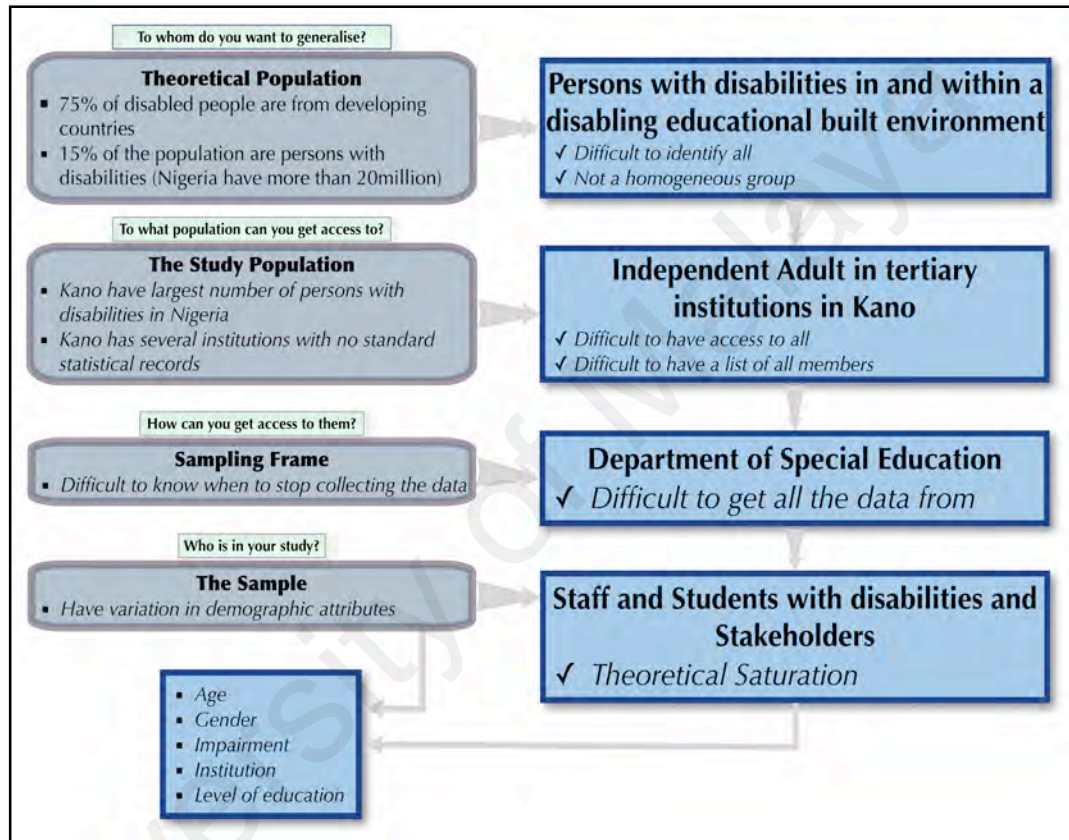


**Figure 3.6:** The Sampling Model

Source: Adopted from (Trochim et al., 2015)

### 3.2.2.8    Data Saturation in Research

Exhausting the number of research participants is not a justification for attaining saturation. Thus, it is not the number of participants in qualitative research, but the depth of the data (Burmeister & Aitken, 2012; Fusch & Ness, 2015). Number of the participants is determined by theoretical saturation (Sarantakos, 2005). Theoretical saturation is against redundancy, and therefore has a superior argument that the

interview is better truncated when no new idea appears to be emerging. Moreover, where data saturation becomes unattainable may hamper the validity of the research (O'Reilly & Parker, 2013). Furthermore, it is a research requirement to predict when best to stop (Guest, Bunce, & Johnson, 2006). Data saturation is reached at the time enough information to replicate the study becomes apparent (Fusch & Ness, 2015; O'Reilly & Parker, 2013), when new information is required or additional information is not forthcoming (Guest et al., 2006). However, data saturation field has not received sufficient research attention it warranted, because of its complexity and difficulty. Evidently, theoretical saturation enables the researcher to determine when best to stop rather than continue indefinitely.

Arguably, in every data there is something of importance that can be produced out of it (Mason, 2010). Mason (2010), arguments against theoretical saturation mainly relied on textbooks citations between 1981 to 2005, but selectively ignored journal articles published between 2006 and 2010; the publication year of the article (Fusch & Ness, 2015). Consequently, saturation through an interview is the best way to stop the interview. Thus, a saturation grid is presented in (Table 3.3). It consists of emerging themes on the vertical columns and the anonymized interviewers list on the horizontal rows (Brod, Tesler, & Christensen, 2009). This is done in order to generate a within case comparison of these attributes and across cases. With ten and nine interviews theoretical saturation was attained in case study site SA and SB.

**Table 3.3:** Saturation Grid of the Interviews

| | | Case study site- SA | | | | | | | | | | Case study site- SB | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | R01_SA | R08_SA | R07_SA | R09_SA | R06_SA | R03_SA | R05_SA | R04_SA | R06_SA | R02_SA | R1_SB | R2_SB | R4_SB | R9_SB | R8_SB | R6_SB | R7_SB | R5_SB | R3_SB |
| **Barriers** | Psychological | | | | 1 | | 1 | 2 | | | | 2 | 1 | 1 | 2 | 1 | 2 | | 5 | 3 |
| | Attitudinal | 2 | 1 | 2 | 2 | 1 | 2 | 15 | 11 | 1 | 1 | 4 | 2 | 19 | 9 | 9 | 12 | 7 | 14 | 22 |
| | Physical | | 11 | 19 | 29 | 5 | | 15 | 12 | 5 | 2 | 1 | 2 | 8 | 18 | 9 | 4 | 7 | 10 | 1 |
| | Logistical | 5 | | | | 5 | 8 | 6 | 9 | 5 | 8 | 5 | 8 | 2 | | | 2 | 2 | 5 | 11 |
| **Barrier Impact** | Demotivation | | | | | | 1 | | 2 | | | | | | | | | 1 | 1 | |
| | Financial Burden | | | | | | | 4 | 5 | | | | | 12 | 2 | 4 | 3 | 10 | 5 | |
| | Loss of Confidence | | | | 1 | 1 | 1 | 8 | 2 | 1 | 2 | | 2 | | | | | | 1 | |
| | Physical Stress | 1 | 2 | 3 | 3 | | | 9 | | | 1 | | | | | 3 | 3 | 1 | | |
| | Time Constraints | | | | | | | | 1 | | | | | | | | 1 | 1 | 4 | |
| **Overcoming Barriers** | Coping Strategy | | | | | | | 2 | 6 | | | 1 | 2 | 2 | 1 | 6 | 1 | 1 | 6 | 1 |
| | Improve awareness & support | | 1 | | | | | | | | | | | | | | | 2 | | |
| | Barrier Removal | | 1 | 1 | | 5 | | 1 | | 1 | | | 2 | 2 | 6 | 6 | 4 | 4 | 7 | 1 |
| | Policy Improvement & Implementation | 4 | 2 | 1 | 5 | 1 | 1 | 2 | 5 | 1 | | | 2 | 2 | 3 | 4 | 1 | 5 | 1 | 2 |
| | Emergence of NEW Major Themes YES (Y) or NO (N) | Y | Y | Y | Y | N | Y | Y | Y | N | N | Y | Y | Y | Y | Y | Y | Y | N | N |

### 3.2.2.9 Methods of Data Collections

To reduce the likelihood of misrepresentations of what the participants are saying multiple methods are adopted (Bloomberg & Volpe, 2012). Thus, one method will strengthen another in the research. Moreover, convergence or triangulation of the different sources will serve the complementarity of purpose (Leech & Onwuegbuzie, 2007). Among the several methods available, the following were adopted for the study; in-depth interview, document review, physical observation and Physical accessibility audit checklist in line with individual research question. Figure 3.7 diagrammatizes the multiple data collection process employed.
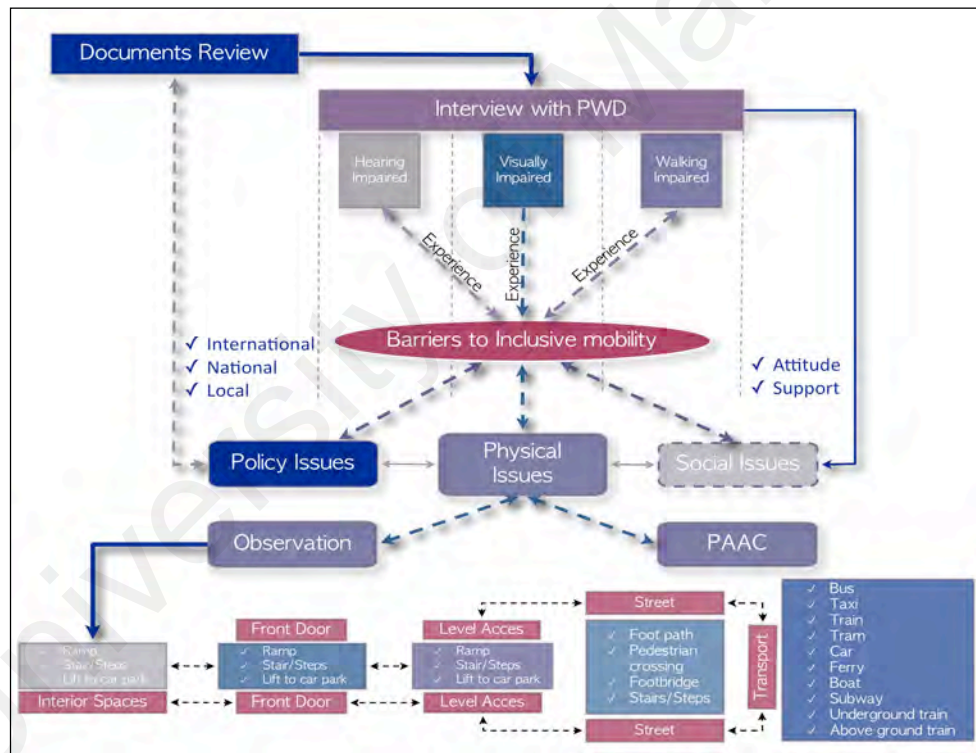


**Figure 3.7:** Overview of data collection process of the Research

Source: Author compilation

#### a) Interview as a technique of Data Collection

An interview as a conversation with a purpose (Seidman, 2012), is used in this study for a number of reasons and in a particular sequence. In this research, the in-depth

interview was typically guided by an interactive session between the researcher and the study participant. The goal of conducting the interviews is to gain an insight into the individual experiences from their own point of view (DiCicco‑Bloom & Crabtree, 2006). The interview provides one of the best ways to know and understand. Simply put, a story is a way of knowing. The interview as a technique of data collection has the potential allow an unexpected data to emerge because of its flexibility (D. E. Gray, 2013; Sarantakos, 2005). Its flexibility also accorded the researcher the ability to control the condition. Example, language, and location for the interview as well as the order of the questions, time and date of the interview. Moreover, the interview was employed for its capacity to explore in-depth phenomenon. As a cooperative venture is required in this research between the interviewer and the interviewee though participation rather than response, it is employed to manage complexity in a simplified way. The fact that the interview is usually face-to-face, makes it attracts a relatively higher response rate than other forms of data generation procedures such as questionnaires and therefore it is the primary instrument for this research.

Participants are allowed to direct the course of the discussion as much as necessary, which is what makes it semi-structured as against structured interview, which has a predetermine discussion pattern with predictable outcomes (Lofland & Lofland, 1971). The interviews were conducted in a language and settings the interviewee is most comfortable with. Even though the discussion is being guided by predetermined topics the interviewee is allowed to drift and talk out of the topic, in such cases, prompts and probes were employed to make clarifications and extend the narrations (DiCicco‑Bloom & Crabtree, 2006).

The interviews with persons with disabilities are the primary data collection methods. Other methods and data collected in this research are meant to supplement or

otherwise the assertion of the study participants (persons with disabilities). Example, interviews were conducted with academic staff, and environmental designers as stakeholders in order to follow up the themes that emerge from discussion and interview with persons with disabilities. In this regard interview becomes the most important tool for eliciting a thick description of the participant's experience (Bloomberg & Volpe, 2012; Dezin & Lincoln, 2005), which is the aim of the study.

### b) Documents Review as Technique of Data Collection

To enable researchers to obtain words of the participants at any given time as an unobtrusive source of information document review is employed. Researchers study documents in conjunction with or instead of studying people (Sarantakos, 2005). The documents review served to collaborate and argument evidences from various sources (Remenyi, 1998). Thus, document reviews are indispensable tools for triangulation of sources as well as of findings (Leech & Onwuegbuzie, 2007). Written materials in the form of institutional pamphlets, university missions and vision statements and the public documents such as policies, legislations, and strategic plans are relevant to the research and are employed in the literature and triangulation of the findings.

### c) Direct Observation as a Technique of Data Collection

Observation is one of the oldest methods of social research. In time, however, it becomes popular with the aid of audio-visual support (Sarantakos, 2005). Direct observation often entails gathering data through visual documentations. There are various observation techniques. Thus, physical observation is an indispensable technique in qualitative research in general because:

"*Qualitative researchers make a study of things in their natural settings, with the aim of making sense of or interpreting the phenomenon, according to their contextual meaning and users understanding* (Norman K. Denzin & Yvonna S. Lincoln, *2005).*

Physical observation employed in the research accorded the researcher opportunity for gaining first-hand knowledge of a phenomenon being studied and the experience of social reality against the traditional description of the participants. Physical observation, therefore, has been widely used in case study research as a multiple source of evidence to strengthen the research evidences (Siti-Uzairiah, 2014). In this study physical observation focuses on objects that have significant impacts on people's lives for two purposes: to disclose information about attitude and people's behaviour and to reaffirm or amplify the information offered to the researcher.

Physical accessibility audit as a technique of physical observation (Yiing, Yaacob, & Hussein, 2013). Physical assessment of the building for disabled people to access is termed access audit (Holmes-Siedle, 1996). An access audit examines existing buildings against a predetermined criteria designed to assess features of the environment that might constitute a barrier for persons with disabilities mobility and to measure building usability by persons with disabilities (Holmes-Siedle, 1996; Kamarudin, Hashim, Mahmood, Ariff, & Ismail, 2012a; Yiing et al., 2013). This structured form of measurement should be performed by the person(s) experienced in accessibility auditing such as architects with the knowledge of Universal Design or the disabled people with experience of adaptive work (Holmes-Siedle, 1996). Access audit is usually conducted in two stages. The first stage identifies the presence or absent of accessibility feature in the environment against the acknowledged minimum standard. Where the minimum standard is non-existent, then persons with disabilities user's specification are utilized to serve as a design brief. The second stage involves an assessment of the usability of an accessible infrastructure by persons with disabilities or a standard set by them. The persons with disabilities could be individuals or organisations.

For this research accessibility audit checklist was adopted from the synthesis of USAIDS audit checklist[3] international organizations and modified to suit the local context of the study region. The USAID checklist was designed by the persons with disabilities representative organization situated in Ethiopia to measure the ability of persons with disabilities to Reach, Enter, Circulate and Use (RECU) building or part of it independently. The persons with disabilities include visual, hearing and walking impaired persons. The appointment was secured with the representation of disabled persons in the institutions under study, prior conducting the access auditing. Both physical and managerial accessibility issues were examined to access both the horizontal, vertical, inside and outside routes for the mobility of persons with disabilities.

### 3.2.3     Application Stage

The third stage focuses on the case study application, collection of empirical data and the principles employed in the research analysis. Therefore, both the collection and analysis of data as well as interpretation in the qualitative inquiry are done concurrently in qualitative inquiry (Gillham, 2000). Data collection involves gathering multiple sources of evidence to converge into a single meaning through the process of triangulation.

### 3.2.3.1   Data Collection (Fieldwork)

Submission of official letters to the faculties and departments was made. An arrangement to meet with the participants was established through the dean of the faculty who in turn arranges for the researcher to meet the head of the department for special education. Through the head of department lecturers and students with

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[3]http://www.heard.org.za/downloads/physical-accessibility.pdf

disabilities were identified. A pilot study was conducted involving staff and students with hearing, visual and walking impairments. An interview is conducted in a day. The result is analysed and key issues arising therefrom are noted. These inform on the adjustment of subsequent interview and the others. The iterative back and forth mechanism ensured the flexibility accorded by the semi-structured interview to get a first-hand with a value free axiology. A total of 10 and nine participants from BUK and SRCOE respectively were interviewed as shown in Table 3.4.

**Table 3.4:** Case study participants

| Case Study Area | Disability type | Male Respondents/ Designation | Female respondents/ Designation | Number of respondents |
|---|---|---|---|---|
| Case Study 1 | Hearing impaired | 2 Students | 1 student | 3 |
| | Visually impaired | 2 Students | No-one admitted | 2 |
| **(BUK)** | | | | |
| | Walking impaired | 2 Students | 2 Students | 4 |
| | Visual impaired staff | 1 Staff | - | 1 |
| | **Total (BUK)** | **7 males** | **3 females** | **10 PWD** |
| | | | | |
| Case Study 2 | Hearing | 1 Student | 2 students | 3 |
| | Visual | 2 Students | 1 Student | 3 |
| **(SRCOE)** | Walking | 1 Student | 1 Student | 2 |
| | Visual impaired staff | 1 Student | - | 1 |
| | **Total (SRCOE)** | **5 males** | **4 females** | **9** |
| | Total number | **12 males** | **7 females** | **19** |

Source: Authors compilation

For the purpose of anonymity, the 10 and 9 individuals with disabilities interviewed from BUK and SRCOE site respectively, all within the Kano state North West Nigeria were assigned pseudonyms preceded with a letter representing the case study location SA for Site A and SB for and Site B. Thus, R1-SA to R10-SA was assigned to the participants from BUK while R1-SB to R9-SB for the respondent in SRCOE.

### 3.2.3.2    Interview Schedules and Guide

The research questions were used as frameworks to develop the interview guide. Doctoral colleagues and advisors were consulted and their input incorporated to develop the interview guides attached in the Appendix. With the advisor's approval, preliminary interview was conducted and analysed concurrently.  The theme that emerges from the pilot interview revolves around barriers, impact of the barriers and possible way to overcome the barriers. Thus, a semi-structured interview questions were developed, with flexibility to allow new direction to emerge in the successive interviews. It revolves around gaining understanding of the nature and effect of disabling environment on persons with disabilities and how to overcome the disabling barriers. The focus was on the understanding of how persons with disabilities attached meaning to what they think may be responsible for their exclusion, both physically and otherwise.

### 3.2.3.3    Duration of the Interview

Given that the purpose of the interview is to gain an understanding of the participant's experience with regards to barrier to mobility, what constitute it, how does it affect the person experiencing it and what do to overcome it, anything shorter than 90 minutes may not be adequate enough. There is no standard rule, however, but the duration required to convey the message vary from 45minutes (minimum) to 2 hours (Seidman, 2012).  For preliminary analysis the interviews are spaced 2-3 weeks apart (Seidman, 2012). Examples of semi-structured questions asked include "*what does the word disability means to you*". The participants were purposively selected, and therefore are to a certain degree assumed to have had common experiences of disablement processes and practices. Thus, once persons with disabilities linked his or her disability with interpersonal activity or feature of the environment. The next question followed. *What environmental entity or feature specifically leads to your disability experience* and how or why? The barriers are expected to be physical barriers

and therefore can be seen through observation, or attitudinal, which cannot be seen. Therefore, the next question to follow is *how it may affect performance on equal merit as guaranteed by the law*. Sometimes the quotation of the relevant law is presented to the participant as a prompt. The last series of questions revolved *what need to be done to correct or modify the situation?* Meanwhile, before each interview process commenced participants were invited to review and sign a consent form attached in the appendix. On completion of the interview audio-recorded interview was transcribed verbatim. A sample of a typical interview anonymised is presented in the appendix.

### 3.2.3.4    Equipment for Accessibility Auditing and Audited Infrastructures

Measuring tape to compare on the site measurement with expected measurement as specified in the building guidelines or persons with disabilities requirements. Instruments include local non-motorized wheelchair for simulation, crutches, blindfolding, sketchbook, camera, and video camera.

Facilities examined include entrance ramps, handrails, public telephones/ATM machines, seating for persons with disabilities, reception and information counters, modified washroom, automatic doors, kerb cuts, designated parking space, pathways, general obstructions, telecommunication devices for the deaf (TDD), door markings/signs and the pedestrian crossings, amplification systems. The presence or absence of such facilities in the following Public and important building facilities are surveyed: administrative/chancellery building, central library, DSE, restaurant/cafeteria, and a central theatre. Physical accessibility audit reports contain the purpose for which it was prepared, for whom it was intended and by whom (Bright, 2007; Hashim et al., 2012; Holmes-Siedle, 1996)

### 3.2.3.5    General Data Analysis Strategies

In a qualitative research data analysis, commenced with the data collection concurrently, in an iterative manner (Dey, 2003). There is room for new avenues of query to develop as disparate data are collected (Stake, 1995). Thus, constant comparison is made in this research between the textual data with a code assigned where there is an emerging theme. The code is like a tag or a label reflecting the same idea or concept (Siti-Uzairiah, 2014). Volume of data generated from a single not to talk of multiple interviews or document may be enormous (Dey, 2003; Siti-Uzairiah, 2014).

Consequently, analytical strategies adopted in the study involved the display of data, code identification, information reduction, frequency summation, and categories matching. The following table illustrated the diversity of scholarly thoughts. Three advanced analysis strategies were offered by (J. Creswell, 1998) as illustrated in (Table 3.5).

The analysis is done in the following manner:

i.    General review of all information in the form of notes, transcriptions and pictorially

ii.   Reducing the data by developing codes or categories and finally

iii.  Coding the coded documents to identify the frequency of the code appearance.

**Table 3.5:** Synthesis of data analysis strategies

| | Analytical strategies | | | | | |
|---|---|---|---|---|---|---|
| **Authors** | **Display of data** | **Identify codes** | **Reduce the information** | **Frequency of the Codes** | **Relating categories** | **Sources** |
| Bogdan & Biklen (1992) | ✔ | ✔ | ✔ | - | - | (J. Creswell, 1998; Siti-Uzairiah, 2014) |
| Huberman & Miles (1994) | ✔ | ✔ | ✔ | ✔ | ✔ | |
| Wolcott (1994) | ✔ | - | ✔ | - | - | |
| Creswell (1998) | ✔ | ✔ | ✔ | ✔ | - | |
| Yin (2003) | ✔ | - | - | - | - | |
| Krippendorff (2004) | - | ✔ | ✔ | ✔ | - | (Siti-Uzairiah, 2014) |
| Stake (2006) | ✔ | - | ✔ | - | ✔ | |
| Hagh (2007) | ✔ | - | ✔ | - | - | |
| Ormerod (2009) | ✔ | ✔ | ✔ | ✔ | - | |

Source: the summary of the strategies was outlined in (Siti-Uzairiah, 2014)

### 3.2.3.6    Rationale for Interpretative Phenomenological Approach

This interpretative inquiry like other qualitative inquiries focuses on understanding the meaning people attached to their own action and interactions. What distinguishes it from other forms of qualitative researchers is the realization that there could be no value-free axiology in qualitative inquiry. In traditional qualitative research, researchers are expected to avoid interpretation and leave that to the readers. A more recent approach, however, regarded researcher's interpretation as an integral component of a qualitative process. The argument is that; nobody lives in a philosophical vacuum (Given, 2008). Researcher's worldview has always influenced not only the research findings but also the data collection procedure.  Consequently, instead of trying to assume a neutral ground, this qualitative researcher sought to explicitly explain the perspective taken to arrive at the interpretation. In a nutshell, contexts determined meanings are relative and subjective.

The claim that there is a reality "out there" waiting to be depicted as it is, is meaningless, because, in principle, the knowledge of what is "out there" is subjective to the interest, purpose, inclination and background of the researcher (Given, 2008). This is not implying that interpretivists are non-realists or antirealist. Meaning to say, there is no reality out there. There is a reality "out there", but its description/interpretation is not "out there" to be discovered or found. The reality is something constructed. The implication of this interpretative stance is that this research assumes no privilege vantage point from which the perspective of all issues must be viewed. Thus, the reality of what is happening in a contemporary setting can be interpreted, but it is not free from further interpretation or reinterpretation based on different interest and purpose. However, unlike relativism that was previously defined as "*anything goes*". This study disagrees with this sweeping statement. The study consented that some claim to knowledge can be better than others in terms of reasons and justifications.

This phenomenological study is unlike a study such as narrative inquiry that explores the life of a single individual. Phenomenology in this research articulates the meaning several individuals attached to a single phenomenon. Accordingly, the analysis seeks to reduce several understandings into a composite experience. An understanding of such phenomenon can promote a point of view to the incorporation of a sensitive response (Heigham & Croker, 2009b). This makes the study relative and subjective.

Furthermore, IPA is tailored towards "*meaning-making*" rather than "facts exploration". IPA in the research is employed to discuss ways in which study participants experience an on-going phenomenon in their day-to-day activities and in a particular setting. Put simply, a phenomenological approach is anticipated to attach meaning to the experience of persons with disabilities with regards to a phenomenon within the study context. Various studies utilize the use of (IPA) to attach meaning to

participant's words in an idiographic manner. However, IPA was criticized as subjective interpretation prone to researchers biased and perceived idea-laden axiology. Nonetheless, IPA is concerned with the personal perception of the study participants rather than attempt to prove the objectivity of statements or events from study participants (Hefferon & Ollis, 2006). Thus, this interpretative study focuses on the richness of meaning gain from the participant's experience, is meant to add to the study validity, while incongruent results may open a fresh vista to a particular study domain that may introduce a rival theory to an already established body of knowledge.

### 3.2.3.7 The use of Interpretative Phenomenological Approach in a Case Study Research

Although IPA gain considerable acceptance within social science research, it is currently gaining leverage in the disability related fields of discourse (Huws & Jones, 2015; Thurston, 2014; Vedeler, 2014). This is cognizant of the need for a methodology that can incorporate special mobility needs of a group that is often being excluded (Cass, Shove, & Urry, 2005; H. J. Miller, 2003). The interpretative inquiry in this research provides an explanation of the understandings people attached to their own action and interaction with others. Thus, the study is premised on the belief that objectivity alone cannot explain the complexity of human experience. Consequently, the study seeks to bracket representational views of the mind and a mind-body dualism (Simon, 1982). The description of the researcher's assumptions is important, but can be challenged while unnoticed assumptions are being uncovered.

Practically, the use of IPA in a case study research is by J. A. Smith (2004) reported a single case. Similarly, there is a reported publication of IPA case studies with one, four, nine and 15 participants (Pietkiewicz & Smith, 2014). However, in a multiple embedded Case Study that uses IPA research, there is the possibility of cross case

analysis to provide insight to a universal pattern or mechanism. Thus, six to eight participants were recommended for a case study research using IPA by (Turpin et al., 1997) in Pietkiewicz and Smith (2014). Generally speaking, however, most IPA researchers like the case study researchers preferred smaller samples than a single or a large number. This is because single data can be lopsided and limited, while more data does not equate to more meaningful result, which is the primary goal of qualitative inquiry (Ritchie, Lewis, Nicholls, & Ormston, 2013). In this IPA case study research, the number of participants is determined by theoretical saturation as has been discussed (3.228).

### 3.2.3.8    Use of Computer for Qualitative Analysis

Computer has the capability to reduce time, and cut out routine work, systematize the procedure, and make the procedure flexible and easier to revise and retrieve. Noteworthy, the computer is used as an aiding tool, but not a replacement of the human mind and therefore was treated as such. Analysing voluminous qualitative data often present a daunting challenge to researchers at the analysis stage. Thus, (Bloomberg & Volpe, 2012) recommended for simultaneous data collection and analysis to avoid having to deal with an overwhelming unfocused data. A range of software exists for a qualitative data analysis. Weitzman and Miles listed more than 20 as far back as 1995; NUD.IST now called NVivo, ATLAS.ti, MAXQDA, Dedoose, Microsoft Visio, and Decision Explorer are among the popular alongside many others, and they add value to a research (Miles & Huberman, 1994). For the purpose of this research NVivo version 10 was employed.

Central to the desire to gain an in-depth understanding that will enable interpretation of social reality Interpretative Phenomenological Analysis (IPA) is appropriate in line with the qualitative data process and therefore was employed as already mentioned.

### 3.2.3.9    NVivo Software for Qualitative Data Analysis

NVivo was optimized for qualitative data or a research tailored towards exploring a social phenomenon irrespective of the research approach adopted. The strategies adopted for this research are in line with multiple embedded Case study approach. A single "File" was saved under the name "*overcoming the barriers*" to reflect the research topic and keep the researcher focused on the research objectives. Thus, by putting all "Cases" under a single "File" a within case analysis and across a case analysis were run.

The second component under navigation view is the Nodes. It is somewhat similar to a container where things are sorted and stored. The sorting is called coding. It also contains cases or unit of observation. Thus, in this research is done by themes, names, concepts, topic, date, location, people. Correspondingly, nodes "the containers for storing the materials" can be about anything. Subfolders are created and stored inside the Nodes to receive items of similar attributes example, participants, case study sites, key concepts etc. As the relationship becomes apparent within the node, hierarchy is established by simple drag and drop. Relationship nodes are a type of nodes created to receive items with related attributes from different navigation folders such as different sources or different nodes. By their nature, therefore, relationship folders do not have sub folders or hierarchy. Running a matrix-coding query creates node matrix.

The third component under the navigation view is the classification folder. As the name implies, it helps in classifying materials by source example, bibliographical information and this is called source classification. Classification of nodes on the other hand is a classification such as a conceptual description of concepts, or demographic attributes of the participants like the ages and gender as well as level of education.

After classification in the navigation view is the collection folder. Collection folders afford the researcher a different way to organize research materials. For instance, a group of sources or nodes or a memo link is organized into a set. Queries use set criteria or result stored in the project to question the data, find patterns and pursues idea. The findings of the queries are then stored, example word phrases that are so frequently expressed with regard to a particular reference.

**3.2.3.10 Coding Using Interpretative Phenomenological Approach**

### I. *The interview data:*

The final IPA analysis phase was done through the compilation of the emerging themes from the first, second through the last coded documents (Hefferon & Ollis, 2006). This is performed through identification of predominant higher order themes. The overall analysis is done in the following order:

### II. *Importing the Documents*

The audio and video recorded semi-structured interviews and textual documents were imported directly into NVivo version 10 with a built-in folder called "Internal" under "Sources". The audio and video recorded data were transcribed verbatim within the NVivo platform. While noting, theories and methods are stored under "memo" folder in the source files. The interpretation procedure was carried out in three important steps. The steps are open, axial, and selective coding stages as follows:

### III. *Open Coding- Multiple Reading and Making Notes*

In order to make sense of the phenomenon under study as revealed by the participants the researcher gets engaged with the data as much as possible by reading the transcribed transcript a number of times. Alternating between emic and etic perspective and listening to the audio-recorded data intermittently give the researcher a form of new insight and it is recorded in the form of notes. Notes are categorized into observations, reflection about the interview and other comments. Audio and video

recorded interviews were transcribed verbatim. The texts were meant to serve as mediums for learning about the subjective experience of individual persons with disabilities. In line with (Pietkiewicz & Smith, 2014) and (Hefferon & Ollis, 2006) strategy that combines IPA in a Case study research the data were thus analysed. Being a qualitative rather than quantitative research small amount of study participants (persons with disabilities) suffice to get an intensive rather than extensive result (Sandelowski, 1995).

To get acquainted with the texts a single transcript was sampled and read thoroughly and severally following guidelines highlighted for interpretative phenomenological approach in (Larkin, Watts, & Clifton, 2006; Pietkiewicz & Smith, 2014). Thus, at the open coding stage, units of analysis were used to identify statements within the transcribed texts that matched or connect to the study objectives (Bogdan & Biklen, 1998). In this case, disabling experience by persons with disabilities or disabling environment for persons with disabilities. Iterative back and "forth" process follows to ensure core categories are classified with clarity and meaning.

The interpretative nature of the analysis necessitates the recording of quotes and ideas considered unique or interesting and those describing the gesticulation, exclamation or description of the study participants during the interview process. The ideas were open coded into several emerging themes. Quotes from the diary and memos were integrated to add strength to the themes rationales. The coded materials under awareness include the participant's perception of the nature of his or her disabilities. Under this provisional coding stage anything connected to mobility be it positive or negative were recorded. Thus, hundreds of statements were coded from a single interview transcript. Detailed and comprehensive notes are then transformed into emerging themes, but grounded in the detail explanation of the participant's account.

The account is nonetheless cognizant of two important variables: the unit of analysis and research questions. Thus, the emerging themes coded at this stage run into hundreds for a single coded interview. Codes without hierarchical structures are the first to be generated guided by the unit of analysis. The procedure involves a highlighting a statement from an imported or transcribed within NVivo platform document in one of the following formats: doc., PDFs, Dataset, NCapture, audio or video and right clicking on it to code into a free node with a relevant name.

### IV.    *Axial Coding- Transformation of Notes into Emerging Themes*

The axial coding stage is the second step, which analytically linked open coded statements (Corbin & Strauss, 2014). It is at this step that connection is established between statements to reduce a wide variety of data sets into conceptual categories (Saldaña, 2012). Accordingly, IPA the minor themes were clustered into major ones. Free nodes created on the open coding stage are grouped under another node call the Tree nodes at the axial coding stage development.

### V.    *Selective Coding- Seeking Relationships and Clustering Themes*

At this stage, connection is established between the emerging themes. Coded statements conveying similar meanings or concept are grouped under a descriptive label called child nodes. Those that do not fit well into any category, but are reflecting the unit of analysis are grouped as others to be examined at a later stage of the analysis.

Often selective coding has theoretical backing (Bogdan & Biklen, 1998), to achieve a higher level of abstraction. Abstraction is aimed at generating thematic process linkable to the general body of knowledge. The process is achieved through comparing code to code or concept of related codes (Saldaña, 2012). In this research three higher order themes emerged and are recognized as the emerging themes from the analysis of the transcribed interview data.

**Phase 2:** The second phase involves following the same procedure to code the remaining interview scripts as highlighted in the phase one. To achieve this, the emerging themes, which Smith et al., (1999) in (Hefferon & Ollis, 2006) called "master themes" were used as a guide to connect between findings from individual cases. The method is useful in multiple case study approach to expose replication logic, because it enables the researcher to locate connection between what is similar, new or different as well as contradictory at the preliminary stage of the analysis (Hefferon & Ollis, 2006; Saldaña, 2012).

**Phase 3:** the final IPA analysis phase involves compilation of emerging themes from the first, second through the last coded documents (Hefferon & Ollis, 2006). This is carried out through identification of predominant higher order themes.

### 3.2.3.11  The Use of Triangulation to Support the Findings

Triangulation involves an approach from different methodological viewpoints of a particular phenomenon or issue. The strength of different observations, assertions, concepts, methods, or sources of data or literature combines to determine the degree of agreement or convergence across individual methodological procedures leading to the same findings (Gillham, 2000). Thus, the triangulation in this study is used to support the finding and to ensure rigor through cross validation of findings with an established understanding by exemplifying a situation in which similar phenomenon occurs (Leech & Onwuegbuzie, 2007), and reduce the weakness or bias in the research as pointed out in (Collins, Onwuegbuzie, & Sutton, 2006). The findings when converged (e.g. If what persons with disabilities says agrees which what the physical provisions in the environments shows) confirmatory triangulation results. Where the findings do not converge, then it shows that the picture is more complicated than expected and has to be

understood in a different way (Gillham, 2000) and that can also be a thrust for further studies. So it is not about being true or false it is about interpretation of a point of view.

The triangulation is of the multiple interview participants, various policy documents, and investigators, including different literature source on the same issues and methods. Thus, triangulation in this study is multifaceted. It employs both triangulation by sources and by methodological approaches as presented in Table 3.6.

**Table 3.6:** Triangulation of sources and methodological approaches

| Name | Description | Methods used |
|---|---|---|
| **Triangulation of sources** | Multiple sources | Data collected from different participants, sample, sites, and buildings. |
| | Multiple viewpoints | Different stakeholders e.g. VI, WI, HI, Staff, students, and administrators |
| **Methodological triangulations** | Different data collection methods | Multiple techniques, e.g. Interviews, observation, and document review. |
| | Different data analysis methods | Multiple techniques, e.g. IPA, PAAC, content analysis, and cognitive mapping |

Source: Author's compilations

### 3.2.4    Presentation of findings

Contextual discoveries from case study site A and B are presented in chapter four and five respectively. Comparison of the results is made in form of analysis in chapter five, while chapter six represent a discussion on the findings. Based on the replication logic obtained from the synthesis of chapter four, through the analysis in chapter five, recommendations are presented in chapter seven. These three chapters form the refinement stage of the study.

### 3.3      Ethical Considerations

Ethical consideration is vital in qualitative research to safeguard and protect the participant (Berg & Lune, 2004). Thus, participants were fully informed of their rights to partake in the study only if they so wish. Termination of the interview also was

clearly spelt out that it is at the discretion of the study participant, without having to give a reason for doing so. Even though no particular threat was foreseen by revealing the participant's identity, the purpose of the study and anonymity was established in a way the information they revealed would be treated. Where it becomes necessary to identify the participant's identity the number of those privy to the information would be restricted to stakeholders in the research. The participants were made to be consciously aware of those rights and were made to sign an agreement form to that effect.

## 3.4     Methodological Rigor and Trustworthiness in research

Several criteria to enhance the rigor of this qualitative research are employed following the guidelines set by qualitative researchers including (Marshall & Rossman, 2011). For example, while quantitative research put in place reliability and validity to evaluate its practicality, this qualitative study evaluates "trustworthiness" to portray what is being researched. Accordingly, trustworthiness in this research is established based on four criteria including credibility, confirmability, transferability and dependability in line with the suggestions advanced by (Lincoln & Guba, 1985; R.K. Yin, 2009).

### 3.4.1     Credibility/ Construct validity

Credibility is employed in the research to that the study findings are meaningful and reflect the experience of the participants.  This is achieved through:

- Theoretical saturation

- Member checking

- Prolong conversation with the participants

- Total immersion into the data at the collection and analysis stage

- Peer review and debriefing involving discussions between researcher and supervisors to increase the findings credibility (Norman K Denzin & Yvonna S Lincoln, 2005).

### 3.4.2 Dependability/ Reliability

Dependability relates to the clarity of the research, indicating the transparency and repeatability of the study (Lincoln & Guba, 1985). This step-by-step procedure of how the research was conducted in one case study location and how it has been replicated in the second case study adds to the dependability of the research.

- Case study protocol
- Develop a case study database

### 3.4.3 Confirmability/ internal validity

Confirmability deals with the problem of knowing whether the interpretation is derived from the study findings as against the researcher's personal preconceptions (Lincoln & Guba, 1985). Confirmability in the research was achieved through:

- Direct quotation
- Strict compliance with data analysis process
- Peer review and debriefing

Internal validity concern explanation of how or why an event leads to another. In this research making inferences is based on:

- Pattern matching
- Explanation building
- Addressing rival explanations
- Convergent evidence

- Using logic models

### 3.4.4    The transferability/ external validity

Applicability of the result in other research settings is dependent on the researchers focus and circumstances. Unlike survey research, which seeks a larger sample to make statistical generalizations from the findings, case study approach uses:

- Cross case analysis is to expose the replication logic across the participant's experience.

- Across settings and

- Across propositions (theories)

### 3.5    Summary of Required Information for the Study

In seeking to explore the barriers that are affecting persons with disabilities in an inclusive setting of higher education information is needed. The information needed to respond to the research questions fell into the following categories: contextual, perceptual, demographic and theoretical.

    i. Contextual summarizes the setting, environment and institution.

    ii. Demographic describes the participants' information including age, education and gender. Demographic information helped in explaining similarity or differences in perception among participants. Participants are presented in pseudonyms for anonymity in the matrix as attached in the appendix.

    iii. Theoretical information is gathered from literature sources to support interpretation, synthesis and analysis and help in providing support for the conclusion.

    iv. Perceptual information refers to the participant's information regarding the research questions. It is the primary source of data collection to which all

other methods are secondary. It is noteworthy that perceptual information is not necessarily an indisputable fact rather they represent what the participants perceived as facts. The summary of the required information from the participant's perception as it leads to the selection of methods derived from the research questions and objectives.

### 3.5.1 The Refinement Stage

At this phase of the research process, the research outcome begins to be shared and communicated (O'Leary, 2013). It is at this stage that the thesis write-up begins to emerge as a product in the form of research outcome (Sarantakos, 2005). Important findings are being published in peer review journals. Published articles are meant to increase the level of awareness about disabling policy and practices. The nature of the physical environment and the stress persons with disabilities are subjected to, are therefore revealed. The way the environment was and is being conceived by the non-disabled majority becomes obvious.

The research product in the form of the thesis report appears completed at this stage. A summary of the research problem, a reflection on the researcher's role and the study undertaken in realizing the end result occurs at this stage to inform the conclusion and recommendations of both specific and general implications.

### 3.6 Limitations Associated with Generalisation

Qualitative study contains some limitations. First major criticism of this approach is the sampling procedure of both the case study area and the case study participants. The research participants were restricted, which limits the possibility of generalization. To avoid falling into the trap of the sample size limitation various researchers conducted their study on persons with disabilities rather than with persons with disabilities using the pure Objectivist approach, because persons with disabilities are few in most research

contexts and the difficulty of obtaining information from disabled people. Study participants may appear to be few in comparison to what the traditional sampling specifies, but the barriers they experience and its impact on them cannot be quantified with numbers. It is a trade between being intensive or extensive.

Another limitation is on the issue of the generalization. Generalization is not the goal of qualitative inquiry. What the research addresses is the issue of transferability (Thomas G., 2011). Yet, this is a limitation ought not to be disguised. However, other quantitative approach often takes care of such deficiencies, as has been reviewed in the literature. After all, "*seeking generalizability- seeing generalization as the first and the most important aim in social science- can inhibit or even extinguished the curiosity and interpretation that can come from Phronesis*" (Thomas G., 2011).

Additionally, researcher's point of view influences the interpretation of qualitative research. Thus, qualitative research is limited by subjectivity. Accordingly, the need to spell out the researcher's bias is important. Subjectivity and the bias regarding researchers' predispositions are among the major limitations of this study. Acknowledging these limitations, the following measures were taken to lessen the impact: participants' identities were obscured during the data transcription so as to avoid the association of data with the perceived personality of the participants.

## 3.7    Summary and Link

The chapter traces the philosophical underpinnings, which lead to the selection of qualitative case study research. Qualitative case study research was employed to investigate a reported phenomenon of exclusion. This was carried out in order to answer why and how persons with disabilities are experiencing a degree of exclusion in and

within a setting of higher education amidst inclusive policy directives to avoid marginalization in Nigeria. Investigation of persons with disabilities mobility experience was deemed appropriate using semi-structured interviews.

Three data collection methods were employed including documents review, interview, and physical observation. The document review was made to establish an interview guide for the research and was made in two parts: (1) qualitative content analysis of official document review to reveal the rights and the extent to which persons with disabilities inclusion is expected in the study context, and (2) literature search using relevant keywords to examine the extent to which persons with disabilities are included in research and in the environment as reported by other researchers. The semi-structured interviews are conducted with 19 persons with disabilities within two selected tertiary institutions. The physical observation involves physical accessibility audit checklist (PAAC) to measure adequacy, availability and usability of accessibility infrastructures within the respective campuses, and photograph of critical areas highlighted by the interviewees or PAAC results are presented.

Design and approach as well as research settings and samples were presented. Finally, a data collection and analysis process followed by limitation and delimitations and issues of trustworthiness is discussed.

# CHAPTER 4: PRESENTATION OF FINDINGS FOR CASE STUDY- SA

## 4.1     Introduction

This chapter involves the presentation of findings from the two case study locations. Thus, it is divided into two sections. Codes are attached to relevant statements about the findings from the interviews in the case study locations. The purpose is to explore the barriers that are affecting persons with disabilities in an inclusive setting of higher education with a view toward proposing a model for overcoming the barriers. The selection of higher institutions as the study setting is informed by the presence of disabled independent adult in those settings that are capable of making an informed decision about their mobility experience. Phase one of the data collections involve the review of the literature on policy documents to highlight the rights and privilege persons with disabilities are guaranteed for socio-spatial inclusion in the Nigerian context.  This has been presented in chapter two.

Phase two reports the results from the semi-structured interviews with persons with disabilities to uncover the root cause of persons with disabilities experience in the form of barriers (RQ2), and its impact on them (RQ3). Part three is a result of the physical observation stage. Made to validate and triangulate the study findings. It is divided into two parts. Part one is the physical accessibility audit checklist (PAAC) to examine the availability, adequacy, and usability of infrastructure accessibility within the campus built environment.

The overall chapter presents a within case scenario of case study-SA and SB. Computer assisted qualitative data analysis (CAQDAS), in particular, NVivo version-10 software is used for the analysis. The generated data across the case study site (SA) were categorized to give an in-depth understanding of environmental influences on

human engagement with socio-spatial activity. Emerging themes from the interviews are presented in line with the research questions as follows:

- RQ2: The Mobility barriers for persons with disabilities

- RQ3: The impact of Mobility barriers on persons with disabilities

- RQ4: Overcoming the barriers to the Mobility of persons with disabilities

Following the multiple case study approach with two units of analysis, meanings are attached to the relevant coded statements from the collected interview text. Data from documents review, semi-structured interviews, physical accessibility audit checklist and observation, as well as field notes, were collected using the two units of analysis (namely the persons with disabilities and disabling environment) in the real life setting for the analysis.

## 4.2     Within Case Analysis: Case Study – Bayero University Kano

Based on snowball sampling technique, 10 participants with disabilities were interviewed, from the first case site. Among which 5 were invited for a separate "physical accessibility auditing". Using case study protocol highlighted in the methodology section. NVivo is used to help in managing, accessing, and keeping a perspective on the entire data without losing focus on its richness and that is the essence of qualitative research.

### 4.2.1     Demographic Attributes of the Interview Participants

Demographic data are useful, especially when comparing about what study participants says based on their attributes like age, gender or impairment type within or across the two case study settings. The demographic attributes of the participants from case study site-SA consist of six female students, male students, and male staff. Persons with disabilities interviewed are with hearing, walking and visual disabilities enrolled in

the beginners, penultimate, and final levels of undergraduate studies and a lecturer with a visual impairment. The stakeholders are a designer and an administrator as shown in Table 4.1.

Characteristics, gender attributes were assigned under male and female. Impairment types were classified under hearing, the visual and walking impairment to represent persons with disabilities with mobility limitations. Age groups are assigned between 21-30, 31-40, 41-50, and above 50. Level represents the participant level of education and is classified with a name: beginners, penultimate, final and employees. Another demographic attribute recorded are participants' institutions and they are either BUK as presented in Table 4.1.

**Table 4.1:** Demographic attributes of interview participants from SA

| Respondents | Age | Case study site | Gender | Impairment Type | Level of Education |
|---|---|---|---|---|---|
| **R01_SA** | 21-30 | SA | Male | Hearing | Beginning class |
| **R02_SA** | 31-40 | SA | Female | Hearing | Penultimate |
| **R03_SA** | 21-30 | SA | Female | Hearing | Beginning class |
| **R04_SA** | 31-40 | SA | Male | Visual | Final year |
| **R05_SA** | 21-30 | SA | Male | Visual | Beginning year |
| **R06_SA** | Above 50 | SA | Male | Visual | Staff/employee |
| **R07_SA** | 31-40 | SA | Male | Walking | Penultimate |
| **R08_SA** | 31-40 | SA | Male | Walking | Final year |
| **R09_SA** | 21-30 | SA | Female | Walking | Penultimate |
| **R10_SA** | 31-40 | SA | Female | Walking | Final year |
| **R11_SA** | Above 50 | SA | Male | None | Staff/employee |
| **R12_SA** | 41-50 | SA | Female | None | Staff/employee |

Source: Author's Compilation

### 4.2.2    Assigning of Codes and Structure for the Analysis

For anonymity and ease of analysis, participants/respondents (R) from the case study site- (SA) are assigned R01_SA to R10_SA to represent participants. Containers for gathering related materials in one place are called nodes in NVivo platform. The Nodes are made according to the research questions: Why persons with disabilities think they are excluded, how persons with disabilities are excluded, and persons with disabilities' wish list.  Therefore, three major themes and concepts recorded fall under the following free nodes: (1) Barriers to inclusion of persons with disabilities, (2) Impact of the barriers on persons with disabilities, and (3) overcoming the barriers to persons with disabilities exclusion. Thus, a folder under internal sources was made and named interview with two subfolders bearing the name of the study locations (SA and SB). Transcribed interviews were then imported in MS-word format into the respective folders.

Following the research question under barriers to inclusion, the transcribed data were coded under the open coding statements. The open coded statements are the direct statements from the participants under barriers general categories. The open coded direct quotations are then placed under axial coding nodes. The axial coded nodes are named bad experience, fear of failure or rejection, the design of products and environment, inadequate support, lack of information and communication, limited options, opinion and belief, planning factors, policy guidelines and implementation, and stigma. A coding query was run and it was observed that bad experience and stigma, as well as inadequate support and limited options always appeared together. Thus, are merged as "stigma and bad experience" and "inadequate support and limited options".

The axial coded statements were then grouped under the selective coding category in line with the social ecological model approach. The aim is to categorize the barriers into

a different level of environmental influences. The levels following the analytical framework presented in chapter three are the individual, social, physical, and policy levels. At the selective coding stage barriers that emerged under individual levels include fear of failure and rejection and opinion and belief and therefore are categorized as emerging themes under the general category psychological barriers. Barriers under social level include the "inadequate support and limited options" and "stigma and bad experience". Collectively, they form the attitudinal barriers at the social level of environmental influence. At the physical level, however, architectural barriers and the design of products were categorized as "design of products and environment", while the planning and geographical factors are lumped under planning factors. Thus, the two selective coded nodes are classified under the general category "physical barriers" at the physical level of environmental influence. Finally, at the policy level, the emerging themes falls under the general barrier category "logistical barriers" are "lack of information and communication" and the "lack of policy guidelines and implementation" see Appendix.

## 4.3 The Mobility Barriers Emerging Themes

Findings from the semi-structured interviews, PAAC, and physical observation Methods employed to answer the second research question are presented Figure 4.1 a. Barriers to inclusion emerged (Figure 4.1) as root/free node to answer why persons with disabilities are affected.
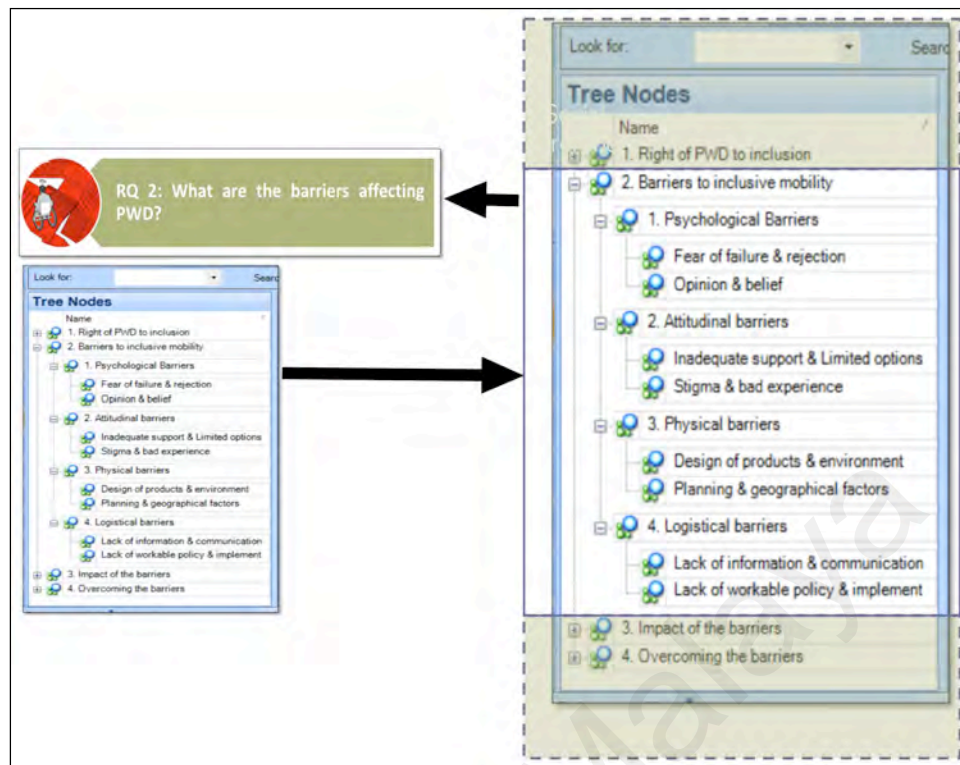
**Figure 4.1:** Barriers to Inclusive Mobility

### 4.3.1 Barriers to Persons with Disabilities Inclusive Mobility: Data from the Interview Findings

Barriers to inclusive mobility as related by the participants are recorded under four levels of influences: Psychological, attitudinal, physical and logistical at the individual, social, physical and policy levels respectively. They are presented below:

#### 4.3.1.1 Psychological Barriers

This type of barrier is intra-personal. It occurs as a result of personal feeling or opinion developed over time. For example, fear of failure or rejection occurs when there is a significant psychological mood to avoid failure or being rejected, and it leads to an

unconscious sabotage of one's effort to succeed[4]. Thus, under this node are two child nodes recorded; as "fear of failure or rejection" and "opinion and belief".

### 1) *Fear of Failure or Rejection*

A barrier at this level is expressed by a participant (R05_SA) making about 0.5% of the coded statements in SA.

> *"I am afraid People can be good, but they rarely choose that option. It is really annoying that issues concerning human life are given a secondary priority, what can you do if no one is ready to take care of you? What else can I do if I am not helped and people don't want you? (R05_SA)*

### 2) *Opinion and Belief*

4 participants expressed their "Opinion and belief" as a barrier to their inclusion as recounted below:

> *I must admit that I am not the social type; I mind my own business and let others mind theirs too. I am content with this way of life, I have gotten friends at home and my families are always there for me. What else will I require? (R10_SA).*

Elsewhere participants (R03, 05 and 09_SA) expressed similar opinion and beliefs:

> *That's how my creator made me and wants to see me (R03_SA). What do you expect a disabled person to do if he is not being helped? I believe there is nothing we can do (R05_SA). The society is the initiator of our own troubles and I believe there is nothing we can do about it (R09_SA).*

### 4.3.1.2 Attitudinal Barriers

Social support is an important factor in the socio-spatial inclusion. Thus, lack of support and inadequate and limited options in one hand. Stigma and bad experience, on the other hand, are categorized under this node at the interpersonal level of social

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[4] https://www.psychologytoday.com/blog/the-squeaky-wheel/201306/10-signs-you-might-have-fear-failure

influence. From the data, two child nodes are classified under this parent node as inadequate support or limited options.

### a) Inadequate Support or Limited Options

Inadequate social support is compounded by limited options and is collectively recorded under this node as explained in the introduction section. A number of the participants expressed these barriers at this level of social support and environmental influence. They include respondent (R01, 02, 03, 04, 05, and 09_SA) share their experience as follows:

*When I talk, my voice quiver, and I found it difficult without these aids, and you see these instruments are not free\* if you are not supported you become demotivated as a person with hearing impairment* (R01_SA).

In addition to the high cost of the hearing aids *(Figure 4.2, 3, and 4),* limited option is also expressed by (R02_SA) as recounted: "*We don't have much option one has to rely on secondary information*" (R02_SA). Similar views are reiterated and elaborated by (R03, 04, 05, and 09_SA) as they stated:

*Facilities for the hearing-impaired are very scarce and expensive[5], you understand, I have no problem academically, but when you rely on your friend's notes you become restricted to the student understanding.… When your friend captures the wrong meaning you are liable to fall into their errors.…*

Other participants talk about hearing aids being so expensive and the institutional policy is not so flexible as to accommodate their inclusive requirements. Other participants have this to share:

*It is very difficult to ask for direction because people often think that you are about to ask them for money. If people are supportive and helpful; I mean, if they are helpful in providing things nobody will want to beg, but we are limited*

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[5] http://www.aarp.org/health/conditions-treatments/info-05-2011/hearing-aids-cost.html

*as we cannot see.… Within the campus people are more tolerant, but outside it is a different world you hardly find someone ready to help* (R04_SA).

### 3) *Stigma and Bad Experience*

Stigma referred to the experience of people attitude and treatment that causes attitudinal barriers to persons with disabilities inclusion. 67% of the participants especially (R04_SA and R05_SA) expressed the bad experience of being stigmatized. There subjective experiences are being presented as follows: *People feel we are different and disabled, but we are not, we are only limited and nobody is perfect* (R02_SA).

Similar views were expressed, but more elaborately as follows:

> *Within the campus people are more tolerant, but outside it is a different world you hardly find someone ready to help. We need encouragement and motivation, but it is unfortunate because all we get is scorn* (R04_SA).

Outside the campus the participant expressed a negative experience as he elaborately expressed, his experience:

> *People laugh at me, people call me names, and some will say you are blind, yet you want to do this? Mr Blind they will say and we will be together for years, they will not bother to know your name when you approach them for help they jump to conclusions you will request for money.*

Inside the campus itself the participant had an experience, which he believes he cannot forget as he stated: *He told me* (the lecturer) *point blank this department is not for the blind. It is very hard to ask for a direction since people always will think you want to plead for money. I must be worried.… I must feel worried because people see me as blind rather than as a person with disability. I get stressed up, it is just annoying people simply think about themselves, it is sometimes irritating because of peoples' attitudes,* (People) *disregard* (my) *ability and perceived my disability* (R04_SA).

Again, another respondent talk at length about the bad experience of stigma as follows:

> *It is really annoying that issues concerning human life are given a secondary priority in this…. The drivers don't want to take us; they said... we waste time. On the campus the awareness is different, but outside it is the worst. Our religion teaches us to be helpful, but we hardly practice it because we hardly help each other. What can you do if no one is ready to take care of you? We claim to be advanced, but our attitude is the most primitive. We should thank God, now that the peoples' attitude is changing, but we still have a long way to go* (R05_SA).

Similar to the experience of the respondent (R07_SA) who said, *I found this experience stigmatizing* is (R08_SA) point of view as he believed that: the "*People's attitude is the most humiliating challenge, but the attitude of people towards the disabled need to change*" (R08_SA)

### 4.3.1.3    Physical Barriers

Physical barriers manifest in two axial coding nodes under the design of products and environmental factors as well as planning and geographical factors. Thus under this barrier category, three methods are employed to triangulate the study findings. The first part is the interview as discussed (4.2.1.3), the second part is the accessibility audit survey (4.2.2) and the third section involves the observation of critical areas and photographs (4.2.3). The interview findings on physical barriers are presented below:

### (a)  Design of Products and Environments
> *I do not even know it is the library because I was not informed and there was no writing to indicate it is a library. I am hearing impaired, but I am not deaf\*... I can hear you clearly if I am close to you and you speak loud enough (Figure 4.2),*

*unfortunately, none of the classrooms have an amplification system[6]* (R02_SA).



**Figure 4.2:** Audio classroom amplification system

Another respondent expressed concern about non-availability of basic facilities in the environment as he recounted:

*The road should have central islands. We need signs in braille. We need tactile pavements and a clear pathway, in which case, we will feel included. When there is no sign to tell me… I easily become lost. All I need is a sign to tell me information* (R04_SA).

Another respondent expressed the need to have a clear pathway in addition to the central island and to be informed whenever there is a change in the design of products and environment as follows:

*The environment keeps changing, as we need to be informed of such changes. We do not have signs in Braille. A clear pathway is all I need and without obstacles placed in my way. If the environment is made clear (accessible); half of my troubles will be solved\*[7]… the other half you are asking is the attitude of people.* (R05_SA)

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[6] http://smarttech.com/archive/SMART+Audio

[7] When the participant said *half of my troubles will be solved\** he was then asked about the other half

Respondent (R06_SA) feels excluded by not designing the environment to include their needs:

*I feel excluded because the facilities are not configured to our accessibility needs since we are few in number. Even the new building is like the old it is not appropriately placed, not for the visually impaired or for a wheelchair user, is the same inaccessible toilet you see there. Inclusion well, there is mainstreaming here, but even the mainstreaming is not properly done. But inclusion is what is practiced globally, but not here (In some more developed countries like (name of a country) they have what is called inclusion. They made the design and places…. In such a way that wheelchair users, will wind up the wheelchair down to their level before the wheelchair is removed do you understand?* (R06_SA).

Other design considerations are advanced by (R06_SA) as he continues: *These are the things that you may have to consider* (as a designer). *OK, yes, they are all there (in the name of a place)*, but talking about where we are now those facilities *are only present on paper. Sincerely it's all in theory. There are some few places of course. The other time when this building was about to commence we gave some support (*input), but sincerely because you know I was the only one * (as of then). *Now we have started admitting "physically challenged" those using wheelchairs as well. Well, it has not been actualized...* (R06_SA).

*Elsewhere, the respondent continued:*

*You can see that it is a new place* (*built for persons with disabilities). *Yet, sincerely they* (*the suggestion) *have not been incorporated.* (*Stairs, even the ramps and *in toilets*). Our inputs are important and we have accessibility requirements like the central islands, are important when crossing the street, accessible toilets for wheelchair users. Our inputs are important. Our contribution they think of the cost and the number of beneficiaries, as I was the only one as of then* (R06_SA).

(R07_SA), talks about the availability of infrastructure, their usability and size inappropriateness.

> *The light is unstable how one can expect to have a lift.... The toilets are tight and the doors are opening in the wrong direction... the toilets are narrow no one can use a wheelchair inside you understand? The floor is slippery and the doors are narrow, the corridor is too narrow for even two people to pass not to talk about using a wheelchair. There is this pillar I think it shouldn't be there... and the steps in the library are too many to climb... there is no lift in any of these buildings.* (R07_SA).

(R08_SA), lamented the lack of facilities and usability of spaces to support wheelchair as follows.

> *Even if I want to participate where are the facilities? No, the walkway is not provided; the doors are narrow, the toilet is small you cannot turn. Some entrances are better without the ramps, the door is opening in the wrong direction, there is this pillar is causing a lot of trouble* (R08_SA).

Finally, (R09_SA) talk at length strongly about facilities and the design of products and the environment. Most of the participants abandoned the use of wheelchairs because of the quality of physical facilities or planning factor as recounted again by (R09_SA):

> *The passageway is narrow; I cannot enter with a wheelchair, but I can manage with crutches. They do not clean; the floor is slippery.... Twice I fall; I have to abandon the wheelchair. Doors are swinging inside, even toilets meant to serve us... No ramps in most places and no lifts. The light is unstable how can one expect to have a lift. We are only a few so we cannot expect to have a toilet all to ourselves. Of what use is a wheelchair where there is no pathway access. It's only this building that is accessible I think, but it has a lot of obstacles. With crutches, I don't need a wheelchair because it is more difficult to handle in the campus because there is no path. The inside access is even better than the outside here* (R09_SA).

### (b) Planning and Geographical Factors

Various barriers are associated with unsuccessful planning and geographical factors. The barriers include inaccessible pathways, location disadvantage, distances, and

topography and are coded under this Node. (R04_SA) make a very comprehensive statement implicating the planning aspect of SA:

> *Our department is, I will say, is at the end, on the campus. There is no clear pathway from the gate, so many obstructions in the way. There is a need to have a clear link between all the buildings, but there is none and the worst part of it the environment keeps changing and nobody cares to let you know. The campus is big and the buildings are scattered, designer's need to be more conscious of our needs. Only the administrative building is compacted in one place, but to get to it you have to cross so many hurdles... the locations of buildings are not favourable for my liking (R04_SA).*

(R06_SA) Share a similar observation based on personal experience about interaction with the physical environment and its' planning associated challenges.

> *Campus size is large with obstacles so many of them. I can move around without difficulty, but the environment keeps changing, as we need to be informed of such changes. The orientation\*[8]* (space familiarization tour) *organized by the faculty is a good thing that needs to extend to the university level. There is this pavement tile, if it can be provided, it will be a most welcome development. Buildings are scattered and so are the road networks. Topography is sometimes rough and bumpy. Buildings should connect to each other. Parking spaces and bus stop need easy access (R05_SA).*

Barriers are associated with unsuccessful planning factors are coded from the statement of (R07_SA) and are collectively collected below:

> *The department is too far, within the campus, there is no connection between places; one has to plan movement routes carefully\*. The buildings are far apart; I think the faculty is too isolated, beautification is receiving too much attention, I mean this campus, as you know is far from town and this campus is also far from villages. So we need transportation that will carry us with our wheelchair.... (R07_SA).*

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[8] The participant was asked to explain what *the orientation\** means and he defined it as what can be interpreted as space familiarization tour.

Another respondent also said:

*Pathways are not wheelchair accessible and are not connected... they do not exist. The faculty is located far. Business taxi is not allowed into the campus so what option do we have and the access pathways are not paved. The surface is uneven. The alternative library will serve my needs if it is within my reach* (R08_SA).

Respondent (R09_SA) considered the whole campus as inaccessible, in her words:

*The whole campus is inaccessible in terms of pathway access, twice I tried using a wheelchair and I fall. I had to abandon the wheelchair". Elsewhere: "The distance is far and as you can see as you know one has to come earlier; I can only wish I had a ready transport, but you see one cannot have everything". The library is far; there is no walkway connection everywhere. I give myself some rest before I continue because the distance is long...* (R09_SA).

And finally, respondent (R10_SA) expressed her concern about campus planning as follows:

*Usually, the roads are not good... after I was treated, then (from the hospital) (now) the problem is who is going to carry me, take and bring me back, it is tiring, because, as I know no pavement in this campus can support a wheelchair. If roads are constructed (with pavements) you see, one can use a wheelchair freely, but well...*

The participant continued

*When I started using it, the first time I used it, and then I fell down because of the bad nature of the pathways the way they are made.... After that I tried again, still the same thing occurs. Sincerely speaking the path was not meant to support wheelchair that was why I gave up...* (R10_SA).

#### 4.3.1.4    Logistical Barriers

Logistical barriers concern the plan of organizational details, which involves the flow of things, or information from one point to another. Logistical barriers, therefore, include lack of information and communication and lack of workable policies or implementation of the policies. Findings under these categories are presented as follows:

#### (a) Lack of Information and Communication

Participants (R01_SA to R05_SA) feel that they do receive adequate information or not communicated enough. Their experience is recounted below:

- *We are not told and it is not written, one has to struggle and sometimes, I move about the campus to check where my classmates are... because physically I know them when I see them. To live with a hearing impairment is to live in the world of guessing without communication devices. My problem is communication* (R01_SA).

Lack of information and communication left (R02_SA) unaware of what is going on around her as she stated: "*We are often left in the dark by simply not being aware of what is going on*" (R02_SA). Respondent (R0_03) looked tired and exasperated as she recounted her experience and worries:

> *I am tired of asking for everything one needs to concentrate on what is ahead of him. I cannot hear the lecture when I am far from the board as there is no amplification system and the hearing aid is expensive. I know I am not disabled, but I am made to be one through lack of information because all the things I need are expensive and non-affordable* (R03_SA).

Lack of information and frustration is clearly expressed by (R04_SA) and (R05_SA) and its implication on their campus livelihood: *We are not always informed and that it is difficult to find out about the opportunities that await us. When trying to find out information you are frequently passed from pillar to post…. It is really frustrating* (R04_SA).

### (b) Lack of Workable Policies

Participants (R02, 04, and 06_SA) attributed their worries to lack of workable policies. In their words:

*We are promised equality in treatment, but we have not seen it in practice, the top ranking people themselves, will realize their mistakes\*. If they want to measure our ability we should be provided with the materials and equipment that we need to understand what is being communicated, otherwise the way we are defined as disabled is not proper* (R02_SA).

Lack of workable policies also manifest in the implementation mechanism. This implementation gap often resulted into a negative experience of loss of confidence in the policy itself.

*We are good at policy formulation, but we are lacking in the implementation skills so I hardly believe in the policy paper. We read the policy, but we do not read where it is implemented. It is more than ten years now and we are still talking about policy, I will not allow myself to be deluded* (R04_SA).

Participants (R06_SA) reiterated the importance of involving persons with disabilities at policy implementation level without having to fight for it:

*Our inputs are important and we have accessibility requirements like the central islands… are important when crossing the street, accessible toilets for wheelchair*

*users. It is unfortunate that issues regarding the inclusive rights of persons with disabilities must be fought for. Inclusion well... there is mainstreaming here, but even the mainstreaming is not properly done. But inclusion is what is practiced globally, but not here* (R06_SA).

### 4.3.2 Barriers to Persons with Disabilities Inclusive Mobility: Data from the PAAC Results

Physical observation as a multiple sources of evidence is presented in the form of matrixes. This is tailored towards answering the same research objective: what Mobility barrier does persons with disabilities experience from and within the built environment? The assessment campus inclusive mobility utilizes PAAC and is presented in a matrix form in the Table below. The values assigned are 3, 2, 1 and 0 to represent 100%, 50% or more, less than 50% and 0% respectively. The data taken comprises of accessibility infrastructure from the six selected buildings of common patronage to all students irrespective of ability or age. Overall 12 buildings are enumerated six from each campus as mentioned in the interview by the participants. They are the senate/chancellery building, cafeteria/restaurant, main library, department of special education (DSE), lecture theatre, and the central bus stop as shown in Table 4-2.

#### 4.3.2.1 Conducting Access Audit

The access audit is conducted to reveal the level of accessibility provided in a given building. Thus, areas with good accessibility provision or otherwise are identified as a step to overcome the identified barriers. The principles underlying the improvement of accessibility is connected to the implementation of the universal design principles in campuses. Therefore, it will benefit not only the targeted persons with impairment but nondisabled users as well. Elements identified absent in the audited buildings include non-availability of signage, poor connectivity between buildings, doors that are difficult to operate because they are heavy, lack of handrails to support users of staircases and

inadequate toilets dimension with doors opening to the inside. In the examination of the identified case study areas, a checklist was prepared and research assistants were recruited for the access audit and simulation exercises. Therefore, instruments used include crutches and wheelchair, visually impaired cane and blindfold, measuring tape, camera, pencils and notebooks. The expertise of persons with disabilities is sought in guiding, conducting the auditing, then informing, and warning the assist about unforeseen dangers. 12 groups of five KUST student's participants to serve as the assistants were formed and were partially remunerated to conduct the access audit on the identified study locations.

### 4.3.2.2  Checklist Preparation

Checklist was adapted from the synthesis of University of Malaya accessibility audit checklist and USAID prepared checklist for accessibility studies in Africa. The checklist was divided into three sections comprising of an external environment, internal environment, and the connection between them. For the external environment the following building elements are considered for inclusion: Bus stop/ Designated parking, Kerbs, Seating for persons with disabilities, pathway access. For the internal environment, lobby/ passage dimension, modified washroom, telecommunication devices for the deaf (TDD), amplification system, and signage/ door markings are considered for the audit. For the connection entrance ramps, entrance doors, information counter, lack of obstruction, staircase, ramp, lift, and handrails are considered (Figure 4.3). Four categories of disability are seen during the auditing process they are hearing impaired, visual impaired, crutches users and wheelchair users.
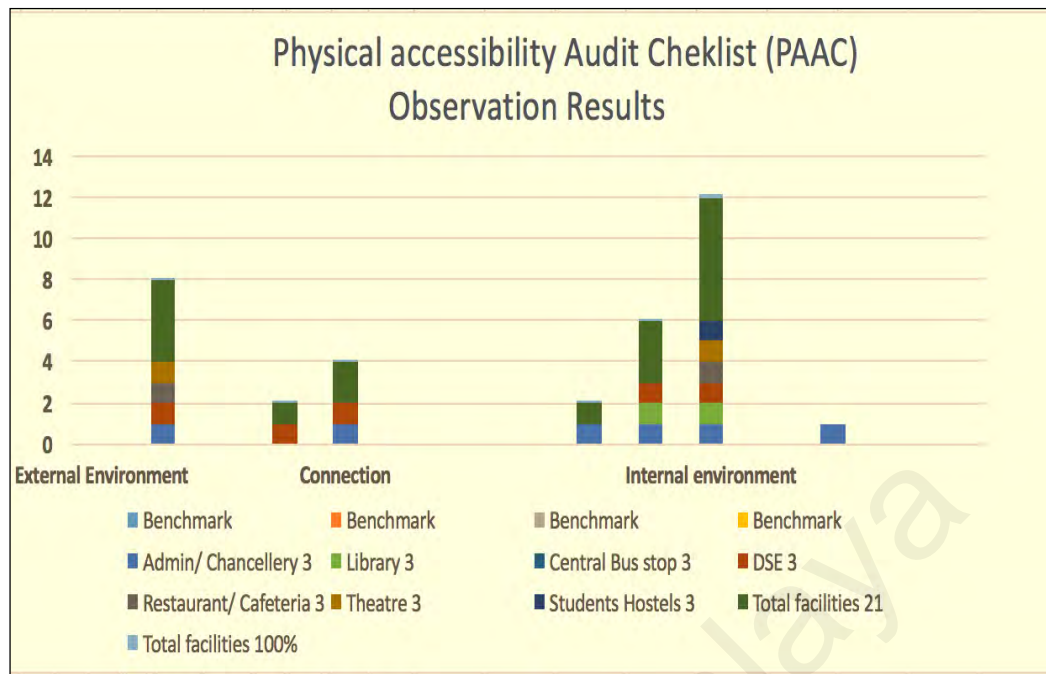
**Figure 4.3** Matrix of accessibility infrastructure in BUK

### 4.3.3 Barriers to Persons with Disabilities Inclusive Mobility: Data from the Physical Observation

Following the organization of the PAAC, Critical areas are presented as a mentioned by the participants as a multiple source of evidence. Thus, the presentation is organised into three components including the external (Figure 4.4 and 4.5), and external elements of the environment and connectivity (Figure 4.6, and 4.7). The external elements include designated parking, kerbs, seating for the disabled when available, and pathway access. The internal on the other hand comprises of lobby/ passage, modified washroom, telecommunication devices and amplification system, as well as signage and door markings. The connectivity elements are the entrance ramps, entrance doors, information counter, street furniture, stairs/ lift or ramp, and handrails.

### 4.3.3.1    External Environment



**Figure 4.4:** Absent of Designated parking spaces for persons with disabilities in the external environment

Source: Author's Survey



**Figure 4.5:** Absent of lift, tactile and warning block or colour contrast in the external environment

Source: Author's Survey

**4.3.3.2    Internal Environment**
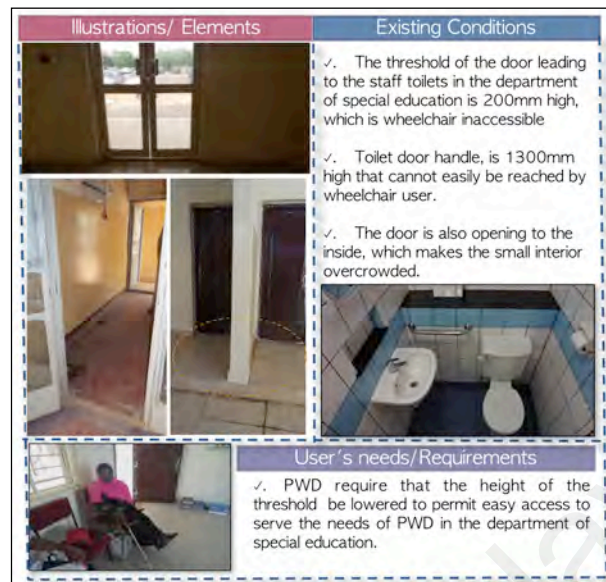


**Figure 4.6:** Door threshold is inappropriate for the inclusive mobility of persons with disabilities

Source: Author's Survey
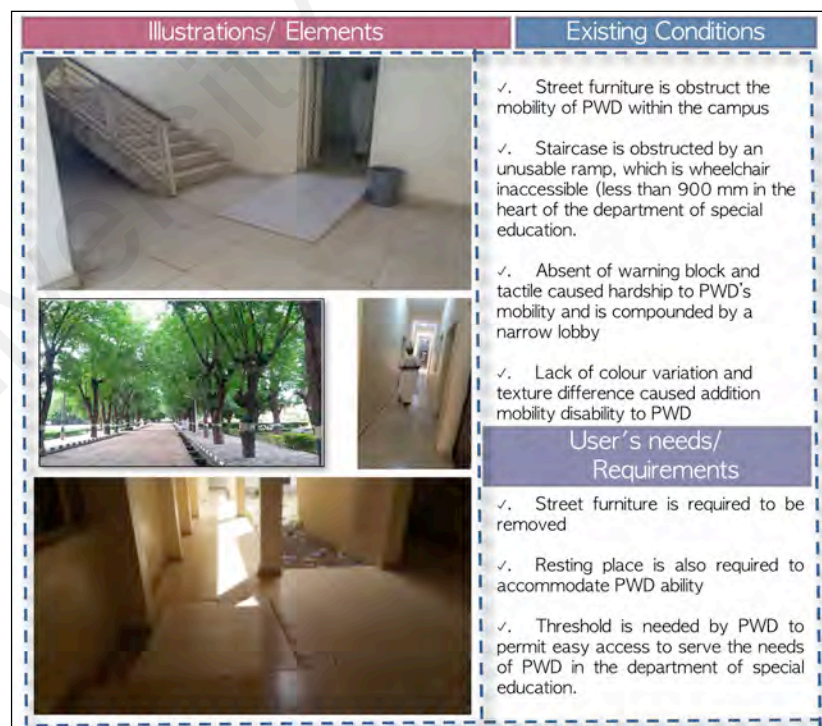


**Figure 4.7:** Street furniture causes obstruction on the path of persons with disabilities

Source: Author's Survey

## 4.4 Impact of the Barriers on Persons with Disabilities (RQ-3): Data from the Interviews

Semi-structured interviews and physical observations *(Figure 4.8)* revealed the impact of the barriers on the mobility experience of persons with disabilities "Impact of the barriers to inclusion" emerged as root/free node to reveal how the barrier affects persons with disabilities. The section below represents the result of the interviews.
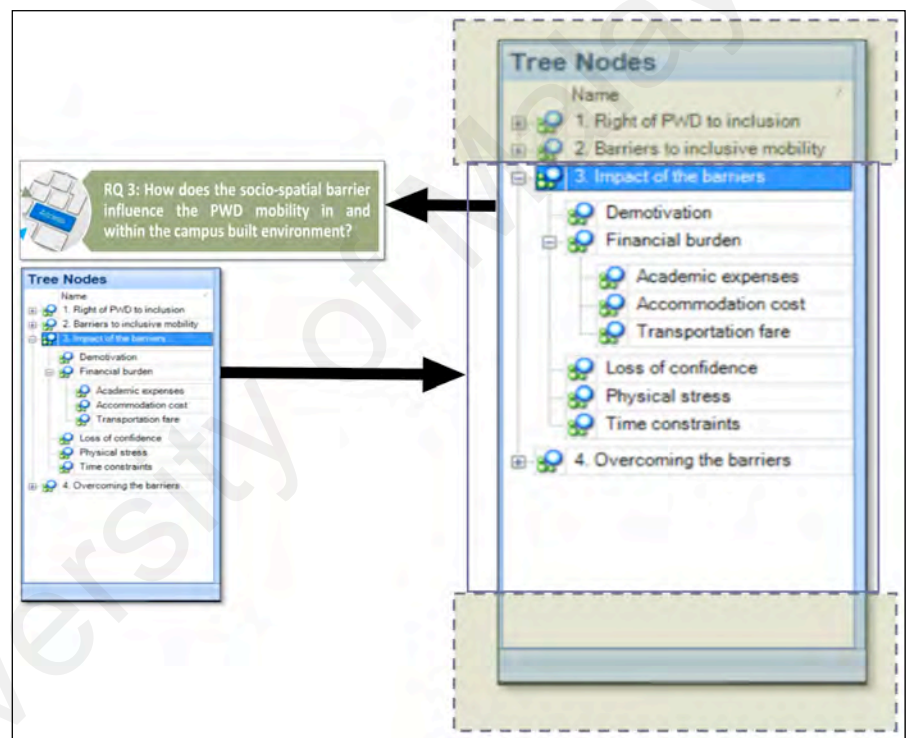


**Figure 4.8:** Impact of the barriers on persons with disabilities

### 4.4.1 Demotivation

Lack of motivation and discouraging factors continued to limit and hamper the experience of some of the participants as they recounted the incidents: *Some friends are supportive otherwise I am an independent person and I prepare to keep to myself* (R03_SA).

Respondent (R05_SA) expressed some worries but do not get demotivated.

*I do not allow myself to lose my confidence, though I must confess I often felt inclined to simply give up. Often the people we started with ⋆"falls out", because they cannot support themselves, it is very demanding. When I said, "falls out" I mean simply giving up the study* (R04_SA). *Yes, some attitude worries me so much that I felt unhappy* (R05_SA).

### 4.4.2    Financial Burden

Financial burden manifest as a participant recounted his worries:

*I am not residing here* (on campus), *because I don't have money stashed in my account if I have one⋆[9], I have to go back and fend for myself, but the cost of accommodation... is getting on my nerves. I pay for my accommodation and transportation, but the cost, one cannot think of following the bus, and taxi is expensive, but what option do I have... Alhamdulillah⋆, [10]-* (R04_SA).

### 4.4.3    Loss of Confidence

Participants (R02, 03, 04, 05, 07 and 09_SA) expressed demoralizing attitudes they experienced in their day-to-day campus livelihood.

*I am not aware that there is a library I feel devastated. I do not even know it is the library it is demoralizing because I was not informed and there is no writing to indicate it is a library. I am not aware that there is a library sometimes I lost all confidence to try* (R02_SA). *Some friends are supportive, others, well, I am an independent person and I prepare to keep to myself* (R03_SA).

Similarly, participants (R05_SA) strongly felt demoralized and demotivated by disabling and discouraging attitudes as it is recounted at length.

_____

[9] The account

[10] I thank God

*Everyone... I am worried, I just realized I am only lucky to have a family to sponsor*

*my education otherwise I am afraid I wouldn't be here because I realized most of my*

*colleagues stopped at secondary school level. So I do, I tried to manage with the*

*little I have (R05_SA).*

The participant goes further to state why he thinks the whole phenomenon is affecting him and his colleagues.

*The attitude of people even the so-called learned is irritating. It stressed me to know*

*that we have \*all the wealth, yet we are suffering, it's really discouraging. It's*

*simply annoying. My negative experiences regarding interaction with colleagues are*

*much because... (R05_SA).*

Similarly, (R09_SA) expressed a similar discouraging attitude: *I often felt gloomy and*

*discouraged, but I don't allow myself to lose my confidence (R09_SA).*

### 4.4.4    Physical Stress

Physical stress becomes manifest in the statements of the majority of the participants,

especially (R05, 07, 08, 09 and 10_SA):

*It is so stressful and it worries me when you know the setting so much... all of a*
*sudden you come by and realized it has been changed completely you became*
*intimidated. I become stressed because I cannot concentrate on what I am here for;*
*physically I become stressed... I can endure any hardship, but people's attitude.... I*
*simply move on when I remember what I am here for. I am not a disabled in every*
*respect because everyone has a level of endurance I mean physically* (R05_SA).

Exhaustion is expressed by (R07_SA) as an annoying thing that impacts on his

academic life.

*I do not notice how tiring it is to reach some places around the campus until I get*
*back to the house, mostly in the night, because I come from (name of a town). Do you*
*know (name of a town)? Yes, is more than 20 km to reach from here, like whenever I*
*get to the library, I will stop and relax on the way ... I sleep early in the night, all I*

*know is that I am not a lazy person, I am just getting exhausted and I can't read my book in the night and that is the most annoying thing* (R07_SA).

A geographical factor limits the inclusion of (R08_SA) and is physically tasking. In his words: *Topography is undulating and uneven for me to move from one place to another can be very tasking. I am physically strong, but I am not a machine, I am human, a human with impairment* (R08_SA). (R09_SA) considered campus mobility as frustrating and tiring as she recounted:

*Campus mobility is really tiring and wearing; it is really tiring to walk the campus without some rest, but thank God it will soon be over. I am just getting drained whenever I had to walk for long* (R09_SA).

In a similar vein (R10_SA) considered the bad nature of pathway as the barrier that makes her becomes tired. *Then I fell down because of the bad nature of the pathways the way they are…. After that I tried again, still the same thing occurs* (R10_SA).

### 4.4.5    Time Constraints

The time constraint is expressed by (R05_SA) in the following manner: *I have to wake up very early to get a transport because of congestion; otherwise, I will be late for my lectures* (R05_SA).

### 4.5    Overcoming the Barriers to Mobility of Persons with Disabilities

Suggestions were collated from the Semi-structured interviews and physical observations *(Figure 4.9)*.
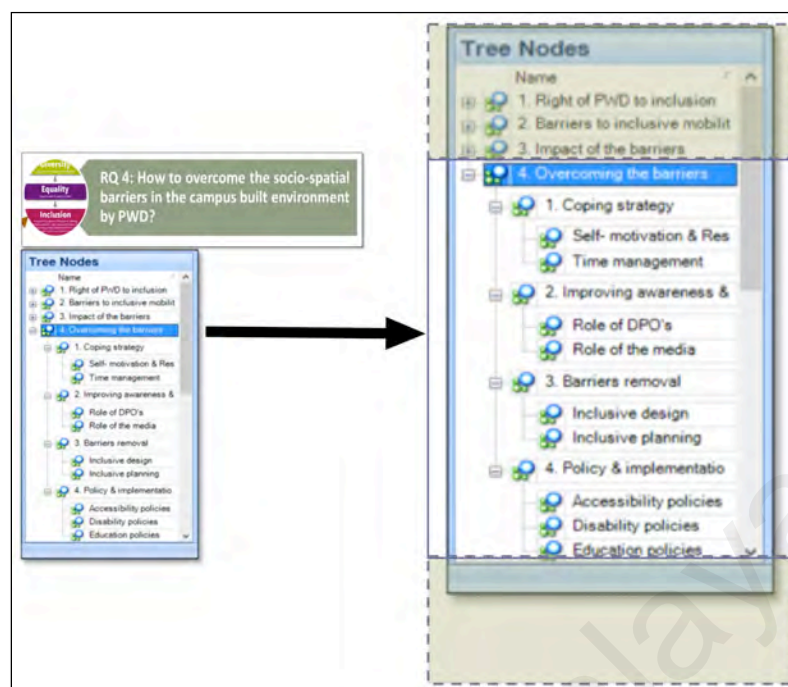
**Figure 4.9:** Overcoming the barriers to persons with disabilities inclusion

### 4.5.1 Coping Strategy at the Individual Level

An adaptive strategy is one of the main issues raised by the study participants. Coded attributable to coping strategies were stated and categorized under self-motivation and resiliency or time management.

*(a) Self-Motivation and Resiliency*
Challenges in university social and academic activities can impact on students' self-motivation and resiliency (Javeed S., (2013, June).) As a result of that, intervention strategies become an individual response to the disabling environment. Several theories centred on goal setting and task orientation evolved as key to success (Brophy, 2013; Javeed S., (2013, June).). Thus a discussion on coping strategy, consider a resiliency strategy (Javeed S., (2013, June).) The following statements exemplify such management skills. Self-motivation and resiliency make respondent (R10_SA) not to allow herself to lose confidence as she said:

*One may easily lose confidence, but that is what I will not allow myself to do because it affects one's health otherwise I will have surrendered. Everyone... I am not worried, I just realized I am only lucky to have a family to sponsor my education otherwise I wouldn't be here because I realized most of my colleagues stopped at secondary school level (R10_SA)*

Similarly, (R04_SA) developed a coping strategy to overcome worries associated with people's attitudes and he said: *So I simply do the needful and carry on with my life.... I don't allow things like this to worry me. For just being here is an indication that one is not the depending type we want to acquire the knowledge that will enable us to stand on our feet (R04_SA).*

### 4.5.2 The Need to Improve Awareness and Support

#### 4.5.2.1 Role of DPO's

Some of the participants felt that the improvement of awareness and support services to persons with disabilities is important and the role of disabled people organization and the media are considerably important as it was stated:

*The media *we should resist their style because they can be an instrument of exclusion because they often defined * us as "disable" because of *our impairments. We need to have a proactive body of disabled people to educate the society that we are just as human as everyone (R04_SA).*

#### 4.5.2.2 Role of the Media

Technology is evolving every day the media is a part of that changing technology including social media. People need to be communicated, people need to be aware and realize the effect of their attitudes on persons with disabilities. *The media we should resist their style because being the instrument for our exclusion because they define us as "disable"* (Figure 4.10), *because of our impairments[11] R04_SA).*

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[11] http://www.cislacnigeria.net/2013/12/street-begging-prohibition-bill-disable-people-storm-kano-assembly/
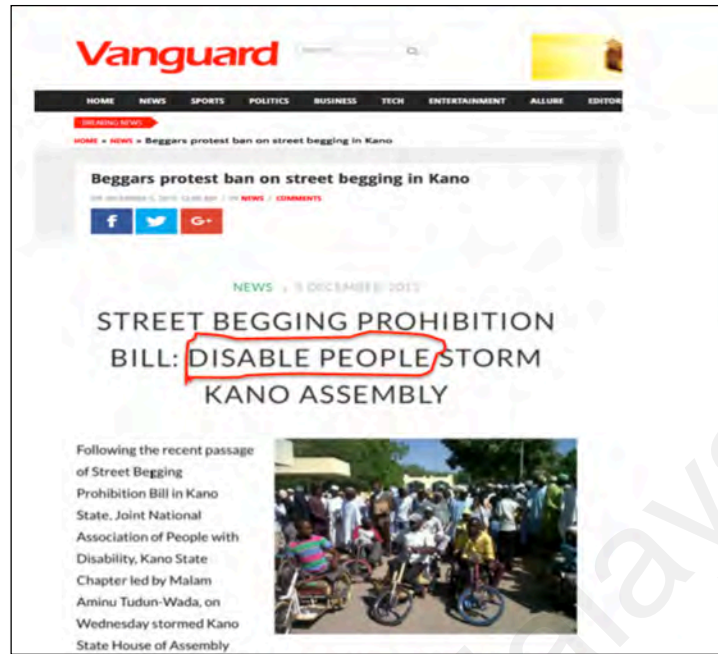
**Figure 4.10:** Disablement and the role of the media

In conclusion:

*I found this your research interesting and relevant and its' appropriate and timely.*

*People need to be more aware of these issues (R06_SA). It is time people become*

*aware that we are many, but they are not taking that into consideration (R10_SA)*

### 4.5.3　Barrier Removal

Barriers to inclusive mobility can be removed in different ways; the followings emerged from the study participants.

### 4.5.3.1　Inclusive Design

It was observed that often the way the environment is designed affects our mobility and ability to see, hear and communicate. Therefore, participants expressed the need to remove the barriers that obstruct their mobility to enable them to participate on equal measure with their colleagues. There are some basic things that are required at the design stage. There is no need to wait for policy. This view is summarized in the

following statements: *If only the facilities are made to include our requirements (R02_SA). Some of us are not altogether hearings impaired completely if they have the facilities (R03_SA). Designer's needed to be more conscious of our needs (R04_SA). Design should be made to if not totally then reasonably include our needs (R08_SA).*

### 4.5.3.2    Inclusive Planning

Inclusive planning like inclusive design affects mobility and the ability of persons with disabilities to see, hear and communicate. The vital role planning can play towards barrier removal is recounted by the participants as follows:

*Designer's needed to be more conscious of our needs (R04_SA). Every simple modification requires a complex procedure before it is done. For example, what will it cost the school authority to make the ramp less steep and wider or to simply put a handrail to it, but for years that was how it is. You report your case they will tell you it will be tabled at the next meeting (R07_SA).*

### 4.5.4    Policy Implementation and Improvement

Policies related to the needs or barrier removal for the inclusive mobility needs of persons with disabilities differ from place to place. Depending on the focus, the system structure includes the needs to remove barriers, be them physical, attitudinal or systematic. The Government is yet to address the plight of persons with disabilities in the country[12]. The effect of such inaction translates into the lives of persons with disabilities:

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[12] http://www.placng.org/new/main_story.php?sn=29

### 4.5.4.1 Accessibility Policy

Several policies related barriers emerged from the participants regarding physical access strategies that guaranteed equality in facility provisions for persons with disabilities emerged. Sentiments expressed by the participants indicated that accessibility ought not to rely on policy and legal advocacy (Figure 4.11). As an instance:

*Again, as for accessibility for persons with disabilities, on a wheelchair for instance and I ask myself, is it something that is too difficult. Why must we always wait for a law, a law, and a law? – (R10_SA).*



**Figure 4.11:** Addressing the Plight of Persons with Disabilities in Nigeria

Source: Policy and legal advocate center

Institutional policies need to be included with more orientation to guide the students:

*The department organizes an orientation guide to all the students a sort of workshop and it helps a lot, now I can walk anywhere within the faculty without a guide (R05_SA). I often wonder if there is a monitoring body that inspects how buildings are made with access requirement. Either there is no monitoring or no policy for access requirement? (R10_SA)*

From the management perspective:

*Only that, unfortunately, we have just vacated our former building to this new one. Well, well, we have some visually impaired around, they have been within this two weeks...One can (get) around the whole faculty. May be it's (name of person), who brought you down here. Had it been you do not call him, he will have brought you directly into this office. Likewise, some of the (participants), they can take you now to the office of the dean, head of the department and everywhere in the department. They can take you there. So you'll find out that, when they come we give them a sort of orientation, especially the visually impaired (R11_SA).*

### 4.5.4.2 Disability Policy

Disability related policies are both on the social related issues and the physical (interpersonal) as well as the intrapersonal issues. Those highlighted by the participants are reported below:

Respondent *lost confidence on policy issues (R10_SA*

*We need independent living because we know we can. I keep on saying the society is fashioned in such a way that, it is simply impossible to be independent one has to depend on someone for even the most basic things like toileting. Not just social activities, but general activities. It's time to ask ourselves, to make the environment more inclusive we have to make inclusive thinking and plan ahead with everyone taken into consideration (R10_SA).*

Still, on the policies it is further expressed:

*We are promised equality in treatment, but we have not seen it in practice, whenever I read the policies I usually said to myself if only the top ranking people become disable themselves they will realize their mistakes (R02_SA).*

Elsewhere it was recounted that the disability policy regarding public transport needs implementation.

*Public transportation needs to change because I have never seen a wheelchair accessible bus here. All we ask for is equal access and opportunity available to other individuals; those necessary modifications need to be put in place. I am not saying everything depends on the policy, policies are not everything but a good starting point you see if we really want development. Milestones have been recorded in this university but in relation to what? I think more needs to be done to make the environment inclusive (R08_SA).*

The problem is not in the policy itself, but its implementation:

*The policies, which policies are you talking about the policies often never, materialize into meaningful outcomes... (R09_SA). It is time people become aware that we are many, but they are not taking that into consideration... They think it is embezzlement to build for us (R10_SA). I don't have problem with policy statements, my problem is with its execution (R02_SA)*

### 4.5.4.3 Institutional Policies

Policy implementation or lack of it depends on the institute plans to curtail the barriers identified at the policy level. At the institutional level, barriers have been identified that are necessary to overcome before persons with disabilities become fully included in the system. Among the common themes that emerged from the participants' needs are: *In the department, we prepare to be with ourselves, because... We can read sign language and converse. Some of us can even write with sign language as fast as you can talk (R03_SA). The books are not in braille mostly... We rely on others to read for us so we are limited in that respect (R04_SA).* Institutional policy may become

barriers to inclusive on equal merit as disabled people are sometimes made to believe they have no option than to read special education:

*You see we are limited in number, but we are beginning to admit more students with disabilities (R06_SA). Initially, my intention was never to read this course, but then after getting this problem, I have to study this course because of this type of problem that we have (R10_SA).*

From an administrator point of view:

*As for facilities provided, you see for a faculty* (to exist and be of reasonable) *standard and pass accreditation it has to follow all the protocols especially those set by the university commissions as a benchmark. Every department has to satisfy that benchmark before it is allowed to exist (as a department). We have all the required (facilities) as stipulated by the benchmark and all these facilities are on ground (R11_SA)*

## 4.6 Within-case Analysis: Case study – Sa'adatu Rimi College of Education

Participants were interviewed in the second case study site and their demographic attributes including age group, gender, impairment type, institution, and levels. This is done to allow for within case analysis as was done in case study-1. Based on snowball sampling technique, 9 participants with disabilities were interviewed from the second case studies site, among which 5 were invited from each site for a separate and "physical accessibility auditing". Using case study protocol highlighted the same procedure was followed to collect and analyse the data. The intent is to provide evidence for comparison between SA and SB as well as documents reviewed and literature. This is expected to help in confirming or rejecting propositions deduced from the literature. Additionally, the within case analysis of SB uses multiple pieces of evidence, methods, and sources to arrive at the conclusion. Data from such findings are presented below:

### 4.6.1    Demographic Attributes of the Interview Participants

Demographic data are recorded which constitutes age, gender, level of education and impairment type within the case study- 2 settings. The nine participants from case study site-2 comprise of 5 males and four female persons with disabilities in the hearing, walking and visual disabilities enrolled in the beginners, penultimate, and final levels of undergraduate studies and a lecturer with a disability. Age groups are assigned between 21-30, 31-40, 41-50, and above 50 see (Table 4.2).

**Table 4.2:** Demographic Attributes of Interview Participants in -SB

| Respondents | Age | Case study site | Gender | Impairment Type | Level of Education |
|---|---|---|---|---|---|
| **R1_SB** | 21-30 | SB | Male | Hearing | Beginning class |
| **R2_SB** | 21-30 | SB | Female | Hearing | Penultimate |
| **R3_SA** | 21-30 | SB | Female | Hearing | Beginning class |
| **R4_SB** | 31-40 | SB | Male | Visual | Final year |
| **R5_SB** | 31-40 | SB | Male | Visual | Penultimate |
| **R6_SB** | 31-40 | SB | Female | Visual | Final year |
| **R7_SB** | Above 50 | SB | Male | Walking | Staff/employee |
| **R8_SB** | 31-40 | SB | Male | Walking | Final year |
| **R9_SB** | 21-30 | SB | Female | Walking | Penultimate year |
| **R11_SB** | Above 50 | SB | Female | None | Staff/employee |

Source: Author's Compilation

### 4.6.2    Emerging Findings

For anonymity and ease of analysis, participants (R) from the case study site- (SB) are assigned R1_SB to R9_SB to represent participants. Three major themes and concepts recorded fall under the following nodes: (1) Barriers to inclusion of persons with disabilities, (2) Impact of the barriers on persons with disabilities, and (3) overcoming the barriers to persons with disabilities exclusion. Thus, a folder under internal sources was made and named interview with two subfolders bearing the name of the study locations (SA and SB). Transcribed interviews were then imported in MS-word format into the respective folders.

### 4.6.3  Barriers to Inclusive Mobility: Data from the Interview Findings

Semi-structured interviews methods are employed in the case study-SB as the primary data collection sources. PAAC and physical observation are for primary data collection as well, but for the purpose of triangulation.

Barriers to inclusive mobility as related by the participants are recorded under four levels of influences as depicted in Figure 4.12 Psychological, attitudinal, physical and logistical at the individual, social, physical and policy levels respectively. They are presented below:
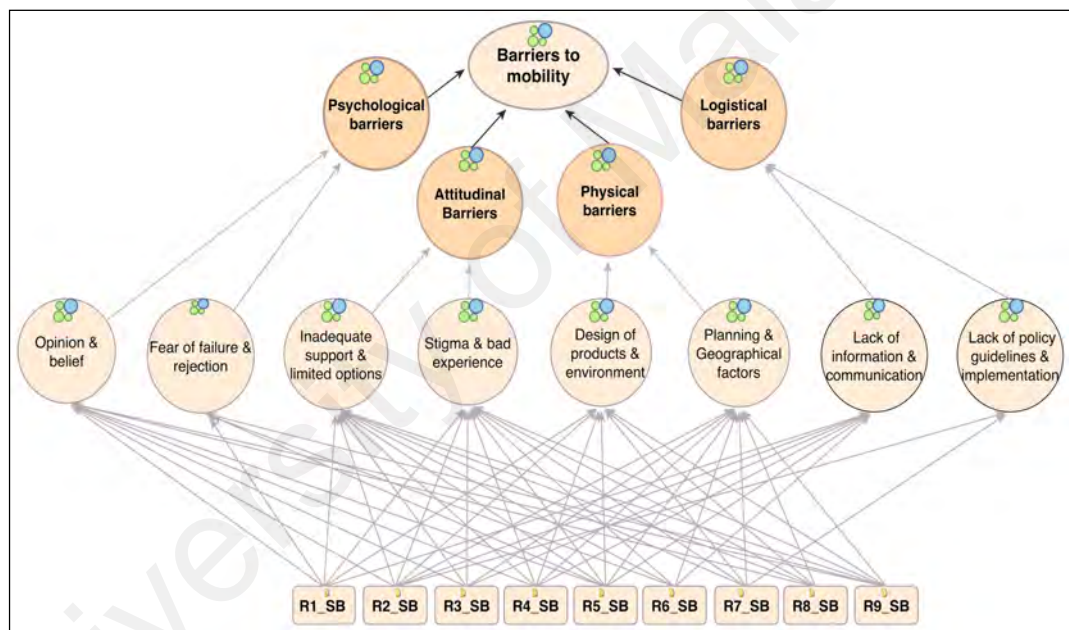


**Figure 4.12:** Cognitive map of the barriers to inclusive mobility as expressed by the participants from case study site SB

### 4.6.3.1  Psychological Barriers

*(a)*  **Fear of Failure or Rejection**

Psychological threats manifest from the participant's interview in the form of barriers, coded under fear of failure or rejection and opinion and beliefs. Everyone may face difficulty in one-way or the other, but when it translates into a significant

psychological threat[13] it becomes a barrier to inclusion particularly of persons with disabilities. Some of the participants expressed their fears as reported below. "*We faced some difficulties to understand speech, my fear is that people consider me disabled because I cannot understand speech, you don't call a person disabled just because of that*" (R1_SB)

Respondent (R5 and 6_SB) do not get discouraged by the fear of functioning impairment, but keep away from where she is not invited, as expressed in the statement below:

*You see I am happy that my impairment doesn't discourage me like many disabled... I am determined to reach whatever level the system may allow me to* (R5_SB). *I am not afraid of failing simply because I don't allow myself to be negative about what I want to achieve simply because I am visually impaired. I used to participate in whatever activity I am invited to when I have a chance, but I keep away from where I am not invited to* (R6_SB).

Respondent (R9_SB) expressed fear of uncertainty associated with environmental factors as expressed in the statement below: "*I am made disabled by the environment because it is not welcoming... sometimes I just don't know what is wrong, you see, nothing seemed to be working, if you talk about facilities where are the facilities, I am both able and disabled at the same time* (R9_SB).

### (b) Opinion and Belief
Majority of the participants expressed opinion and beliefs that reflect judgments based on personal conviction, whether they are convincing enough or prejudiced. In the (R1_SB) opinion and belief he is not a disabled person, while (R2_SB) believes the

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[13] https://www.psychologytoday.com/blog/the-squeaky-wheel/201306/10-signs-you-might-have-fear-failure

criteria for judging disabled people are lopsided. Recounting on the opinion and beliefs of the participants is the following insights:

*I believe I am not a disabled but a person with difficulty in understanding your language because I have hearing impairment all I need is something in form of sign language to translate it for me* (R1_SB). *When you lose a sense of smell or taste nobody tagged you disabled because it doesn't concern anybody, but you lose a sense of hearing or seeing you automatically become disabled and excluded* (R2_SB)

Opinion and beliefs are expressed by (R3 and 4_SB) about barriers to inclusion:

*Another barrier to inclusion is the burden of academic work, which weighs down on us because of the lack of assistive devices such as braille and hearing aids.... The policy I believe is important but more important is consciousness* (R3_SB). *OK, you see like in the Hausa community, anybody that gets the problem of sight limitation will not be regarded as entitle to any privilege the best that person is allowed to do is begging* (R4_SB).

Opinion and beliefs are linked to destiny by (R5_SB), and the unwillingness of people to make a sacrifice (R8_SB). For (R9_SB), however, nothing seemed to be working in their words:

*I know it may take me a longer time to complete, but if that is how it was destined for me, I will take it. If I have the opportunity I will not want to beg any human, as I believe everyone will also agree, that's why I don't blame those that beg they probably do not have the option than to beg. I am sightless thus there is a limit to what I can do. I don't usually think about what individuals say on the ground that God has a purpose of making me what I am* (R5_SB). *Nobody is ready to make a sacrifice* (R8_SB). *Sometimes I just don't know what is wrong or nothing seemed to be working, but I think education is something worth undertaking and everyone we should be educated whether disabled or not* (R9_SB).

**4.6.3.2    Attitudinal Barriers**

All the participants identified the attitudes of people as barriers to their inclusive campus livelihood. The attitudinal barriers are either as a result of the "I don't care attitude" of people by providing inadequate support and limited options or expression of stigma resulting in a bad experience.

*(a)    Inadequate Support and Limited Options*

Inadequate social support is compounded by limited options and is strongly expressed by all the participants. For instance, (R2 and 3_SB) says: *for the hearing impaired are expensive and the least attended to, unfortunately, we rely so much on them* (R2_SB). *I am hearing impaired, but, the facilities have not provided. Apart from (name of a university), this is the only institution offering special education in the state. Yet facilities have not been provided* (R3_SB).

Inadequate support and limited option are clearly expressed strongly by (R4_SB) especially with regards to a relationship with the society in general and then the educational environment in particular.

> *If Nigeria is truly the richest country in Africa, then the support we are getting is not adequate because. Well, the government to help us in our quest for education? It never happened these days. I think, because, they think our contribution will amount to nothing as compared to "normal people*[14]. But many things, visually impaired can do them when giving the option* (R4_SB).

In a similar vein (R5_SB) expressed an understanding that lack of support and limited option leads to street begging in his opinion which is supported by popular opinion (Figure 4.13).:

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[14] The participant was asked what he is referring to when he said "*normal people*" and he explained that they are people considered to be without disability"

*We reside in the same house, I mean the four of us, sometimes we come together without a guide, but we all need one another. One has to survive and live with the attitude of people as you see regarding getting a helper. Sometimes you become lucky at another time you have to be patient It know that I don't have many options, but to try harder. To eradicate begging[15] you have to provide support for independent living or other means. (R5_SB).*



**Figure 4.13:** Inadequate Social Support and Limited Options for persons with disabilities

Surprisingly, respondent (R6_SB) expressed a lack of support and limited option in a different way:

*I used to be the only one (with visual impairment in the school), but now we are two…. Gradually opportunities will open for others females with visual impairments. They need to be aware. We need motivation and encouragement, but I will say it without any regret that we are not getting enough, in this country. We only celebrate*

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[15] http://www.informationng.com/2013/12/beggars-disabled-protest-planned-ban-of-street-begging-in-kano.html

*the "world disabled day", but we don't showcase anything positive, it is not worth celebrating, it is supposed to be a day of mourning* (R6_SB).

A touching and philosophical response emanate from (R7_SB) expressed a lack of support and limited option in a yet another perspective:

*If you are visually impaired, you need support and any support you can get will never be too much... I am telling you this because I was born blind. And you may not know what that means... It means I cannot imagine the meaning of the word colour, but I can perceive distance, height, and depth probably more than you because their impact on me is real and there is nothing I can do about it. But for you, there is something you can do, if you are sincere. Why am I telling you all this, because I want to you to understand when I said no support is too much for the blind... the people that are supposed to help you may not help you* (R7_SB)

Inadequate support and limited options is also expressed in terms of facility provisions and their maintenance. Most buildings are ill-equipped and there is lack of maintenance culture. This was expressed in this way: *Nobody is ready to make a sacrifice for his brother's comfort. The worst place is this building that is meant to serve our needs. We requested for the repair of the ramp (Figure 4.14), years ago, but they said our request must follow the proper channel and we don't know the proper channel. But we need more support from people* (R8_SB).

**Figure 4.14:** Dilapidated Ramp and inaccessible doorway in the Faculty Theatre

*(b) Stigma and Bad Experience*

The experience of attitudinal barriers often translates into a feeling of being stigmatized and excluded. This has been clearly expressed by all the participants: As an interesting analogy is advanced by (R1_SB) to express barrier associated with stigma and bad experience. *You lose a sense of hearing or seeing you automatically become disabled and excluded in this society* (R2_SB). Respondent (R3_SB) further discusses the stigma and bad experience as they manifest in her relationship with the society. The respondent cited communication barriers as a problem, which limits her ability to overcome the stigma she experienced.

*People expect you to be perfect without disability of any sort. Anything short of that you are just a mere "disable". It is surprising that people find it funny when a disabled person errs. People laugh at me sometimes, because you cannot hear, because you cannot hear people will talk about you in front of you. It irritates me that they considered themselves religious and tolerant yet they consider it normal that you don't deserve equal treatment* (R3_SB).

The next respondent (R4_SB) while discussing support from the society clearly expressed concern about the experience of stigma even from enlightened lecturers as reported under inadequate support and limited options and thus he continued.

*Thus, it is assumed that it's from begging a visually impaired should earn his/her daily bread. And they are the lecturers of the institution. So he as soon as the lecturer saw him, they mocked "you as blind as you are" what are you going to do with studies? One lecturer among them called him and told him "to tell you the truth here they don't know the essence of your studies, its better you proceed to an institution where they know the value of your education, you see in the end he has to leave that institution. Well, posterity will judge each and every one of us (R4_SB).*

While the respondent (R4_SB) expressed concern about the experience of stigma within the campus premises, (R5_SB) believed stigma is more outside the campus community as he recalled: *Most people outside think we have to beg to survive; they think we are different; I get pushed up with their attitude; it is simply irritating to listen to their crap over and over on issues like disability. It worries me… yes; some attitude worries me so much that I felt gloomy.* (R5_SB).

Expression of stigma and the need to have an organization to fight stigma surfaced from the assertions of (R6_SB): *It is an unfortunate habit that has no moral or cultural basis. People can be positive towards you, but not always, some people think helping you will add to their burden. They forget all moral obligations. It is discouraging when you are challenged about what you obviously cannot do because you cannot see. We need to have an organization to fight for our rights.* (R6_SB)

From the recent experience recollected by the participant (R7_SB) barriers associated with

stigma and bad experience dominated his story narration:

*In my academic life, I have faced many challenges, let me give you an example now.*
*You see now as I chartered a tricycle to (name of a place). What will surprise you is*
*my drop-off was when it was raining, and that the government is making some*
*repairs at the place (Figure 4.15).*



**Figure 4.15:** An unprotected construction ditch on the path of disabled people

Source: Authors field observation

*I spend 15 to 20 minutes to get somebody just to help guide me to cross to where I*
*will get a taxi to the (name of a place). Very unfortunately, that was not to be*
*realized. The driver that was supposed to bring me here, I called him yesterday, and*
*he told me he has a problem. So very unfortunate if you are talking about religion, its*
*Hausa people, its Muslims I met in the place, I asked them to help me they refused.*
*So it cost me about 20 minutes of waiting… So you see there is the problem of*
*understanding what the religion is preaching, culture is advocating, knowledge is*
*tilting towards (R7_SB).*

Still on the stigma and bad experience other participants stated briefly: *Many people initially express negative attitudes towards you may be because of a missing leg, it's a pity. A lot of people cannot hide their dislike to disabled person it is a pity. This disability is not self-inflicted* (R8_SB). *Sometimes I just don't know what is wrong with (the society, the management, the government, the environment or the whole system?) ... You see nothing seemed to be working* (R9_SB).

### 4.6.3.3    Physical Barrier

#### (a)  *Design of Products and Environments*
Environmental barriers can be natural or artificial. They include the design of products and environment and planning and geographical factors. Design can be made in such a way that it prevents individuals from gaining access to a particular product or environment. The participants expressed dismay about how the design of products and environment often deterred them from gaining access to basic facilities, functions, and services. Participant (R4_SB) is concerned with the design of products and environments in the following way:

*"Mobility wise, we are really facing challenges as we are coming to school, because sometimes we will be alone without a guide, so how to locate where the lecture hall and your department is, becomes a problem. The problem is the lack of pathways that leads directly to the lecture hall or our department... If the pathway is there, then we are Ok. So if that can be taken into consideration, it will help a lot. Without the guide, it will be very difficult, almost impossible to locate a lecture hall because I cannot see and the classroom cannot talk to me. There is no clear pathway within the campus premises. Ways leading to the department is full of obstacles* (R4_SB) see Figure 4.16. *and 4.17*

**Figure 4.16:** Street furniture and Obstructions leading to the department of Special Education

Source: Authors field observation

Participant (R5_SB) concern is more on the inadequacy of facilities such as typewriter, which they used in the absence of Braille. Mobility wise his body has mastered the environment, but the lack of accommodation is his greatest worry.

*Equipment is not enough; we share one typewriter, I do not expect the design of the environment can change the way I interact and move because.... I can walk from the bus stop to whatever place I want to in this campus. Like from the bus stop to the faculty or lecture theatre, and I can access whatever facility or building I want to, the campus is large the school can build accommodation somewhere.* My greatest worry is lack of accommodation... (R5_SB).

Being the only female with visual impairment (R6_SB) asserted: *"People often reserve a seat for me because I am the only one and the space is very tight one has to come very early to secure a seat in the front row...* (R6_SB).

**Figure 4.17:** Design of product and environment is not favouring persons with disabilities

*The entry doorway is having this step in front of it the toilets are also narrow. Even when it was constructed I knew the ramp will be difficult to climb (name of a person) has fallen twice. One has to come early enough to get a seat in the theatre, but there is no space for a wheelchair inside. If one is late then one has to stand in the lecture hall. The ramp is dilapidated and it has been like that for long... (R8_SB).*

(R9_SB), described the whole environment as unwelcoming and rough not intended to support wheelchair. *I can access wherever I want to, but if the facilities are there. I mean facilities like the ramp, you can see for yourself none of the buildings if not this new one and the theatre and, but the ramps are too extreme and very difficult to use. It will be worthwhile to look at the toilets, I think you will understand the facilities that are here are limited* (R9_SB), *see* (Figure 4.18).
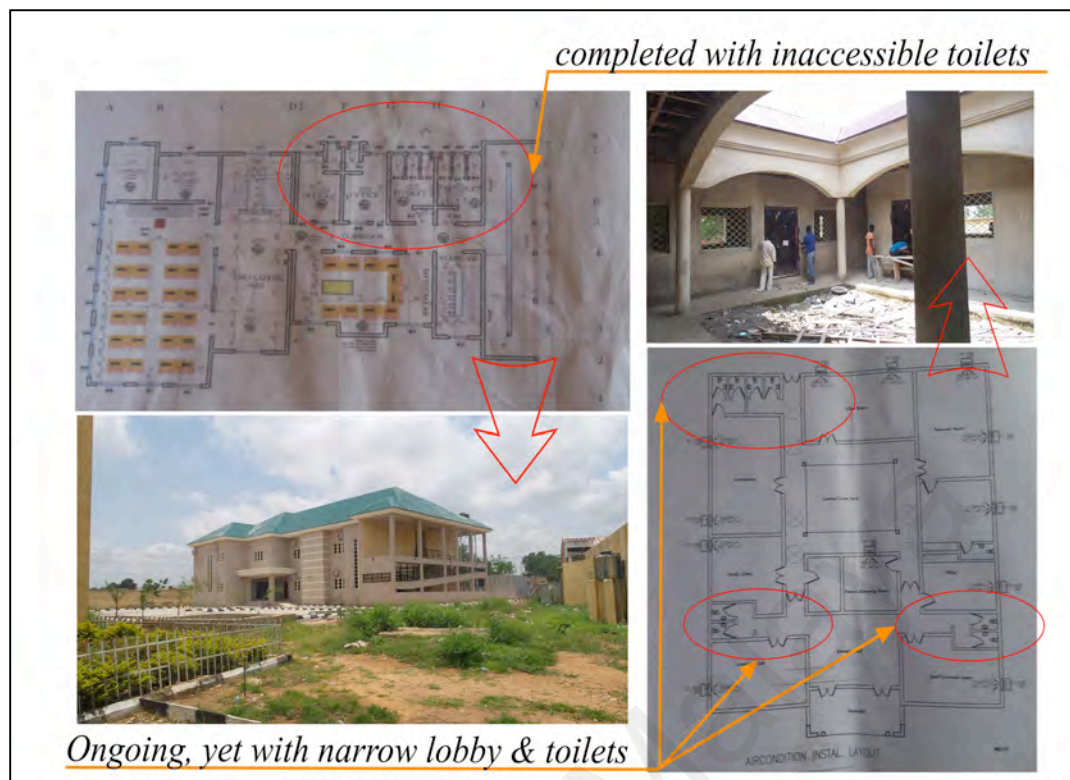
**Figure 4.18:** Newly constructed facilities are not complying with the persons with disabilities Requirements

Source: Authors field observation

*I believe you have never seen a car or a bus in which you can use a wheelchair or with a space reserved for disabled, not to talk of parking spaces. Honestly, the routes were not intended to support wheelchair that is why it is difficult to use one. I can access wherever I want to, but if the facilities are there I will feel more comfortable to use a wheelchair. I can't use a wheelchair even if I want. I am both able and disabled; I am made disabled by the environment because it is not welcoming... the whole environment is rough* (R9_SB)

*(b)* ***Planning and Geographical Factors***
Several barriers are associated with planning and geographical factors. Including distance from one point to another, topography, the location of facilities or buildings and connectivity of pathway access, collectively, they determine mobility accessibility. (R3, 4, 5, 6, 7, 8, and 9_SB) shared an important insight into how planning and geographical factors influence their mobility experiences:

*We need Maps and signpost and the simplest labelling of buildings, I think they can greatly change our way of life* (R3_SB). *Some places were located deep in the school, but now the newly built one is closer to the gate and therefore the bus stop. No bus or taxi is allowed into the campus and so the bus stop is located outside yet there is no link between the bus stop and anywhere* (R4_SB).

Respondent (R5_SB) displayed an unparalleled skill in mastering the jigsaw puzzle of the campus. Yet, has this to report with regards to street furniture and environmental changes associated with planning disadvantages he encounters on having to cross a busy highway to the mosque. Respondent (R6_SB) relied on her friends to help her navigate the campus and therefore, feel indebted. She needs relaxation seats and places as she trailed the campus daily.

> *I always have friends to help me move around the campus premises. Friends like (name of a person) I don't know how to repay her. She is never tired of helping me. Sometimes one needs to relax because moving about one will become tired and exhausted, and there are no seats available for one to relax. What we need is seating areas within the campuses because sometimes you just need to sit and wait because you are early.* (R6_SB).

For the next three participants the worry, concerned some planning factors and are very much expressed as they described how difficult it is to be independent.

*The so-called (school) * [16]itself, do not have planned road network, constructed so that the visually impaired with sight limitation can follow them. Like path from class to dormitory, or from the hostel to the library, or from classrooms to staff rooms or from the classroom to the mosque. You will be surprised as you walk; one is bound to slip into this, or slip into that. One day there is nothing you may not fall into. The distance is long and there is no available transportation option. it's very difficult to be independent…* (R7_SB).

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[16] *Name of a school previously attended by the participant*

In addition to planning there are geographical factors such as the topography and unpaved pathway access, which impact the mobility of as follows.

*This school as you can see do not have any road network for wheelchair access and the grasses are not maintained. Pathways are not provided and the roads are not safe. No pavement in this campus so it is difficult to use a wheelchair. If roads are constructed (with pavements) you see, one can use the wheelchair freely, but there is not a provision like that. Honestly, the routes were not intended to support wheelchair that is why it is difficult to use it* (R8_SB)

For (R9_SB), who described the whole environment as roughly made some positive remark on the location advantage of the new buildings as follows: *We are human we need to go to other activities and functions including toilets and restaurants. It's not about academic activities only, but the whole environment is rough. Well, there are some good things, like the new construction near the gate, it has so many problems, but the location is very appropriate for being next to the bus stop and the other one too, but in between them, the whole environment is rough.* The building is accessible only to those with cars... (R9_SB).

### 4.6.3.4    Logistical Barriers

*(a)  Lack of Information and Communication*

Logistical barriers include organizational details, which involve a flow of things, or information. Therefore, lack of information and workable policy adds to the burdens of persons with disabilities mobility restrictions. Information is very important to the persons with disabilities inclusive plan and the experience of persons with disabilities in that respect is related below:

*I cannot hear the lecture when I am far from the board. I am tired of asking for everything one needs to concentrate on what is ahead of him". I... I mostly relied on the notes of my friends. I always put two and two together and I am never for once below average.... But in most cases, I will not hear what the lecturers are saying in the department* (R1_SB).

Not only (R1_SB) but (R2_SB) complain about lack of information and communication which resulted in them perceiving wrong meaning as it was told sentence by sentence:

*We need to know what is happening because that is possible when the use of technology is employed. We know it is expensive, but it is as important to us... I can't comprehend the lecture when it is general with everyone because the lecturers often talk in a low voice. I, for the most part, depended on the notes of my classmates. Low priority is accorded to the hearing impaired needs. For me, biggest barrier is the communication barrier when there is no interpreter* (R2_SB).

Respondent (R4_SB) asked a simple question. (R5_SB) on the other hand, reiterated the need to be informed.

*How are we expected to know if we are not told?* (R4_SB). *We need to be informed like everyone. One has to learn the timetable by heart, but that is not our problem... the problem is the frequent change of the timetable and you will not be communicated. My only worries are the construction sites, which dump things on your way if I am aware of the changes or there is a sign to indicate that this is what is going on, then I can take another route. It is difficult to sense changes in the environment you think you know so much. We just want to be informed about those changes. If I must go then I have to rely on somebody to escort me and you see* (R5_SB).

Respondent (R6_SB) briefly expressed loneliness and a wishful thinking. If only there were other females with visual impairment in the school and thus expressed the

need for disseminating information to make them aware of the opportunity that awaits them. "*But I keep away from where I am not invited. I am often all alone to myself. Gradually opportunities will open for others females with visual impairments they need to be aware and informed*" (R6_SB).

### (b) *Lack of Workable Policies*

Lack of workable approaches to persons with disabilities inclusive measures are the major concerns for most of the participants. The concern ranges from implementation commitments to the use of a reliable and useful information. (R2_SB) is pessimistic about policy implementation as she said: *The policy spells out the need to have adequate facilities, but it's not been implemented. I don't have a problem with policy statements, my problem is with its execution* (R2_SB).

(R7_SB) is more extreme in his belief as he sincerely believes that none of the policy was implemented:

*Sincerely as the saying goes about the rights of the disabled, nationally or internationally on a serious note, none of the policy is being implemented. Because within it has been stated that "person with special needs has the right to reside where s/he need to. To lead a life s/he wants to, but that is not what is obtainable in reality. The cost of modification or is all they think of and so they use policy as a cover, but the policy is there, so will now say no implementation mandate* (R7_SB).

Logistical issues impose a bottleneck and red tape on persons with disabilities request as summarized by (R8_SB). *We requested for the repair of the ramp, but they said our request must follow the proper channel and we don't know the proper channel* (R8_SB). Thus, some of the participants believe that the policy is not implemented, especially with regards to transportation. Example:

### 4.6.4 Barriers to Persons with Disabilities Inclusive Mobility: Data from (PAAC) Results

The Physical accessibility audit checklist (PAAC) follows a similar procedure presented in matrix form in Figure 4.19. Data collections are based on infrastructural accessibility from the six chosen buildings that are meant to support all students irrespective of ability or age.
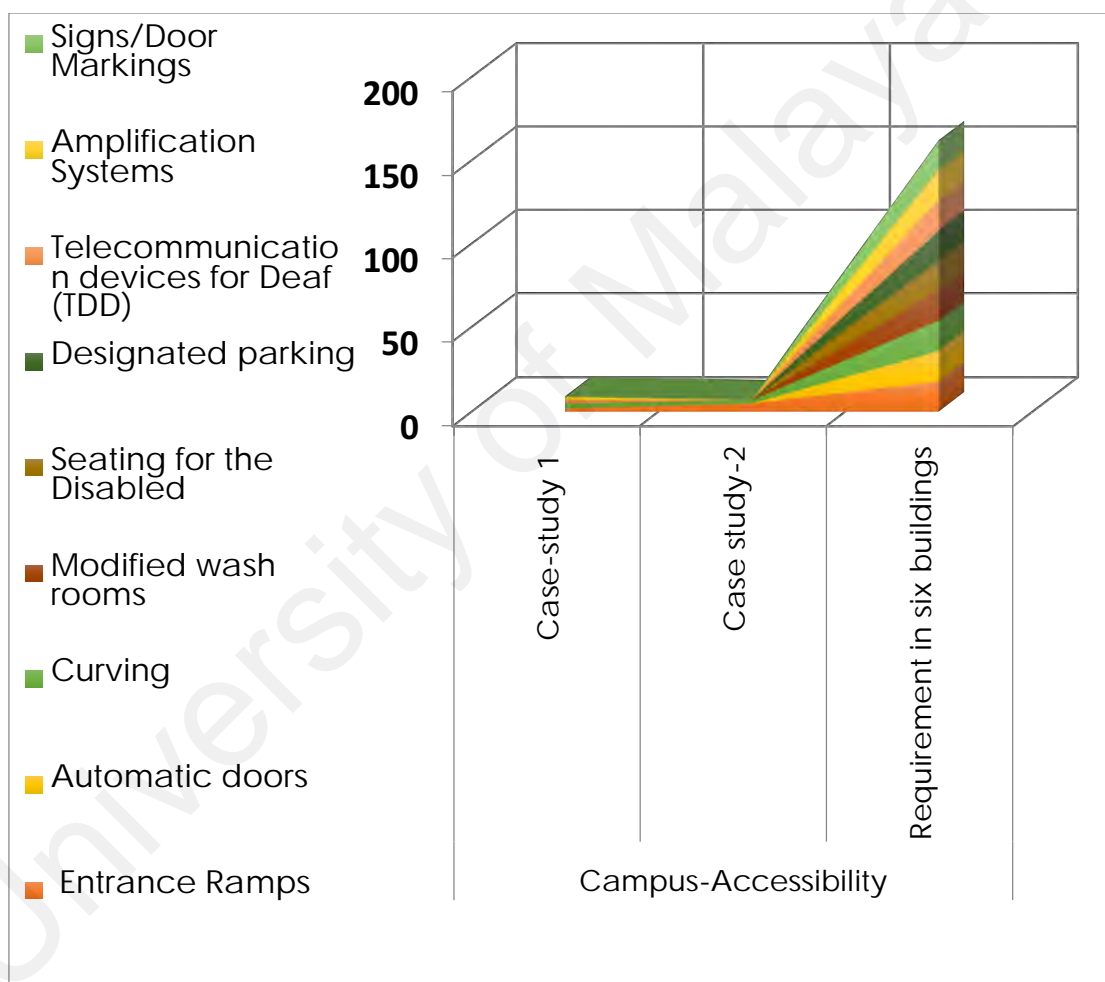


**Figure 4.19:** Matrix of Accessibility Infrastructure in- BUK and SRCOE

Sources: Authors Survey

### 4.6.5 Barriers to Persons with Disabilities Inclusive Mobility: Physical Observation Results

Following the same organization with presentations of observations in the previous chapter, findings from case study site SB (SRCOE) are presented in three categories. (1) External, internal and connectivity between the two. The external elements include designated parking, kerbs, seating for the disabled when available, and pathway access. The internal on the other hand comprises of lobby/ passage, modified washroom, telecommunication devices and amplification system, as well as signage and door markings. The connectivity elements are the entrance ramps, entrance doors, information counter, street furniture, stairs/ lift or ramp, and handrails see (Figure 4.20, 4.21, and 4.22).

*(a)* **External Environment**
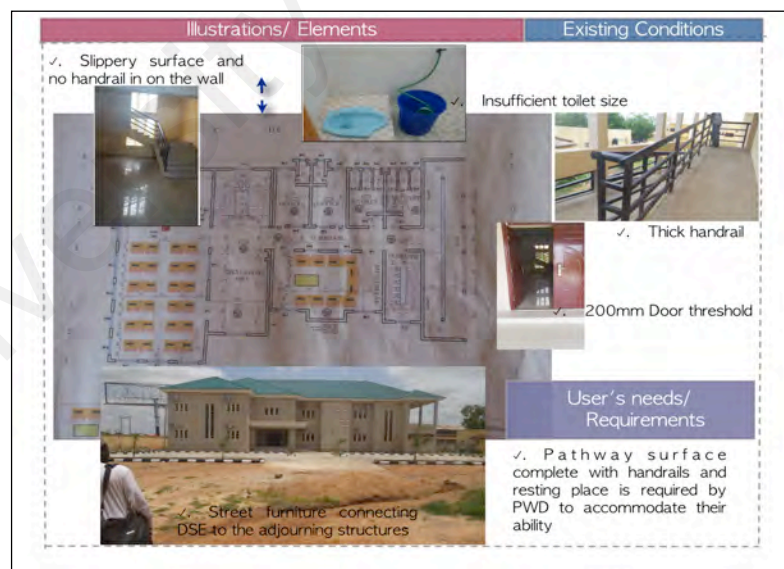


**Figure 4.20:** Street furniture in persons with disabilities pathways
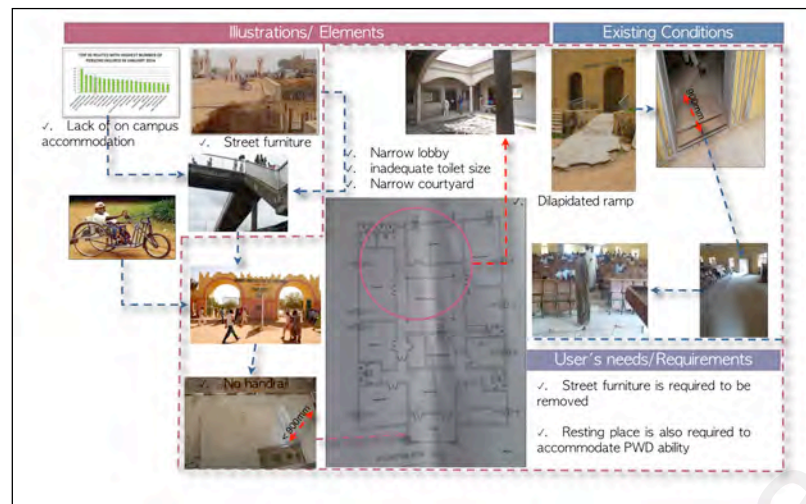
**Figure 4.21:** Physical barriers in Case Study Site-B

Source: Authors survey
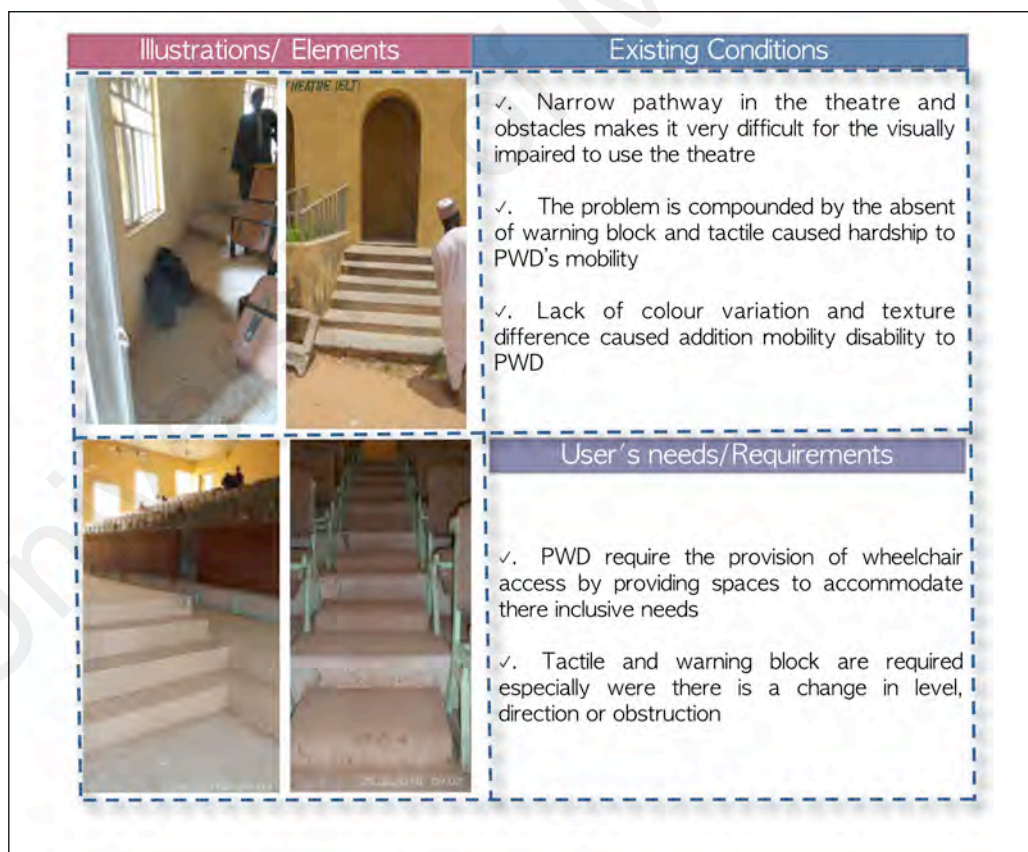


**Figure 4.22:** Inappropriate stairs in Case Study Site-B

Source: Authors survey

## 4.7 Impact of the Barriers on persons with disabilities: Data from The Interviews

Semi-structured interview Method was employed to answer the third research question. Barriers to inclusion emerged as root/free node to answer why persons with disabilities are affected. Three main parent nodes under the root/free node barrier to inclusion emerged and they are as presented in Figure 4.23:
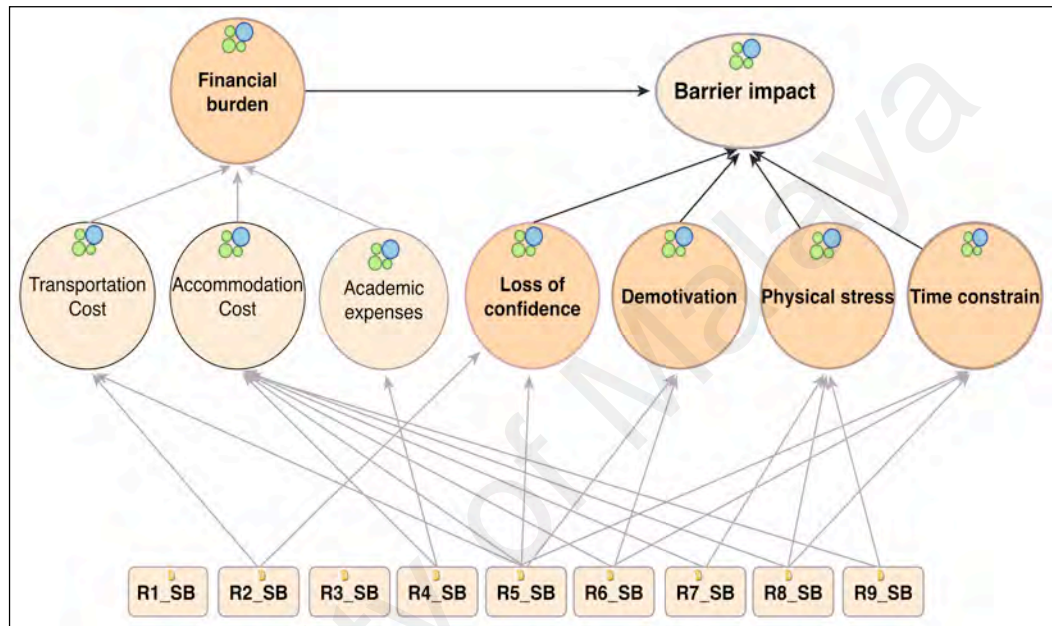


**Figure 4.23:** Cognitive map of the impact of the barriers to inclusive mobility as expressed by the participants from case study site SB

### 4.7.1 Demotivation

The challenge faced by (R5 and 6_SB) discouraged and made them feel gloomy: *Yes, some attitude worries me so much that I felt gloomy* (R5_SB) ... *It is discouraging when you are challenged about what you obviously cannot do because you cannot see* (R6_SB).

### 4.7.2  Financial Burden

Financial burden appeared under two sub-categories as the cost of accommodation and the cost of transportation. The majority of the participants feel impacted by the financial burden of accommodation and transportation cost as presented below:

### 4.7.2.1  Accommodation Cost

High cost of accommodation is strongly and clearly expressed by the majority of the participants, including (R4, 5, 6, 7, 8 and 9_SB) as follows: *Our rented accommodation is near the campus, but the rental cost is higher... We have no scholarship... The policy is only on paper. We normally share the accommodation cost between the four of us., when you rent a house away from the campus area then you have to contend with transportation cost. More than half of my income goes to accommodation. If we can have subsidized on-campus accommodation, it will help us in our education a lot.* (R4_SB).

With the limitation of purchasing power imposed by financial inadequacy the burden of accommodation cost becomes heavy on (R5_SB), thus he said: *As a person who cannot see... Your earning becomes limited, but you're spending will remain the same with those that can see, if not more. I spend more on accommodation than anything. I thank God we are sharing the accommodation charges with my colleagues* (R5_SB). (R6_SB) counted herself as lucky and a proud child of her parents knowing full well the effect of accommodation cost her colleagues are contending with. In her words:

*For accommodation, I don't have much problem my parents are proud of me, they take care of me, and I am grateful for that. I prayed that they continue to be successful* (R6_SB).

(R7_SB) expressed concern over the non-availability of accommodation in or near the campus and talks about the difficulty he is facing in an effort to secure one and

therefore lost confidence in the policy promises:

*… And I cannot get a place to stay, here… when the policy says "provision of special needs of the disabled is guaranteed in higher institutions" yet I have to fend for myself, not where I want to, but where I can manage to secure. It is unfortunate. The numbers of on-campus accommodations are limited; it is very difficult to secure it* (R7_SB).

(R8_SB) compared accommodation and transportation cost, but opted for paying the daily transportation rather than the costly accommodation nearby against his wishes. In his words: *It's better to pay for the transportation than an accommodation here while maintaining a family there. But if I can have an accommodation nearby it will be easier for my body* (R8_SB). Another lucky participant said apart from residing close by, the cost of transportation is also lifted off her shoulders as she said: *We are living nearby and my parent commutes me to school so (accommodation wise), I don't have a problem* (R9_SB).

### 4.7.2.2    Transportation Cost

(R4_SB) Considered taken accommodation near the campus as a trade-off between accommodation and transportation cost. In his words:

*But when you rent a house away from the campus area, then you have to struggle with transportation cost. It is a trade-off between renting expensive accommodation near the school and expensive transportation away from the school. If we can have subsidized accommodation nearby it will save us transportation cost greatly. At times you wake up but realize you don't have a dime to transport yourself to the school* (R4_SB).

Another participant adds another dimension to the burden of transportation cost; the cost of transportation of the escort or helper as well:

*… Spending will remain the same with those that can see if not more… Sometimes you have to pay for your escort too, as you don't expect him to be spending when… he may have other things to do himself than escorting you. It is not only the transportation fare that is worrying me, If the government will provide transportation to students it will reduce the burden on us* (R5_SB).

(R6_SB), implored the government to be more supportive with regards to transportation problem faced by persons with disabilities when she said: *Transportation would have been a big burden on me, if not for the fact that my parents are always supporting me. The Government needs to be more supportive, especially regarding the transportation problem* (R6_SB). Respondent (R7_SB) equated the cost of transportation with a loss of precious money and time. In addition to that, he lamented on the lack of policy implementation, which caused him to be paying extra money because of his impairment. Being married with children (R8_SB) cannot afford to manage two accommodations and therefore commutes daily from a town 40km away.

> *I come from a very long distance (name of a town) because I am a teacher in the (name of a school) primary school there and I have a family and a house there, I cannot rent another house again. So now I don't pay for accommodation, but I pay for transportation fare….* (R8_SB).

### 4.7.3    Loss of Confidence

Participants (R2, and 3_SB) lost their confidence in the following way: *I often lost all confidence to try" and therefore… I prepare to keep to myself* (R2_SB). *You see we cannot make any impact because here we are not many* (R5_SB).

### 4.7.4    Physical Stress

Respondent (R7_SB) clearly expressed exasperation because of the topography and lack of accessible pathway. The *land is not flat and there is no smooth pathway to move this can be very trying to me and I become stressed up* (R7_SB). Respondent (R8_SB) looked older than his age and echoed a similar experience of laboriousness: *The day-to-day transportation, over 40km, is demanding and stressful on me. It is not easy, I am not getting any younger, and I have a family to take care of. I am ready to forbear the stress* (R8_SB). Participants (R9_SB) spoke about the difficulties of using a wheelchair in the environment she is studying in.

*Honestly, the routes were not intended to support wheelchair that is why it is difficult to use one, but we need access to facilities. There, I will feel more comfortable to use a wheelchair. I can't use a wheelchair even if I want, but the ramps are too extreme and very difficult to use. I am not that strong* (R9_SB).

### 4.7.5    Time Constraints

Time management is of utmost importance to (R8_SB) as he traverses a long distance journey on the most dangerous road in the state and one of the tops twenty with the highest number of persons killed.

*I have to wake up early enough to catch the bus as early as five. I used to teach in an elementary school... and my schedules are becoming too tight for me... one has to manage time because studying with a disability is made to be a demanding exercise... we come from (name of a place) and the roads are dangerous (Figure 5.12), we have to cross this highway to get to the campus. You see it is not easy for someone like me. One has to waste no time to succeed academically, they said* (R8_SB).

**4.8    Overcoming the Barriers to the Mobility of Persons with Disabilities: Holistic View**

To overcome the barriers several explanations were raised by persons with disabilities, which includes both intra and interpersonal issues. The intrapersonal factors are at the individual level while the interpersonal factors relate to the relationship between the individual and the environment. The environment includes both social neighbourhood and physical structures. The strategies employed or desired by disabled people at various level of interactions are explained in what follows as depicted in Figure 4.24.
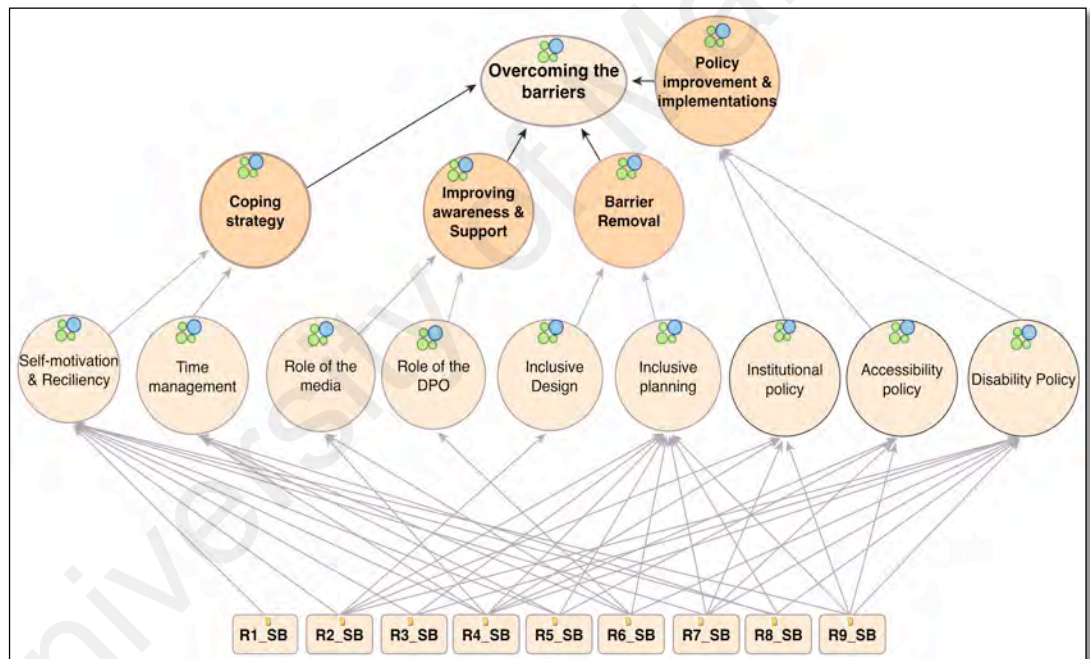


**Figure 4.24:** Cognitive map for overcoming barriers to inclusive mobility as expressed by the participants from case study site SB

**4.8.1    Coping Strategy at the Individual Level**

An adaptive strategy is one of the main issues raised by the study participants. Coded statements relevant to the coping strategies were stated and categorized under self-motivation and resiliency or time management.

### 4.8.1.1     Self-motivation and Resiliency

One of the major themes emerging from the participants was the adoption of coping strategy. Findings indicated that the majority of the participants developed a resilient approach through self-motivation to survive the disablement. For example:

(R1, 2, and 3_SB) improvised ways to survive academic life as they stated:

*… I mostly relied on the (lecture) notes of my friends. I always put two and two together and I am never for once below average (R1_SB). Sometimes we become attentive to gestures, well, sometimes we err a little. I often lost all confidence to try" and therefore… I prepare to keep to myself (R2_SB). I don't easily surrender even when I am being defamed. I just turn a blind eye; sometimes pretends I do not understand (R3_SB).*

Similarly, (R5 and 7_SB), learned to be patient with the people's attitudes rather than allow themselves to get frustrated, they recounted:

*One has to learn the timetable by heart, but that is not our problem... One has to learn to survive and live with the attitude of people. Like you see regarding getting a helper, sometimes you become lucky at another time you just have to be patient. I do not expect the design of the environment can change the way I move because... (R5_SB). I have learned to live with it to endure the minor misunderstandings. If I should allow myself to get frustrated at every mockery, then I will have a lot to lose (R7_SB).*

Participant (R8_SB) focused on the end result and forgets about what is in front of him as he stated:

*But when I think of the end result, I become more forbearing, but I am ready to forbear the stress. Those in the beginning class I usually advise them to be more tolerant and forbearing towards what they will see and pass through in their academic life. Learning with a disability has never been a thing to be taken for granted. You strive… we pray (R8_SB).*

To be able to access facilities in the absence of wheelchair accessible routes, participant (R9_SB) abandons her wheelchair as a coping strategy and utilizes the crutches. In her words: *I use crutches as you can see, so I can access wherever I want to but if the facilities are there, I will feel more comfortable to use a wheelchair -* (R9_SB).

### 4.8.1.2    Time Management

Accuracy and speed as time management skill appeared to be very important in the inclusive life of persons with disabilities, as extra examination time is not always given to the students but in rare cases. *We use a typewriter as there is no braille, the typewriter is only one; one has to be fast and accurate* (R4_SB). In addition to the speed and accuracy (R5_SB) added the need for time management through waking up early to catch up bus before the congestion begins:

> *I have to wake up early enough to catch the bus as early as five before the congestion period and the cost we share. We are not given any additional time yet typewriter for a visually impaired is not equipped to accommodate your mistake one need to be fast and precise at the same time* (R5_SB).

(R6_SB) considered her helper's schedule while planning her own and thus time management skill becomes an indisputable approach to her academic survival and she recounted her experience as follows:

> *The helpers have their needs as well she has her own Commitments being human it is not always she will be available, but sometimes they may get tired of helping us, one has to consider their schedules as well* (R6_SB).

Respondent (R8_SB) comes to the campus early for two reasons. One to avoid congestion in the classroom by securing a seat in the front row and second because the distance he has to cover along the dangerous road is long. The barriers that (R8_ SB) do not seem to overcome is the long wait at the gate waiting for others to come and guide him to the appropriate classroom:

*But the daily transportation, over 40km, is demanding and stressful on me whenever I come to the gate, I had to wait for my colleagues no matter, how long a period that will be... has to come early enough to get a seat in the theatre. Space easily becomes congested one has to come very early to secure a seat in the front row (R8_SB).*

### 4.8.2    Improving Awareness and Support: The Role of DPO's and Media

The role of DPO's and the media in the improvement of awareness and support services to persons with disabilities was clearly expressed by (R6 and 4_SB): *... Issues concerning human life are given enough priority. We need to have an organization to fight for our rights (R6_SB). But now, truly, I thank God, it's unlike before, gradually people are becoming civilized and as a result of discussions in the radios and so on, so you see that thing (\*discrimination) is gradually disappearing, and those getting educated are increasing* (R4_SB).

### 4.8.3    Barrier Removal Through Inclusive Design and Planning

Barrier removal occurs at a different level of environmental influences. The participants R2_SB is convinced that design is a medium of inclusion or otherwise as stated here: the d*esign I am convinced is a vehicle of exclusion if it does not specify a wide-ranging need* (R2_SB). Here the design may refer to both of products and environment and have a man-made planning of the environment

### 4.8.4    Policy Improvement and Implementation

#### 4.8.4.1    Accessibility Policy

Four participants considered improvement and implementation of accessibility policies as important to their inclusion and they expressed that in the following manner: (R4_SB) talk about equal access to basic facilities: *I don't have much problem with the design of the environment; my problem is the structure of the society, which disqualifies me from having an access to basic facilities* (R4_SB). (R4_SB), urged government to provide means of transportation for the students and staff with disabilities.

*It is not only the transportation fare that is worrying me, but also the trouble one has to undergo before reaching your destination. If the government will provide transportation to students it will reduce the burden on us* (R5_SB).

(R7_SB), is having the view that the responsibility is not on the government alone, but the society at large especially regarding accommodation problem. *The school and the society can do well by improving the facilities and services, particularly regarding accommodation issues on this campus* (R7_SB).

### 4.8.4.2    Disability Policy

While the majority of the participants believe in the importance of policy, most of the do not have faiths in the policy, that it will be implemented in the near future: *I don't have a problem with policy, statements, my problem is with its execution* (R2_SB). Surprisingly, (R3_SB) is not aware of the existence of disability policy as clearly stated: *As for policy I do not consider it workable, because of anything in that regard, I mean if there is any policy then I am not aware of its existence* (R3_SB). An additional new insight emanates from (R6_SB) when she said the help if there should be any should be extended to their family as well:

*I think not only disabled should be helped, but their guardians and parents as well. They are patient with us, you have to be patient and sacrifice a lot, but even the disabled are not getting much help not to talk of their guardians* (R6_SB).

Obviously, (R7_SB) has clear knowledge about his rights as contain in the policy, which is conflicting with the reality of his life experience.

*Because within it has been stated that "person with special needs has the right to reside where s/he need to. To lead a life s/he wants to, but that is not what is obtainable in reality. Now I have to reside with my family in (name of a place) and commute here because it's more economical and I cannot get a place to stay here* (R7_SB).

The respondent (R8_SB) has a positive view on the government's intention, but a negative view on its priority. His priority is an accommodation and transportation, while the responsibility he believes is in the society as it is on the government.

*Policy and reality are two different things at times the policies are made with good intention, but the priority of the government is what will give the policy its life. If we can have disabled people somewhere up, then attention will be tilted towards the disabled, but right now I doubt if we have that opportunity up there. Accommodation or transportation subsidy is what I will hope to get from these governments to ease my suffering, but I think it is not all that difficult for the institution to arrange for our accommodation nearby or even inside the school. And not only the institution but also the society as a whole can contribute* (R8_SB).

Respondent (R9_SB) urged for the provision of facilities for her to be more comfortable. *I use crutches as you can see, so I can access wherever I want to, but if the facilities are there I will feel more comfortable to use a wheelchair-* (R9_SB).

### 4.8.4.3   Institutional Policy

Disability friendly teaching technique is required because (R2_SB) believes for one to survive the academic rigor one has to: *"become attentive and read gesture"* (R2_SB). (R4_SB) preference is in political science, Mass communication or law, but the school policy or something else deemed it more appropriate to change it for him to where they think applicant belong "the department of special education":

*It was not my choice, but when they saw my form they changed it to special education, to tell you the fact the form... In the form I bought I did not choose special education and I did not even know, it was started in that year, I was enrolled, and I was delighted by the choice anyway. Because it is my area and God willing, I will get something out of it, otherwise, I have wanted to apply for a change of course but I was advised otherwise. So here I am because I cannot see, well it will be like an additional experience* (R4_SB).

Not to allow a student to enter classroom because he/she is 10 minutes late is obviously not a favourable institutional policy to stick to especially when the student has an excuse in addition to being a visually impaired in an environment that is not designed to make him/her independent this is what is clearly stated in the statement of (R7_SB) after decades of experiencing such treatment.

*Whenever I come to the gate, I had to wait for my colleagues no matter how long a period that will be. It is because of such, one day we have a lecture on Friday it is my only lecture (\*on that Day-Friday). I was delayed because I could not get somebody to escort me. The lecturer has a rule that after 10 minutes' no one is allowed in. One of my friends (name of a person) came and we enter together, he was not offering the course anyway, the lecturer said I will not allow me to enter, he told him, oh he has been in the gate for long, it's because he could not get someone to escort him. I swear he never allowed me to enter that lecture. So these types of things are so numerous* (R7_SB).

Finally, and conclusively (R9_SB) said nothing seemed to be working:

*Sometimes I just don't know what is wrong or nothing seemed to be working, but I think education is something worth undertaking and everyone we should be educated (whether disabled or not), the policy is there, but it is not implemented* (R9_SB).

## 4.9     Summary and Link

This chapter contains data on the participant's experience of living and negotiating a disabling environment. Thus, quotations of the respondent's word-to-word assertions are presented. The first research question was on the inclusive rights of persons with disabilities and was therefore covered in the introductory part of chapter. The data generated from the case study site SA are presented in section 1 followed by data from case study SB presented in section 2. Data presented are organized following themes and codes for the three other research questions. Accordingly, the themes are categorized under barriers to inclusion, impact of the barriers and how to overcome the barriers. Themes under barriers to inclusive mobility are classified in stages following the same sequence as in case study SA.

The first stage is the individual level. Barriers that occur as a result of personal feelings or opinions developed over time are collected under the Node psychological barriers at the individual level. The second stage gathered data obtained from the participants that can be interpreted as attitudinal barriers. They include social support or lack of it and bad experience of stigma. The third is the physical barrier stage. Findings representing physical barriers resulting from the design of products and environment as well as geographical and planning factors are presented. The final node gathered materials on logistical barriers at the policy level. The barriers concern the plan and organizational details involving the flow of things and information including logistical supports.

The impact of the barriers on persons with disabilities is examined. The result obtained are categorized under demotivation, loss of confidence, financial burden, which include accommodation and transportation cost, physical stress and time constraints. Thus, to overcome the barriers, strategies are identified, developed by the

participants in their bid to negotiate a disabling environment. The approaches include a coping strategy of self-motivation and resiliency, time management at the individual level. Overcoming the barriers at the physical level involve barrier removal strategies such as inclusive design and planning. Overcoming the barriers at the policy level involves policy improvement and implementation. Such policies include accessibility, disability and education policy as presented in the data from the case study site SB.

## CHAPTER 5: CROSS CASE ANALYSIS: SUMMARY OF FINDINGS

### 5.1    Introduction

The purpose of this multiple embedded case study research was to explore the barriers that are affecting persons with disabilities in an inclusive setting of higher education. It is expected that the knowledge gain from this inquiry would, afford new insight into a more informed decision-making in practice and policy levels. In seeking to understand this phenomenon, the research data were coded, analysed and organized. First, the units of analysis based on the research questions are used for categories, the subcategories in line with the conceptual framework. Thus, the study was coded according to four basic research questions itemised in subsection 1.3.1.

The chapter presents a critical discussion attached to the subjective meanings of individual findings in chapter four and five. The cross case analysis of case study-1 and -2 was meant to revealed similarity and differences across study participants and sites. Synthesis was made of the study findings in form of replication logic. The overall findings are situated within the existing literature reviews in the next chapter in form of triangulation.

### 5.2    Cross-Case Analysis

Interpretative research and case studies are compatible. Their starting point is indissolubility of the situation (Thomas G., 2011). Thus, multiple data in the form of interview transcripts, document reviews, and observations are collected. This is done to identify patterns as they corroborate with each other and the existing literature Table 5.1. Thus, classification matrix of a within-group similarity and intergroup differences will accord the researcher the ability to see the overall picture (Bloomberg & Volpe,

2012). For the analysis a constant comparative method is employed. It involves scrutinizing the data again and again to show the interconnection between themes.

**Table 5.1:** Pattern Matching between Frequently Expressed Themes

| Frequently expressed as words | Case study site 1 | Case study site 2 |
|---|---|---|
| Differences | Planning, way, pathway, access, building, library, time, distance | Lack, cost, transportation, need, options, policy, facilities, inadequate, |
| Replication logic | Know, environment, people, design, experience, bad, stigma, information, wheelchair, cost, need, support, accommodation, see, communication, experience, attitude, planning, disabled, | |

The following sections examined the key points that emerged from the interview and presents them in graphs and raw data. An NVivo generated model (Figure 5.1) of the research themes from the data is presented below:
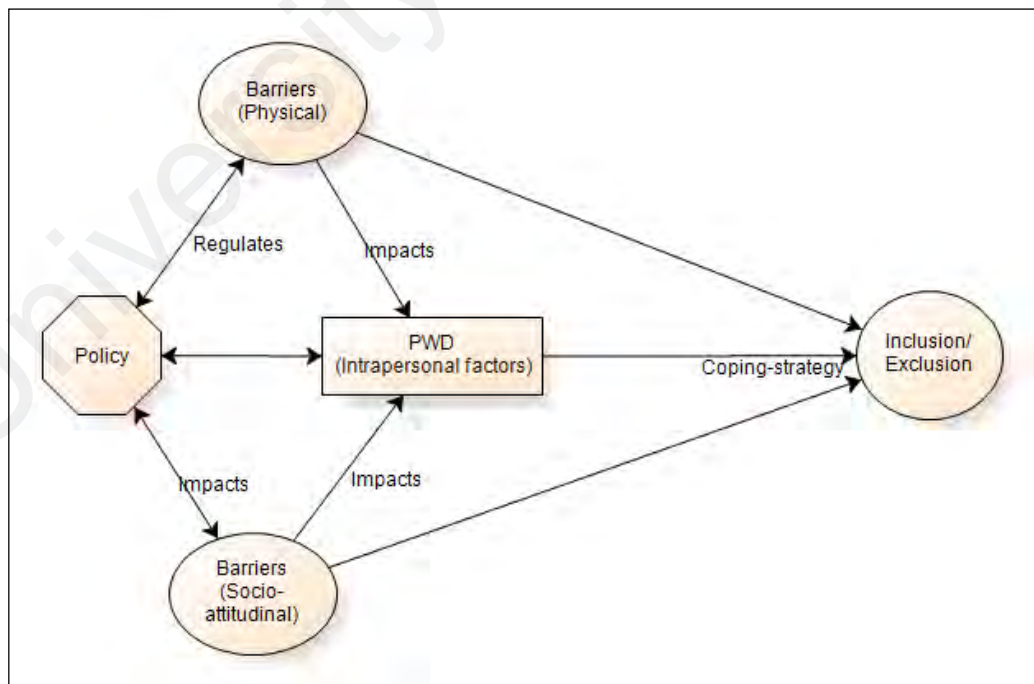


**Figure 5.1:** An NVivo generated model of the research themes

## 5.3    Themes 2: Synthesis on the Barriers for Persons with Disabilities Inclusion Across the Case Study Locations

Theme 2, contains the major findings on the barriers to persons with disabilities inclusion in case study site SA (Figure 5.2), then case study SB (Figure 5.3) followed by synthesis of the two (Figure 5.4) in form of replication logic (Table 5.2 and 5.3). Finally, the overall summary of findings under this theme is presented in the form of cognitive maps.

### 5.3.1    Analysis and the Interpretation of the Interview Findings



**Figure 5.2:** Barriers to persons with disabilities inclusion by the participants in SA

### 5.3.1.1    The Synthesis of the Key Findings in Case Study- BUK

1. An overwhelming majority, 8 of 10 (80%) of the participants indicated that the design of products and environment are the major barriers to their inclusive mobility. The primary and overriding findings of the study are that the design of built environment and facility provisions is the major barriers to persons with

disabilities inclusive mobility in SA. This finding is highly significant considering the fact that 80% of the participants find facility provisions on the built environment not responding to their inclusive mobility needs. Based on the participant's response 26.8% references are coded under this node. Because "the environment is not tailored to our accessibility needs". They expressed their dismay in the following way:

2. Problems associated with planning and geographical factors are expressed by (60%) of the participants (number of sources), but more frequently (number of references) than any other barrier in SA. 29.5% of the coded references are for planning and geographical factors. Such as:

3. Stigma and bad experience are another important finding with regards to the mobility barriers persons with disabilities are facing in SA. Out of the overall coded references made by the participants in SA, 13.8% are on attitudinal barriers associated with stigma and bad experience.

4. Most of the participants (60%) spoke unfavourably about their experience with regards to the inadequate support and limited option they are made to bear within SA.

5. 3 out of 10 participants reflected on their opinion and beliefs (1.6%) and offer some insight into the complexity of intrapersonal attributes as it may lead to their exclusion. Only 1 person expressed concern about a fear of failure or rejection as a contributing factor to personal exclusion.

6. While respondent (R05_SA) recorded more disabling barriers (7 out of 8), R03, 06, 07, 08 &10) have a record of 3 out of 8 of the experience of mobility disability.

7. Participant (R09_SA) is the most affected by the planning barriers and the design of products and environment followed by (R07_SA) then (R05_SA) and (R08_SA).
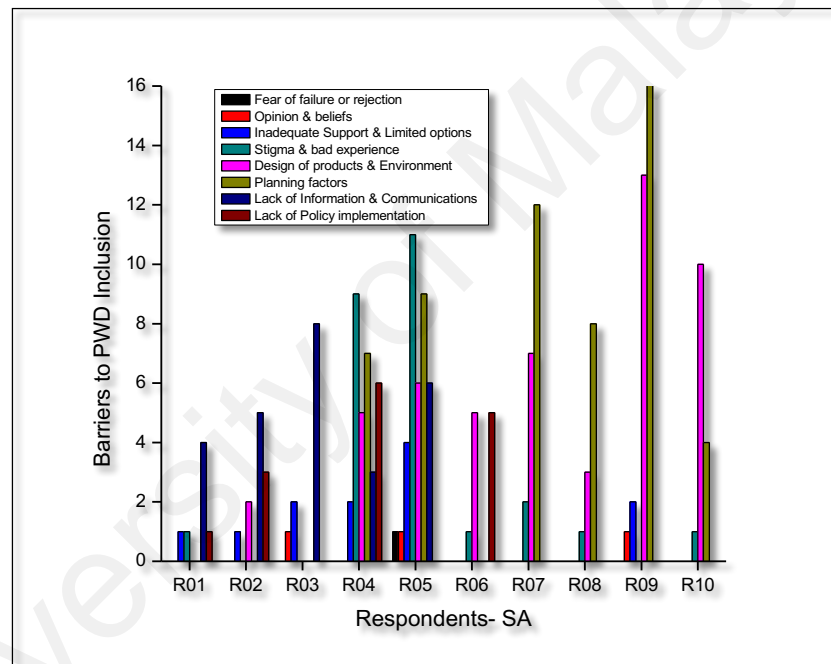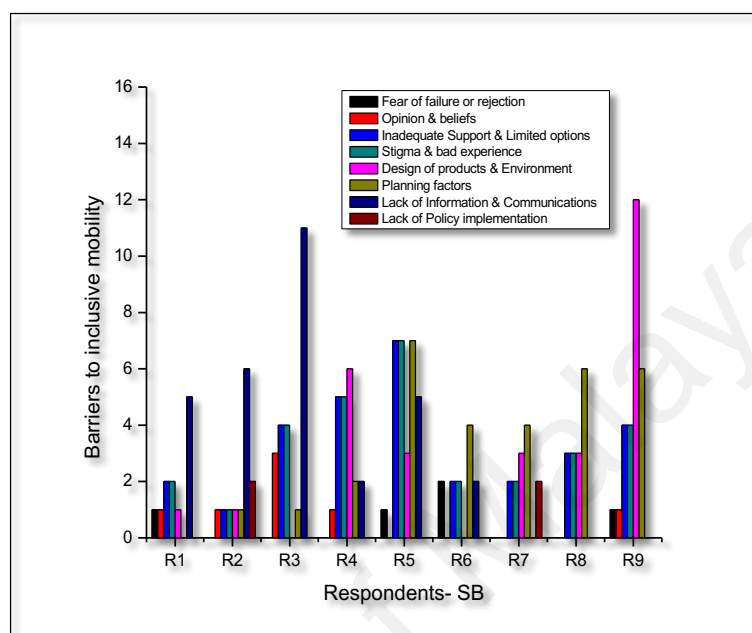


**Figure 5.3:** Barriers to persons with disabilities inclusion by the participants in SB

### 5.3.1.2 The Synthesis of the Key Findings in Case Study- SRCOE

1. All participants talked extensively about the stigma and bad experience as the greatest barrier to their inclusive livelihood in SB. The magnitude of these barriers by the participants in SB is not only unexpected, but also surprising, for the fact that not only students but also staff with disability expressed these barriers as it affects the inclusive living. Thus, 32.4% references under barriers to inclusive living are stigma and bad experience related while (14.3%) concern lack of adequate support and limited options. Thus, attitudinal barriers are the majorly expressed barriers by the participants in SB.

2. Another major finding is the 8 out of 9 (89%) participants expressed concern about physical barriers resulting from planning and geographical factors, with 14.8% references made in SB related to this important barrier factor.

3. The next most frequently expressed barrier is another physical barrier associated with the design of products and environments. 7 out of 9 (78%) participants dedicated 13.8% expressing worries about these environmental attributes that contributed to their exclusion. Opinion and beliefs are equally expressed by 7 out of 9 (78%) participants, but to a lesser degree (only 5.7% references).

4. Most important factor in the exclusion of persons with disabilities in SB is the barrier factor related to lack of information and communication. 6 out of 9 (67%) participants strongly (14.8%) expressed concern with communication-related barriers.

5. Fewer participants 2 out of 9 (22%) attributed the factors responsible for their exclusion to lack of policy implementation in SB. It is also the least elaborated barrier by the participants (1.9%).

6. More themes were coded (7 out of 8) under the respondent (R2, and R5_SB).

**Table 5.2:** Synthesis of the barriers to inclusion for replication logic

| Barriers to inclusion in SA | Barriers to inclusion in SB | Replication logic |
|---|---|---|
| Stigma and bad experience are another important finding with regards to the mobility barriers 70% of **persons with disabilities** are facing in SA. Out of the overall coded references made by the participants in SA, 13.8% are on attitudinal barriers associated with stigma and bad experience. | All the nine participants, 9 of 9 (100%) talk extensively about stigma and bad experience as the greatest barrier to their inclusive livelihood in SB. The magnitude of these barriers by the participants in SB is not only unexpected, but also surprising, for the fact that not only students but also staff with disability expressed these barriers as it affects inclusive living. Thus, attitudinal barriers are the majorly expressed barriers by the participants in SB. | Overwhelming majority considered stigma and bad experience as a barrier to their inclusive participation (70% in SA and 100% in SB |
| Problems associated with planning and geographical factors are expressed by (60%) of the participants, but more frequently (number of references) than any other barrier in SA. 29.5% of the coded references are for planning and geographical factors. Participant (R09_SA) is the most affected by the planning barriers followed by (R07_SA) then (R05_SA) and (R08_SA). | Another major finding is the 8 out of 9 (89%) participants expressed concern about physical barriers resulting from planning and geographical factors, with 14.8% references made in SB related to this important barrier factor. | The most expressed barrier categories in SA are the planning barriers factor reiterated extensively (number of references) by 60% (majority) of the participants in SA and by 8 out of 9 (89%) of the respondent in SA. |

Source: Author's compilation

**Table 5.3:** Synthesis of the barriers to inclusion for replication logic (continuation)

| Barriers to inclusion in SA | Barriers to inclusion in SB | Replication logic |
|---|---|---|
| **An overwhelming majority, 8 of 10 (80%) of the participants indicated that the design of products and environment are the major barriers to their inclusive mobility. This finding is highly significant considering the fact that 80% of the participants find facility provisions on the built environment not responding to their inclusive mobility needs. Participant (R09_SA) is the most affected by the design of products and environment followed by (R10_SA)** | The next most frequently expressed barrier is physical barrier associated with the design of products and environments. 7 out of 9 (78%) participants dedicated 13.8% expressing worries about these environmental attributes that contributed to their exclusion. Overall (R9_SB) is the most affected in SB and is affected by the design of products and environments. | 80% in SA and 78% in SB attributed barrier to inclusive mobility with the design of products and environments. |
| **50% of the participants are affected by lack of information and communication.** | Next most important factor in the exclusion of persons with disabilities in SB is the barrier factor related to lack of information and communication. 6 out of 9 (67%) participants strongly (14.8%) expressed (number of references) a concern with communication related barriers. The participant (R3_SB) who is affected by the lack information and communication seriously. | Lack of information and communication affects the majority of the participants |
| **Most of the participants (60%) spoke unfavourably about their experience with regards to the inadequate support and limited option they are made to bear within SA.** | 9 out of 9 (100%) of the participants attributed the inadequate support and limited options they have with the barrier to their inclusion | Inadequate support and limited options featured prominently in SA and overwhelmingly in SB |
| **Fewer participants 3 out of 10 (33%) attributed the factors responsible for their exclusion to lack of policy implementation in SA.** | Fewer participants 2 out of 9 (22%) attributed the factors responsible for their exclusion to lack of policy implementation in SB. It is also the least elaborated barrier by the participants (1.9%). | Lack of knowledge or concern about policy is expressed across the case study locations |
| **3 out of 10 participants reflected on their opinion and beliefs (1.6%) and offer some insight into the complexity of intrapersonal attributes as it may lead to their exclusion. Only 1 person expressed concern about a fear of failure or rejection as a contributing factor to personal exclusion** | Opinion and beliefs are equally expressed by 7 out of 9 (78%) participants, but to a lesser degree (only 5.7% references). | The least expressed (number of references) barriers is the Opinion and belief |
| **Fear of failure and rejection was found to be the barrier to inclusive mobility of 1 participant (10%).** | Five participants expressed their fear of failure or rejection in SB | Fear of failure or rejection appeared the least prominently expressed barriers in the cumulative findings. |
| **While respondent (R05_SA) recorded more disabling barriers (7 out of 8) R03, 06, 07, 08 &10) have a record of 3 out of 8 of the experience of mobility disability.** | More themes were coded (7 out of 8) under the respondent (R2, and R5_SB). | Individual disabled participants experience 7 out of 8 barrier categories. |

Source: Author's compilation

### 5.3.2 Replication Logic of the Barriers to Inclusion

Cumulatively, the most frequently expressed barrier (Figure 5.4) has been the stigma and bad experience (94%), followed by planning and geographical factors (87%), while the minimum barrier experienced is the fear of failure or rejection.
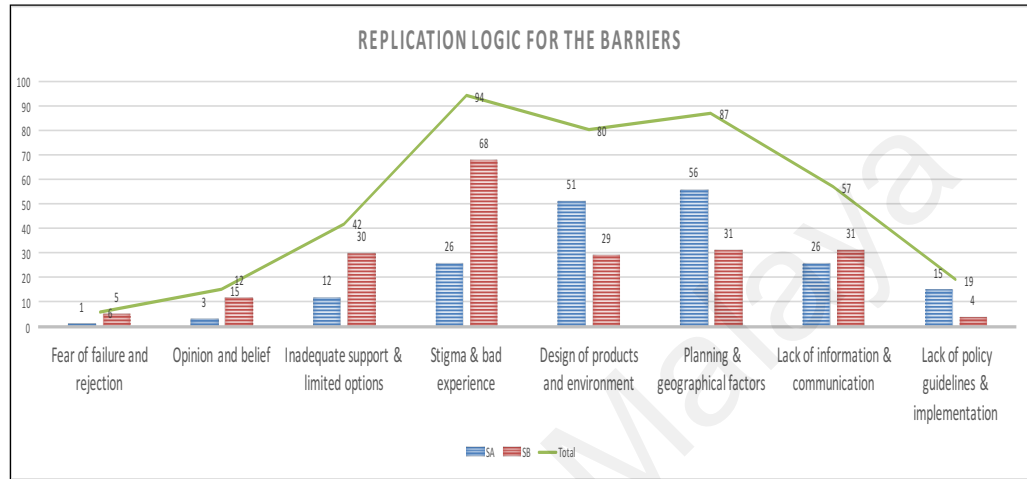


**Figure 5.4:** Replication Logic for the Barriers Across SA and SB

Upon analysis of concentrated responses summarized in (Figure 5.4), both within individuals (intrapersonal) and across individuals, within the case and across case study themes and patterns emerged. The overall finding in this study revealed that disabled people bad experience of stigma is the most disabling barrier (23.5%) to inclusive participation in an educational setting on equal merit. The word tree below gives a graphical representation of attitude (Figure 5.5) expressed by the study participants across SA and SB.
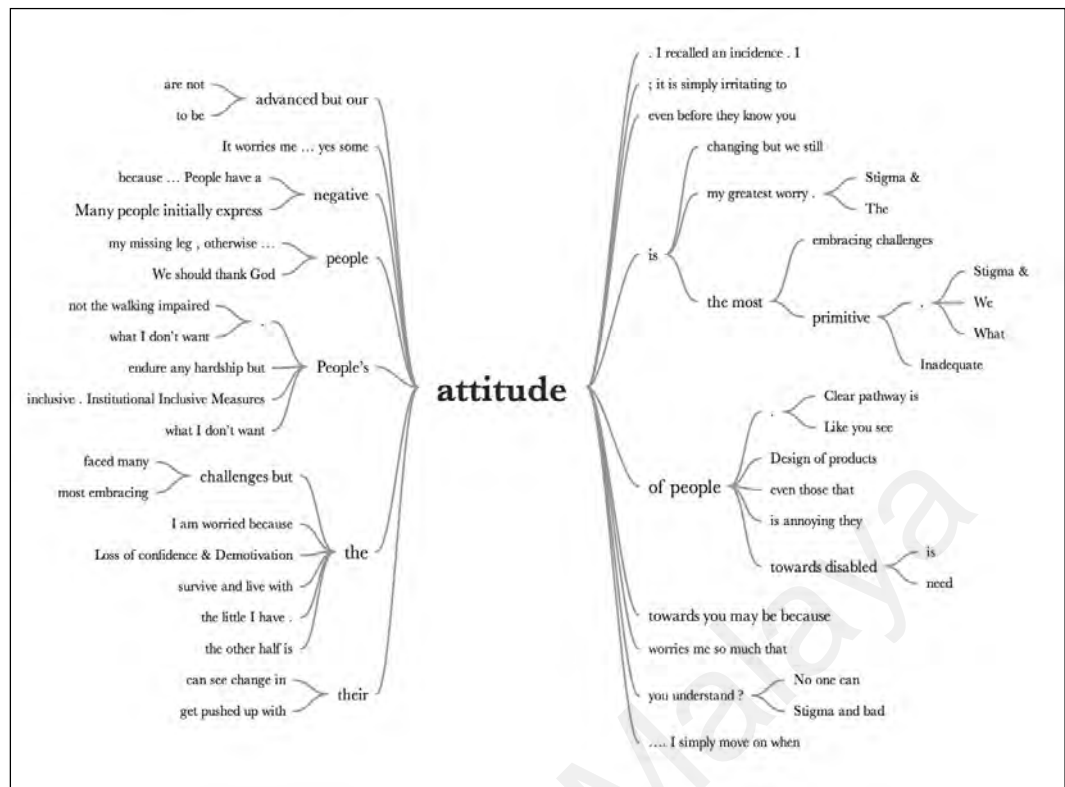
**Figure 5.5:** Word tree of the word "attitude" as expressed by the participants

The second most disabling barrier as expressed by the participants is the planning and geographical factors (21.8%) followed by the design of products and environments (20%). Distance and location disadvantage of facilities and accommodation is shown (Figure 5.6 and 5.7) to have had a great impact on the persons with disabilities mobility experience and it may explain the gravity of this barrier category. Further research into the data shows a consistency in barriers report concerning accommodation. Thus, proximity of the place of residence or accommodation to the place of learning is an important factor for persons with disabilities inclusion.

Perceived disablement from stigmatizing attitude (barrier category- RQ2), physical environment and lack of information rather than persons with disabilities impairments or intrapersonal opinion and believes leads to further dialogue with participants on how

this might affect their inclusive participation on equal merit (barrier impact category-RQ3).

The synthesis of the key findings of the individual cases has seen the emergence of a pattern of findings in the form of unique ideas and themes. Afterward this section involves a cross-case synthesis to integrate each theme and sub-theme across the case study SA and SB. This is done in order to search for pattern that can give new insight and uncover the connection that may not be evident in the beginning phase of the analysis. Utilizing example application in the NVivo cognitive map was developed to graphically describe the connection between the emerging patterns in form of replication logic.

## 5.4    Themes 3: Synthesis on the Impact of the Barriers on Persons with Disabilities Across Case Study Sites

Theme 3 comprises of the major findings under the impact of the barriers on persons with disabilities across a case study site SA (Figure 5.6), and then SB (Figure 5.7) followed by a replication logic (Figure 5.8) and synthesis of the two as presented in (Table 5.4).

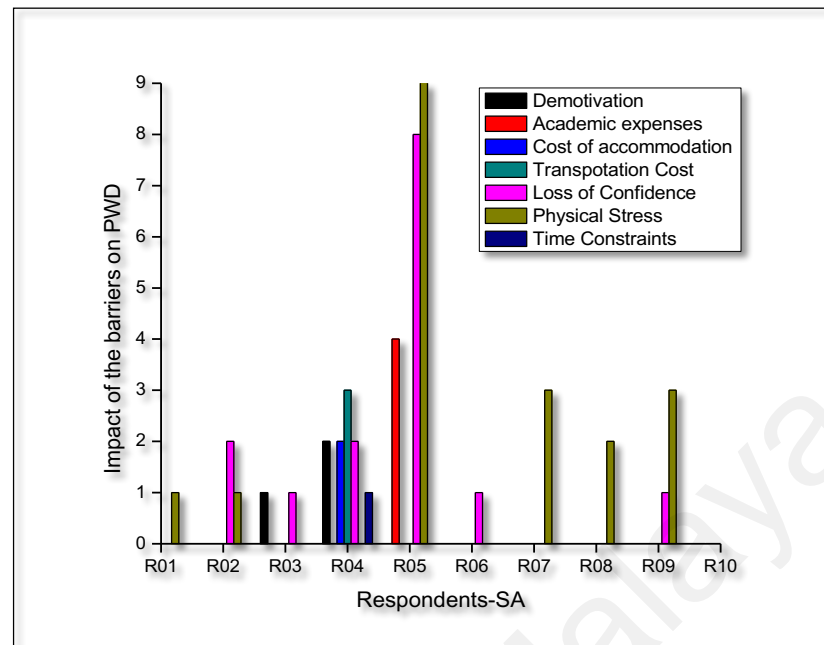## 5.4.1 Analysis and the interpretation of the interview findings in - SA and SB



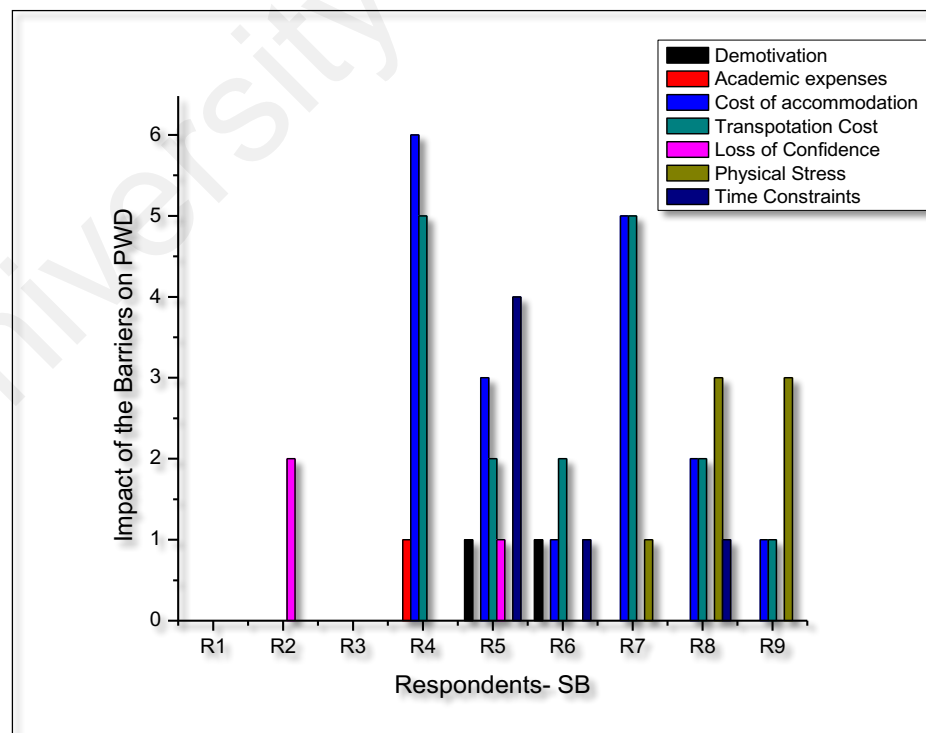**Figure 5.6:** Impacts of the barriers on persons with disabilities by the participants in SA



**Figure 5.7:** Impacts of the barriers on persons with disabilities by the participants in SB

**Table 5.4:** Synthesis of the barrier impact to expose replication logic

| Impacts of the Barriers in SA | Impacts of the Barriers to in SB | Replication logic |
|---|---|---|
| **Physical stress is mentioned 20 times by 7 participants in SA and therefore is more prominently expressed than any other barrier impacts by the participants in SA.** | Physical stress is mentioned 7 times by three participants in SB | 10 participants across the study locations mentioned physical stress as a barrier that impact on their inclusive campus livelihood. |
| **Only one participant considered the cost of accommodation as a barrier to inclusion in SA.** | Cost of accommodation is stated 18 times by 6 out of 9 participants. | 7 participants considered accommodation cost as an extra financial burden on them. |
| **Similarly, only one participant mentioned the cost of transportation as a financial burden 3 times.** | Similarly, Cost of transportation is referenced 17 times by 6 out of 9 participants. | Cost of transportation is motioned 18 times across the two case study locations |
| **Loss of confidence is expressed 15 times by six participants in SA especially by (R05_SA) 8 times, followed by (R02_SA) and (R04_SA) two times each** | Loss of confidence appeared 3 times in the statements of two participants | Loss of confidence appeared 18 times across SA and SB |
| **One participant considered time constraint as a barrier that impact inclusive mobility** | Time constraints impact on the participants, especially (R4_SB) who mentioned it 4 times followed by (R6_SB) and (R8_SB). | The time constraint is indeed a barrier, according to 7 participants across the two case study locations. |
| **Two participants (R02_SA) mentioned 1 time and (R03_SA) mentioned two times the impact of demotivation on their inclusive livelihood.** | (R5_SB) and (R6_SB) mentioned demotivation as a barrier to their inclusion in SB | 4 participants regarded demotivation as barriers that impact their inclusive participation. |
| **A participant who mentioned academic expenses 4 times during the interview considers it a financial burden.** | Cost of accommodation repeated 18 times is the most frequently expressed barriers that financially impacts 6 out of the 9 participants in SB. | Financial burden manifest in different ways prominent among them is the cost of accommodation. |
| **Overall, physical stress followed by loss of confidence featured more prominently in SA, while time constraints and the cost of accommodation appeared the least of their problems.** | The cost of accommodation is followed by the cost of transportation, which appeared 17 times in the statements of 6 out of the 9 participants in SB. | Physical stress is followed by the cost of accommodation and transportation across the two campuses as experienced by the participants and then loss of confidence, while demotivation has the least effect on persons with disabilities. |

Source: Authors compilation

### 5.4.2 Replication Logic on the Impact of the Barriers on Persons with Disabilities

Participant's response to barrier impact on their campus livelihood revealed a number of themes. Prominent among them is the physical stress as expressed by 26.5% of the participants. 20% of the participants in SA explained how this barrier affects their lives more than the 13% in SB.
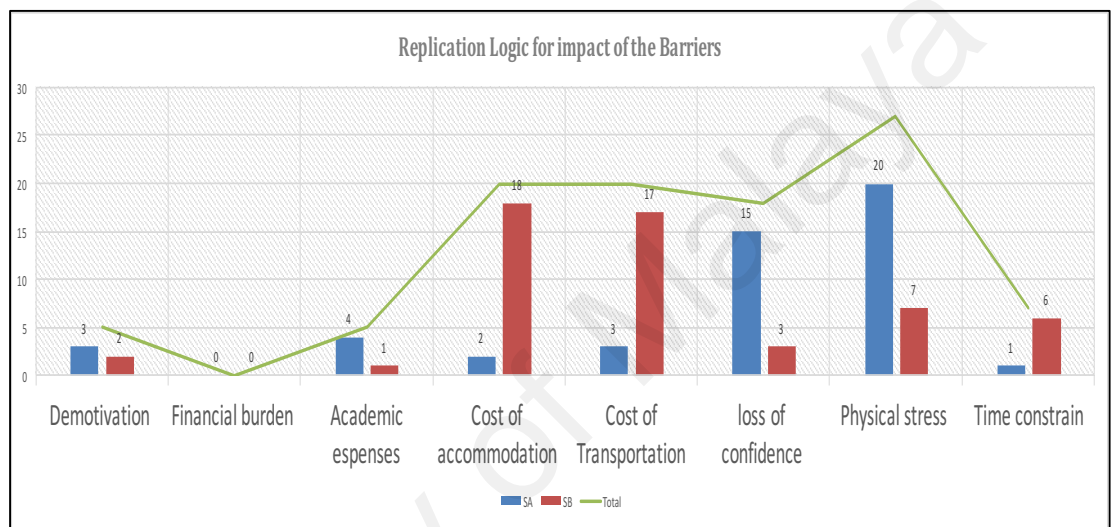


**Figure 5.8:** Replication logic of the impact of the barriers on persons with disabilities across campuses

Physical stress is in most cases associated with having to cover greater distance vertically or horizontally while moving from one point to another. The fact that SA has an on campus accommodation for both staff and students may explain why there is less reported cases of accommodation problems dominating this barrier category in SA than SB. Buildings are generally taller in SA than in SB. Library (Figure 5.9) in SA is one of such example of vertical mobility restrictive areas that featured frequently in relation to mobility disability.
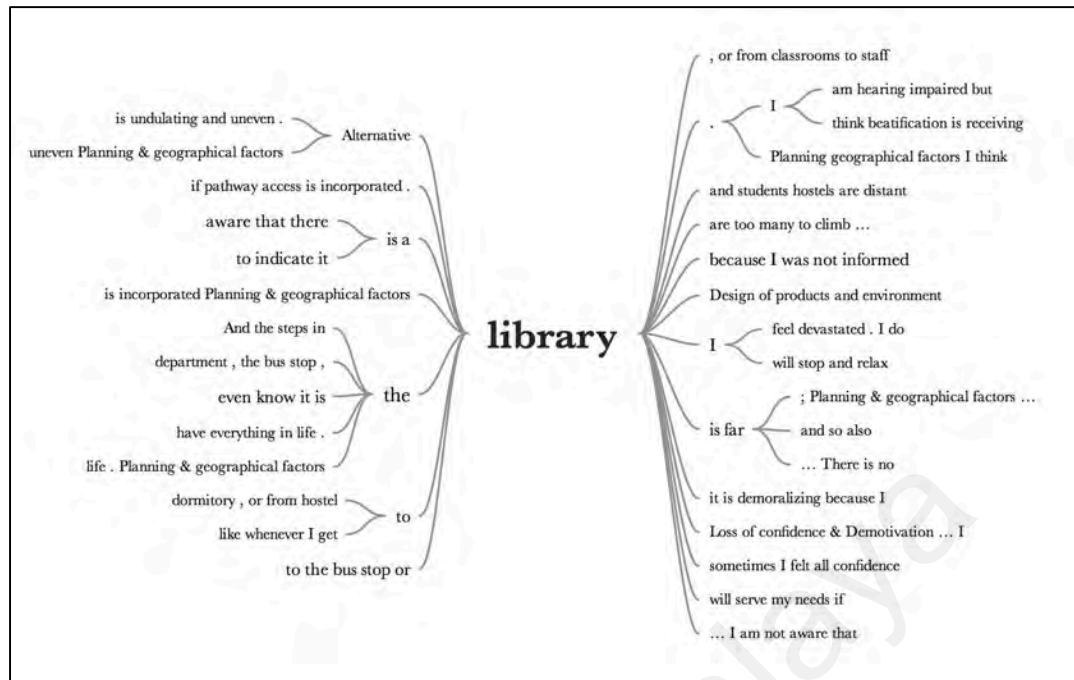
**Figure 5.9:** Word tree of the word "library" as expressed by the participants

The location of the department of special education is favourable in SB, but presented a concentrated disadvantage to persons with disabilities mobility horizontally wise in SA (Figure 5.10). Likewise, the campus size is larger. Thus, planning and design factors are more frequently expressed in SA than SB. Attitudinal barriers are expressed more frequently in SB than in SA. Lack of information and communication is third most frequently expressed barrier category under logistical barriers that featured prominently and almost equally in both case study locations (13.7% in SA and 14.3% in SB).
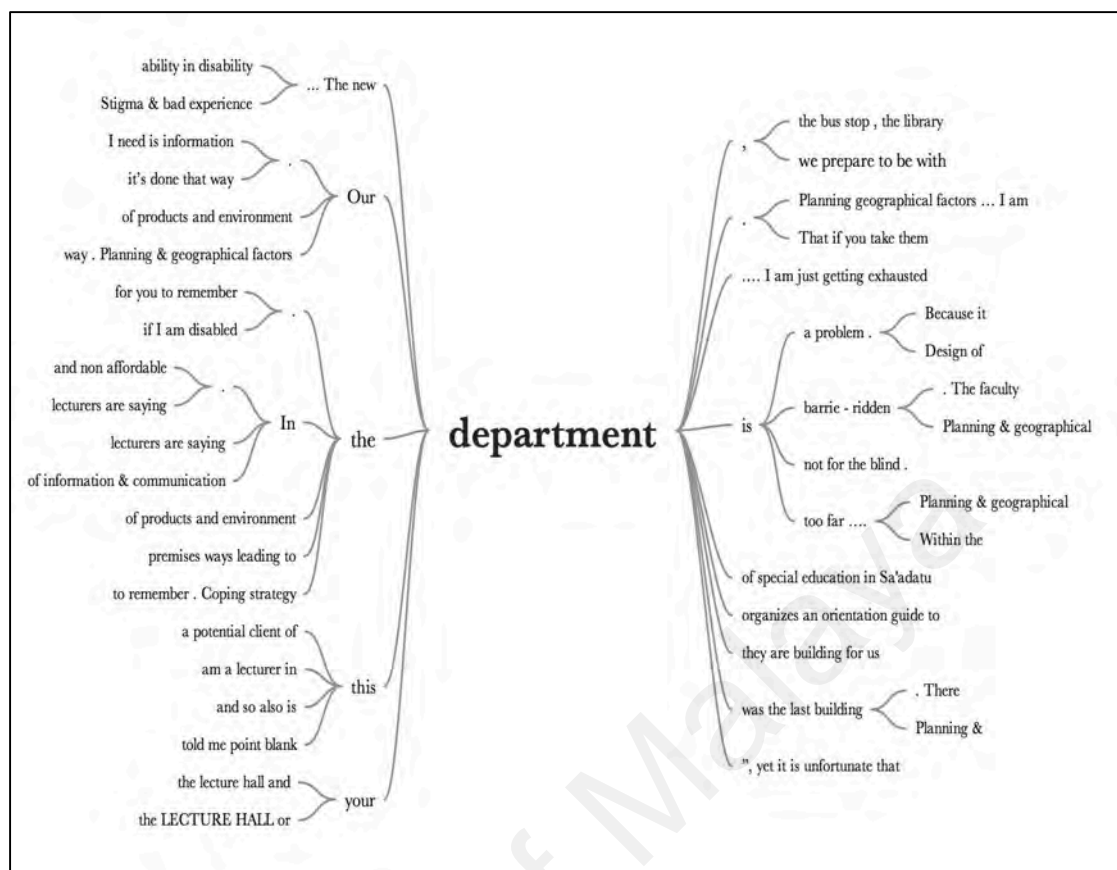
**Figure 5.10**: Word tree of the word "department" as expressed by the participants

Second to physical stress, the most prominently expressed "barrier impact" category is the accommodation and transportation cost associated with expenses of living outside the campus premises. Thus, participants in SB spoke unfavourably about the financial burden imposed on them by not having an on campus accommodation. Only one respondent residing off campus from SA (R04_SA) expressed concern about accommodation and transportation cost. These reinforce the belief that lack of an on-campus accommodation is a barrier to persons with disabilities inclusive livelihood.

The next expressed barrier to inclusive mobility is categorized under "loss of confidence" (17.6%). A closer look at "loss of confidence" as a subcategory of barrier impact revealed that "loss of confidence is related to demotivation and negative experience associated with stigma and attitudinal barriers (Figure 5.11). Thus,

participants residing outside the campus premises suffer more from this barrier than those living within the campus premises.
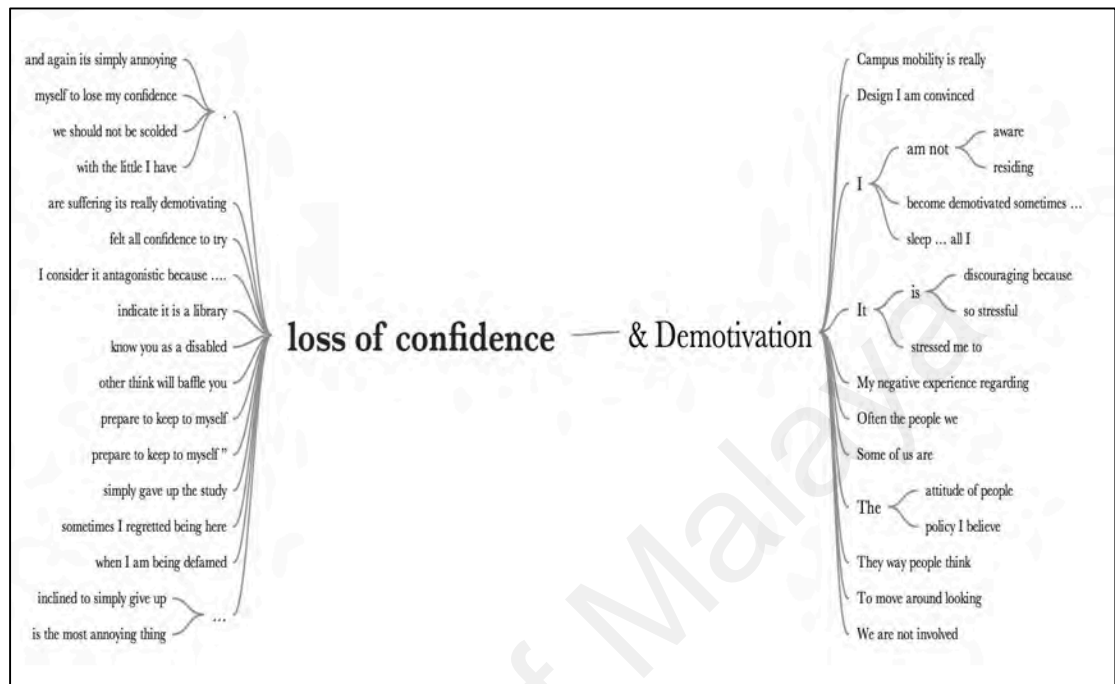


**Figure 5.11:** Word tree of the word "loss of confidence & demotivation" as expressed by the participants

The cross case analysis of the key findings shows a replication logic of pattern Utilizing the NVivo cognitive map to graphically describe the connection between the emerging patterns is the figure that follows (Figure 5.12).
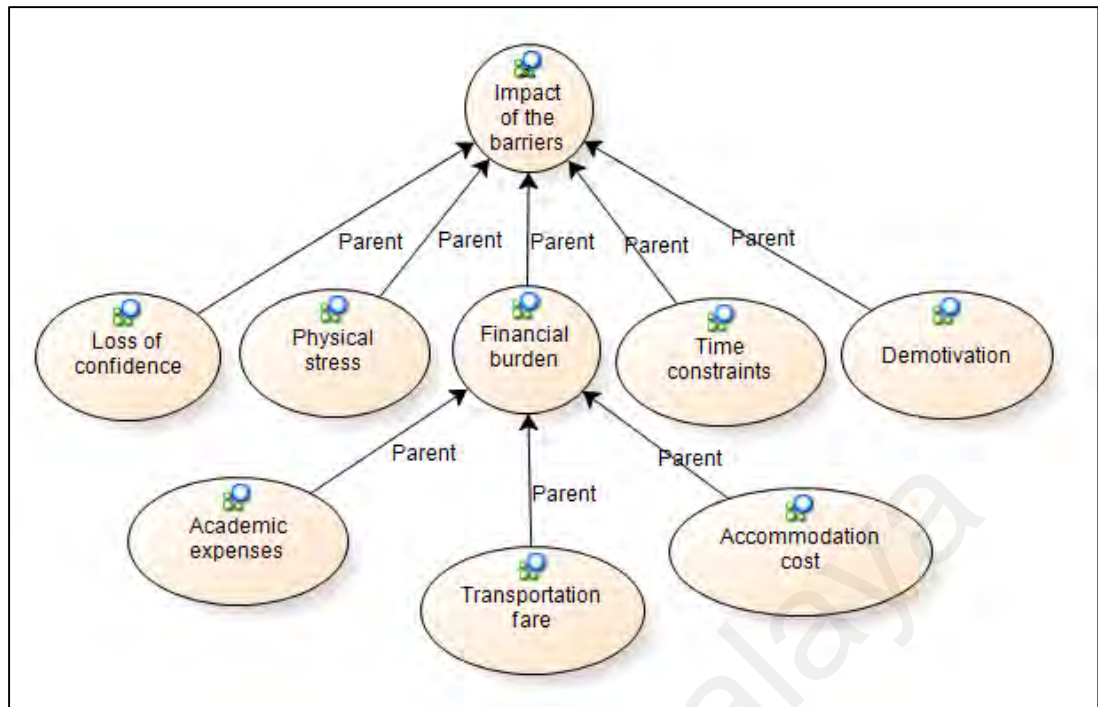
**Figure 5.12:** Cognitive map of the impact of the barriers on persons with disabilities

Having examined the barriers to persons with disabilities inclusive living, - barrier category- RQ2 and the impact on of the barriers on disabled people - barrier impact category- RQ3, it is now pertinent to explore how these barriers may be overcome in (barrier elimination category –RQ4).

## 5.5 Themes 3: Holistic View on Overcoming the Barrier Subjectivity

Theme 3 comprises of a holistic approach to overcome the barrier subjectivities experienced by the study participants. Emerging themes from the interviews in SA (Figure 5.13) and SB (Figure 5.14) are synthesized and presented in form of replication logic (Figure 5.15). Finally, the graphical representation of key findings is presented in the form of cognitive maps (Figure 5.16). Strategies to overcome the barriers are presented in (Table 5.5) in form of synthesis.

**Figure 5.13:** Overcoming the barriers by the participants in SA



**Figure 5.14:** Overcoming the barriers by the participants in SB

**Table 5.5:** Synthesis on overcoming the barriers to expose the replication logic

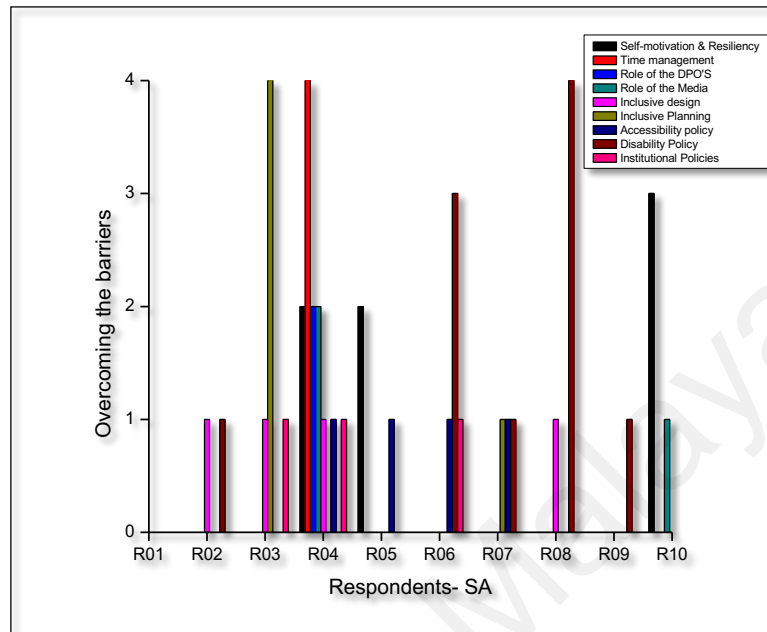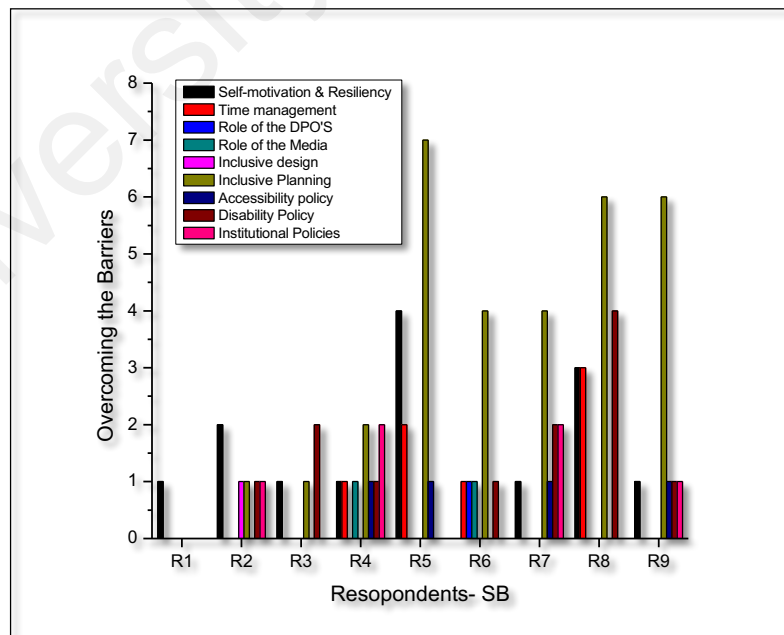| Overcoming the Barriers to inclusion in SA | Overcoming the Barriers to inclusion in SB | Replication logic |
|---|---|---|
| **2 out of 10 participants indicated the importance of inclusive planning in overcoming barriers to their inclusive mobility and participation.** | Overwhelming majority 8 out of 9 participants with disabilities emphasizes the relevance of inclusive planning in overcoming barrier to their inclusion. | 10 out of 19 participants mention inclusive planning. |
| **Implementation of Disability policy appeared very important as stated by the 60% of the study participants.** | 7 out of 9 participants believe in the importance of implementation of Disability policy to overcome barriers to inclusion | The 13 participants mention the implementation of Disability policy as important. |
| **7 references from 3 participants reflect Self-motivation and resiliency** | 8 out of 9 overwhelming majority developed a Self-motivation and resiliency approach as a coping strategy for inclusive participation. | 11 participants developed a coping strategy for self- motivation and resiliency to negotiate a disabling barrier to inclusive participation. |
| **The value of Time management is repeated four times by a participant (R04_SA)** | 4 out of 9 participants indicate time management to be important in overcoming barriers to inclusive participation. | Overall 8 out of 19 participants mentioned a time management skill as a coping strategy to overcome barriers to inclusion in educational settings. |
| **4 out of 10 participants believe that barriers can be removed at the institutional level through the provision of sound inclusive policies.** | 4 out of 9 participants made 6 references regarding the importance of institutional policy in overcoming barriers to inclusive participation. | Similarly, 8 out of 19 participants believed in the relevance of institutional policies to overcome disabling barrier to participation. |
| **6 references were coded under access policy as a way of overcoming physical barrier problems as mentioned by 5 out of 10 (50%) of the participants** | 4 statements were coded in the statements of participants from SB related to the importance of accessibility policies in overcoming barriers to inclusion. | Access policy implementation is pertinent to overcoming the barriers to inclusive mobility |
| **4 participants considered Inclusive design as a way of removing the barrier to their inclusion** | A participant (R2_SB) regarded inclusive design as a way to overcome disabling barriers. | Disabling barriers can be overcome through inclusive design |
| **Inclusive planning appeared relevant to the removal of barriers to inclusion as mentioned by two participants in 5 reference statements** | 8 out of 9 participants believed that overcoming barrier to inclusion is related to inclusive planning. | 10 participants share a common believe that inclusive planning is relevant in overcoming barriers to inclusive mobility and participation |
| **The role of the media was stated by a participant** | The role of the media was stated by a participant (2 times) | The participants mentioned the role of the media to increase awareness of persons with disabilities positive values. |
| **The role of the DPO was mentioned by a participant** | The role of the DPO was mentioned by a participant (3 times) | The participants stated the role of the DPO in order to overcome the problems associated with inequality and exclusion. |

Source: Author's compilation

**5.5.2     Replication Logic on Overcoming the Barriers**

Inclusive planning has a greater role to play in alleviating the stress experienced by persons with disabilities across SA and SB.  Although physical barriers are experienced more in SA than SB, because of the vertical and horizontal distance persons with disabilities have to negotiate in their inclusive campus mobility, more themes emerged from SB than from SA on the possible way to overcome the barriers associated with planning factors (Figure 5.15).
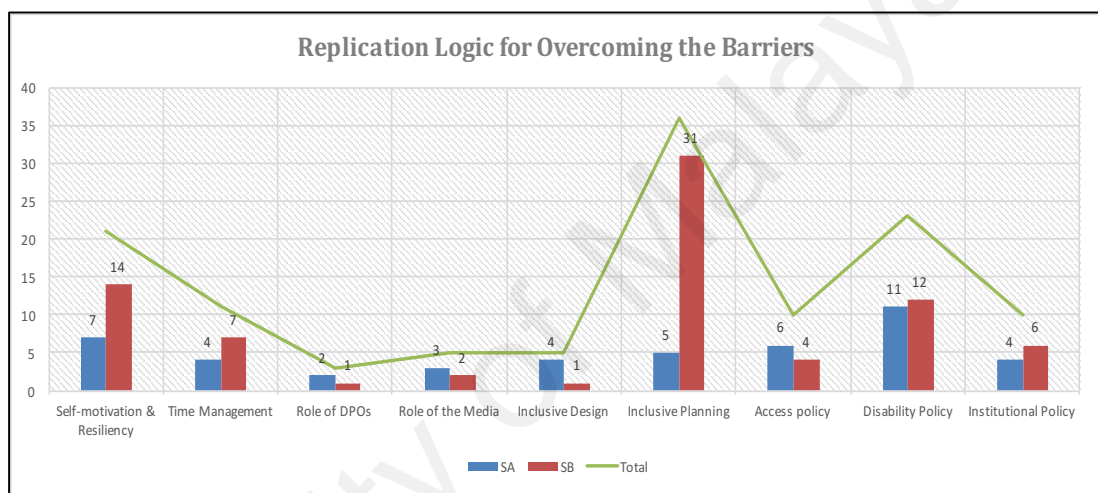


**Figure 5.15:** Replication logic for overcoming the barriers across campuses

Thus, only 2 out of 10 participants mentioned inclusive planning in SA while the 8 out of 9 participants in SB emphasize on its relevance to their inclusion in the tertiary setting. Another important finding with regards to overcoming barrier subjectivities is self-motivation and resiliency expressed by 11 out of 19 participants across the campuses. 13 out of 19 participants regarded disability policy as important to their inclusive campus livelihood. From across the two campuses 11 participants mentioned accessibility policy and its implementation as important to inclusive mobility in educational settings. 9 Participants with disabilities considered institutional policy as

important to inclusive living. The figure below is an NVivo generated cognitive map as mentioned by the participants across the two case study locations (Figure 5.16).
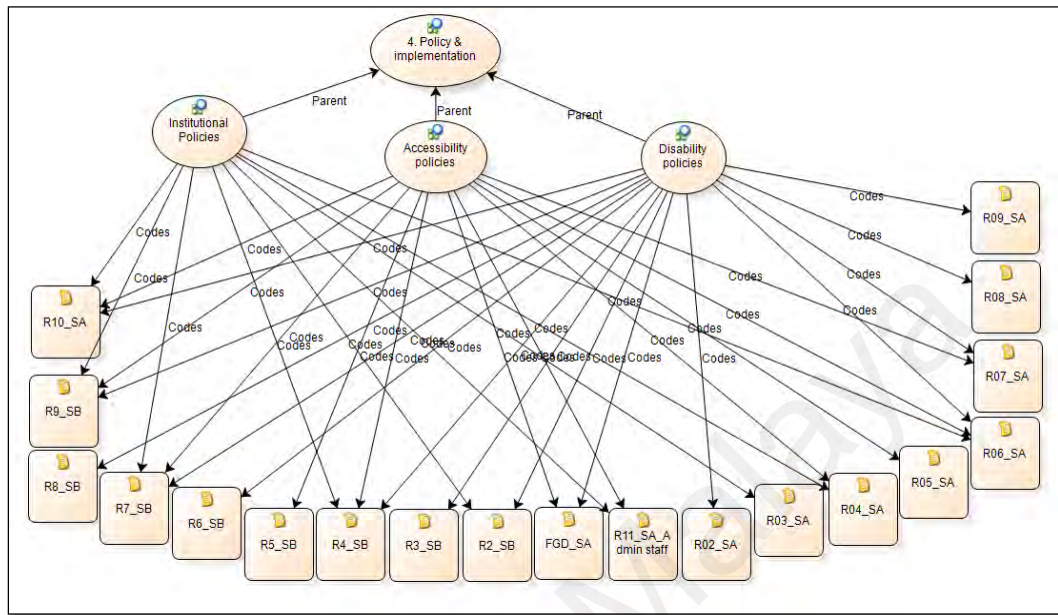


**Figure 5.16:** Cognitive map on overcoming the barriers through policy implementation from across the case study participants

The cross case analysis of the key findings shows a replication logic of pattern Utilizing the NVivo cognitive map to graphically describe the connection between the emerging patterns is presented in the (Figure 5.17). Having examined the barriers to persons with disabilities inclusion and its impact on persons with disabilities, the way to overcome the barriers from multiple points of view, is presented in a cognitive map below:
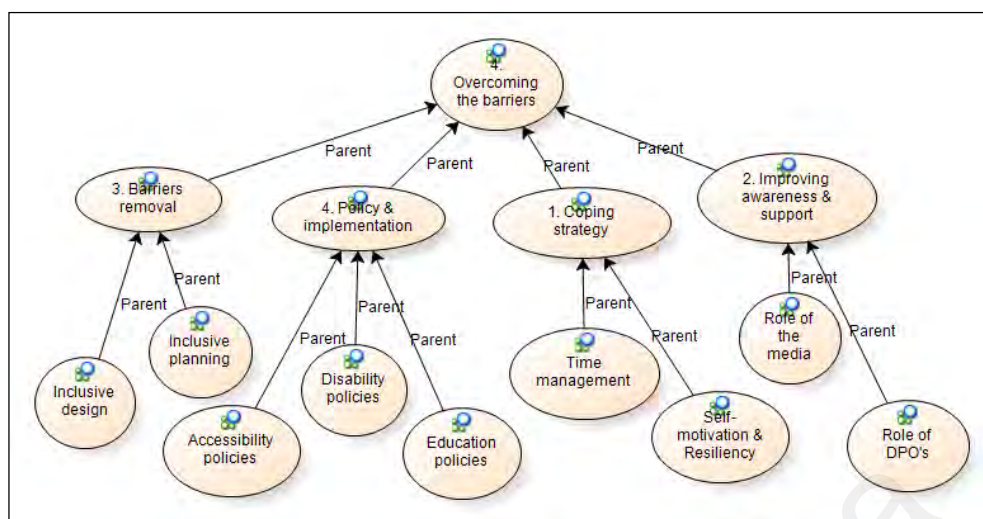
**Figure 5.17:** Cognitive map of overcoming the barriers across campuses

## 5.6 Summary of Findings

This section involves analytical discussion on the barriers in case study SA, SB and combine SA and SB. The deeper inquiry into the data at this stage is meant to make comparison between the demographic attribute variation and the case study locations in the form of summary of the important findings.

### 5.6.1 Within Case Analytical Discussion on Barriers in Case Study- BUK

While some barriers and coping strategies are impairment related there are impairment and campus specific barriers. Overall findings across impairment within case study- SA involve comparison between the hearings, visual and walking impaired coded statements within the same campus site-SA. Findings from the interview and are compared with what is obtainable physically (PAAC) result and physical observations and reviewed documents.

#### 5.6.1.1 Hearing Impaired

Lack of information and awareness about issues vital to the inclusive mobility was clearly expressed in a number of statements by the hearing impaired more than the other impairment type under the general category of logistical barriers at the policy level.

More themes appear under sub-category themes "lack of policy implementation" than "lack of communication".

### 5.6.1.2    Visually Impaired

Attitudinal barriers category experiences are expressed prominently among visually impaired students under the following sub-categories: inadequate support, limited options and bad experience of stigma.

### 5.6.1.3    Walking Impaired

Walking impaired expressed more disabling experience under all categories in the case study site-SA. The most expressed mobility barrier category however is a physical barrier voiced under two sub-categories "design of products and environment" and "planning and geographical factors". Barriers other than physical that were expressed by walking impaired are "stigma and bad experience", inadequate support, and limited options. The physical barrier disadvantages related to distance from one building to another and without pathway connectivity is the most frequently expressed. Examples include distances between hostel and library, library and department of special education.

### 5.6.1.4    Disabled Staff

Disabled staff expressed concern that even though the department was a newly built one, the facilities are not complying with the requirements of persons with disabilities. Submission of the persons with disabilities was not incorporated because in the words of the respondent "*you see we are limited in number" (R06_SA).* Age and experience have proven to have a correlation with coping strategy and how to overcome the disabling barriers at individual and policy level, because more themes emerged from the staff than students on the possible approach to overcome the barriers at the policy level. More themes emerged from final year students than the beginning classes on coping

strategy at the individual level. Ideas expressing inadequate support were more from students than employees within the case study site-SA. Otherwise, across age, gender and level of education within the case study site-SA are not significantly varied.

### 5.6.2    Within Case Analytical Discussion on Barriers in Case Study-SRCOE

#### 5.6.2.1    Hearing Impaired

The extent to which the cross impairment barriers were reported within the case study site-SB are presented as described in what follows: Lack of awareness and information dearth impedes on disabled people mobility experience and is categorized under "the general category "logistical barriers". Lack of communication sub-category featured more prominently than a lack of policy implementation in the case study site-SB.

#### 5.6.2.2    Visually Impaired

Visual impaired participants predominantly expressed the most barrier categories across the case study site-SB. The frequently expressed barrier category within the case study site two falls under the parent nodes "attitudinal barriers", which includes inadequate support and limited options as well as stigma and bad experience.

#### 5.6.2.3    Walking Impaired

Walking impaired expressed the most restriction mobility wise with regards to the physical barrier categories. The sub-categories under planning and geographical factors are location, topography and pathway connectivity. Other physical barrier categories were organized under "design, products, and environment". The most frequently expressed mobility frustration of the walking impaired is the lack of an on-campus accommodation and social support coded under physical and attitudinal barriers respectively. Cumulatively, barriers in the case study-SB were predominantly expressed

by visual and then by the walking impaired while physical barrier is the minimum of the least expressed by those with hearing impairment.

### 5.6.2.4    Disabled Staff

Disabled worker expressed concern that the contribution of disabled people is seldom regarded as worthy consideration especially when it concerns the physical development of facilities and buildings. Staff and students expressed lack of social support as a barrier with worrying outcome. Lack of on campus accommodation increase the burden of disability on persons with disabilities through an increase in the transportation cost from the place of their rented place of residence.

### 5.6.3    Cross Case Analysis: Discussion on Barriers Experience in the Case Study Locations

Cross case analysis across a case study-SA and case study- SB exposed intergroup similarities and differences which is presented in form of replication logic (Yin, 2014). Barriers expressed across impairment as expressed by the participants (Figure 5.18) are more varied than they are across age, gender, level of education and across campuses as shown in the (Appendixes). Nature of the barriers by references is also presented in the appendix.
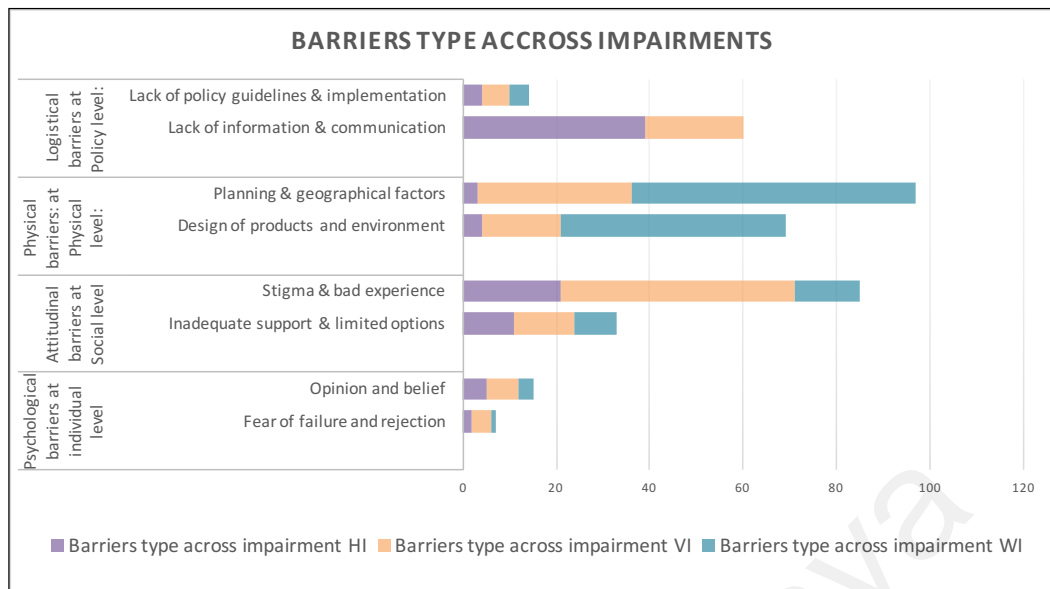
**Figure 5.18:** Barriers to mobility by impairment type

For example, attitudinal barriers were expressed more by visually than by hearing or walking impaired participants. A deeper inquiry revealed that "inadequate support" and "limited options" and "stigma" and "bad experience" are always interconnected and expressed, likewise, fear of failure or rejection. A deeper inquiry into the apparent loss of confidence by persons with disabilities revealed a connection with "bad experience" and "demotivation" and are experienced more by the visually impaired who are generally residing and commuting from outside the campus premises. Perhaps the lack of disability awareness as expressed by the participant (R6-SB): "*Lack of accommodation within the campus or even around the campus creates so many problems for us, yet the policy says we have freedom to reside wherever we wish*" (R6-SB). Thus, inadequate support and limited options are a category reported by all the participants, including staff within the case study -SB. Again, lack of pathway, travel expenses and accommodation costs as well as bad experience accompanied by a loss of confidence featured prominently in the case study-SB than -SA where the on campus accommodation is provided for both staff and students.

At the physical level, barriers are associated with "design and products and environment" and those under the category "planning and environmental factors" are expressed more in case study site -SA than in Case study site- SB. Perhaps the campus size and the location of facilities, which are mostly distant apart within the case study site- SA than they are in the case study site- SB, played a major role in creating barriers to persons with disabilities mobility in case study site- SA. Thus, unlike in case study site- SB, where attitudinal barriers are expressed more than any other barrier type by the visually impaired, in case study site- SA physical barrier is the most frequently experienced than other barrier types and by the walking impaired.

### 5.6.3.1    Hearing Impaired

Hearing impaired expressed more worries about communication as against visual and walking and they lack basic facilities necessary for their inclusive involvement in campus activities. More than half of the study participants with hearing impairments indicated, *"Facilities for the hearing impaired are very scarce and expensive"*. More facilities are accessible to hearing impaired in the case study- SA than they are in the case study- SB. Thus, less reported information dearth was reported by the hearing impaired in the case study- SA. Again the finding concurred with the physical accessibility audit checklist (PAAC) conducted.

### 5.6.3.2    Visually Impaired

Hostility and attitudes towards visually impaired is more frequent than it is for the walking and hearing impaired. Campus planning and geographical factors also impose significant barriers on visually impaired across the two case study locations.

### 5.6.3.3    Walking Impaired

Whereas visually impaired experience more attitudinal barriers the walking impaired suffer more from physical barrier. This becomes evident in the most frequently expressed dissatisfaction with the physical environment than social. The results from the physical accessibility audit checklist also confirm this as a physical observation and photographs also do. Loss of confidence recorded by walking impaired is in all cases expressed in connection with the cost of environmental modification or logistical barriers associated with follow ups and the popular belief that modification is only feasible where there is a policy directive (R7-SB).

### 5.6.3.4    Staff with Impairment

The path leading to the inclusion of persons with disabilities is not strewn with flowers in the words of (R06-SA) when he observed, "*facilities are not configured to our accessibility needs because you can see we are limited* (in number)". Thus, staff from the two case study locations shares similar views about architectural exclusion as a socially created phenomenon with physical manifestation. In other words: "*disabled people are so many in the society, in fact, everyone is a potential client of this department... Yet it is unfortunate that issues related to our inclusive rights must be fought for*". Again the contribution of persons with disabilities in the design process is too often not recognizing the input of persons with disabilities as worthy of inclusion in architectural practice. Thus, it is a view expressed by staff with disabilities across the two campuses.

### 5.6.3.5  Coping Strategy to Curtail Socio-Attitudinal Barriers

Self-motivation and time management skills appear the most effective strategies adopted by persons with disabilities to fight back inequality in education settings. Thus, a number of approaches used to curtail barriers occur at different level of environmental influences.

Not employing resilience-based approach in the face of a simple societal stigma may prevent persons with disabilities from pursuing education and becomes demotivated. For example, while some people expressed their feeling of deprivation when mocked at, like (R9-SB) who said "*I often lost all confidence to try" and therefore*" "*I prepare to keep to myself*", or (R2-SB) who related that "*I am tired of asking for everything one needs to concentrate on what is ahead of him*". (R4-SB) improvised a better coping strategy to adapt to living within society that mock at visual impairment with questions like "*Mr Bind you still think you can do this"*, followed by "*laughter from other spectators*", in his words "*I just turn a blind eye, sometimes pretends I do not understand"* (R4-SB). This strategy concurs with that of (R7-SB) as he related:

*"I have learned to live with it to endure minor misunderstandings and consider it as normal abnormality. If I should allow myself to get frustrated at every mockery, then I will have a lot to lose"* (R7-SB).

Coping strategy appeared to be an easy philosophy, but essential to the survival of the participants in a barrier-ridden environment. To such an extent that (R04-SA) stated: *it is very difficult to ask for direction because people often think that you are about to ask them for money* (R04-SA). Again: *"Most people outside think we have to beg to survive; they think we are different; given the option nobody will want to beg, but what option do I have, if no one supported me, I don't have eyes and I cannot work I need to be helped"* (R5-SB).

Or as argued by (R09-SA): *Because they always said our number is not much they don't want to waste time with us, they will say... I usually tell them... is it not good that we are few* (R09-SA). This is an obvious obstacle advanced by (R5-SB), but somewhere as a coping strategy, which made the participants focuses on the end results, gives an added advantage when the respondent stated: *"It helps to know that I don't have much option, but to try harder; I know it may take me a longer time to complete, but all is well if it ends well"* (R5-SB).

### 5.6.3.6 Coping Strategy to Curtail Physical Barriers

Walking impaired expressed more dissatisfaction with the environment and the impact on them is more on "*physical*" exclusion rather than "*social*" as it is with the visually impaired. In the words of (R06-SA):

*Facilities are not configured to our accessibility needs because we are few in number-* R06-SA... *Even the new building is like the old it is not appropriately placed, not for the visually impaired nor for a wheelchair user, it is the same inaccessible toilet there* (R06-SA).

Elsewhere it was observed:

*… The same narrow corridor no ramps in all places; doors are swinging inside, even toilets meant to serve* persons with disabilities *have a step in front of the door... I cannot climb the stairs; I cannot enter with a wheelchair; the ramp is too steep; toilet is small you cannot turn; ramps are in bad shape. I abandoned the wheelchair* (R09-SA).

A coping strategy indeed it is. Now that the respondent has abandoned the wheelchair elsewhere, she testified that:

*"... The distance is far and as you can see there is no walkway connection everywhere as you know one has to come earlier; I wake up early enough and get prepared, I can only wish I had a ready transport, but you see one cannot have*

*everything in life. I give myself some rest before I continue because the distance is long* (R09-SA).

Nevertheless, the disability goes beyond disabled persons it extends to everyone. *"We have a lot of* persons with disabilities *in the society, but…. It is unfortunate that issues regarding the inclusive rights of* persons with disabilities *must be fought for* (R06-SA)"

### 5.6.3.7    Coping Strategy to Curtail Logistical Barriers

Logistical barriers cover such impediments that are outside the individual control, but of the institutional management. Yet, they are rarely regarded as serious issues worthy of the concern of the administrations. Where efforts are made, they are often implemented slowly or inappropriately. Example it was re-counted:

"*During the exams we do not receive extra time* (R7-SB, R6-SB), s*o one has to learn to be very fast while typing. There is only one typewriter so we share it between us… and with typewriter one cannot afford to make any mistake and if you made a mistake there is no way you can correct it* (R7-SB).

The coping strategies here are; one: *one has to learn to be very fast when typing* (speed); two: *there is only one typewriter so we share it between us* (culture of sharing); and three, *one cannot afford to make any mistake* (accuracy) (R7-SB). Another logistical impediment is inadequate support, both financial such as tuition waiver or lack of scholarship and moral support, including motivation and designing programs and curriculum with the requirements of persons with disabilities.  A participant has this to say: *"I spend more than half of my income on transportation"; "accommodation near the school is costly"*. *"Only science students are given scholarship"*. Thus (Table 5.6 and 5.7) shows how the concept of UD can respond to the mobility experience of persons with disabilities where it is implemented (A. Ahmed, Mastura Adam, & Norafida A. G., 2016).

**Table 5.6:** The response and benefit of UD to the Mobility Experience of persons with disabilities

| The 7 Principles of Universal Design | | | The interview results |
|---|---|---|---|
| **Descriptors** | **The focus** | **Benefit** | persons with disabilities **Mobility experience** |
| 1. Equitable use | **The design is useful and marketable to diverse people with disabilities** | Equivalent use for users with varying requirements | *We are only two females (R6_SB)* |
| | | Do not discriminate or disfavour any user | *Our rented accommodation is near the school, but the rental cost is higher...we have no scholarship like the science students do, the policy is only on paper)* |
| | | Provide safety, security, and privacy to all users | |
| | | Made the design accommodative and attractive to all | *The light is unstable how can one expect to have a lift (R10_SA* |
| 2. Flexibility in use | **The design accommodates a wide range of individuals preferences and abilities** | Provide alternative choice on method | *We use typewriter as there is no braille...the typewriter is only one (R4_SB)* |
| | | Provide alternative choice on use or flexible space | *We cannot cross the road so we have to wait for somebody to help us* |
| | | Provide flexibility to user's pace | *The doors are opening in the wrong direction* |
| | | Provide adaptable and flexible space | *The toilets are to narrow so we cannot use wheelchair inside* |
| 3. Simple and intuitive use | **Use the design in an easy to understand regardless of users experience, knowledge and skills or concentration level** | Avoid complexity unnecessarily | *Our department was the last building (R04_SA),* |
| | | Use user's requirement and expectations | *…. I can use crutches, but not wheelchair because the lobby is narrow, the department is too far…. and the steps in the library are too many to climb. I have to abandon the wheelchair (R10_SA)* |
| | | Translate into discernible format | *I cannot hear the lecture when I am far from the board* |
| | | Makes information consistently understandable | *We use a typewriter as there is no braille...the typewriter is only one (R4_SB)* |
| | | Provide mechanism for getting a feedback | *But here we are not many only three of us (R04_SA) We are only two here (R6_SB); You know I was the only one, but now we have admitted walking impaired students recently (R07_SA)* |
| | | Educate with simple and intuitive facilities | *We use typewriter as there is no braille...the typewriter is only one (R4_SB)* |
| | | Make wide enough, but comfortable to enter, | *I cannot enter with a wheelchair, but I can manage with crutches (R8_SB);* |
| | | Make wide enough, but comfortable to circulate | *The toilets are to narrow so we cannot use wheelchair inside* |

Authors Compilation in (A. Ahmed et al., 2016).

**Table 5.7:** The response and benefit of UD to the Mobility Experience of persons with disabilities continued

| The 7 Principles of Universal Design | | | **persons with disabilities** Mobility experience (The interview results) |
|---|---|---|---|
| Descriptors | **The focus** | **Benefit** | Persons with disabilities **Mobility experience** |
| 4. Perceptible information | Make the design easily perceptible regardless of ambient condition or sensory perception | Use symbols, facility or elements that can convey the meaning effectively | *We use typewriter as there is no braille...the typewriter is only one (R4_SB)* |
| | | Provide contrast between essential and auxiliary supporting elements | *Even the so-called new building was designed with the same obstacles - (R9_SB)* |
| | | Maximize discernibility and legibility | *..The new department they are building for us is even worse than this one (R7_SB); I was not told, ...I am not aware that there is a restaurant (R7_SB); I do not even know it is the library because I was not informed and there is no writing to indicate it is a library (R1_SB)* |
| | | Express loudly enough and clearly | *I cannot hear the lecture when I am far from the board* |
| 5. Tolerance for error | Make the design and the state of the facility hazard free to avoid adverse effect of features, accident or un intended actions | Minimize errors and hazards | *The ramp is not smooth and it has been like that for more than a year* |
| | | Provide a means of escape from hazardous situation | *I fell down so I gave up using wheelchair* |
| | | Provide safety measures | |
| | | Avoid exposing people to unnecessary risk | |
| 6. Low physical effort | The design can be used efficiently and comfortably and with a minimum fatigue | Avoid design that may require high physical effort | *The department is too far.... And the steps in the library are too many to climb...* |
| | | Minimize cyclical operative action | |
| | | Minimize continuous physical tasks | *I come from (name of a town) you know (name of a town) is more than 20 km to reach from here, like whenever I get to library I will sleep...all I know is that I am not a lazy person, I am just getting exhausted and I can't read my book in the night and that is the most annoying thing). (R9_SB)* |
| | | Increase visibility and maintain moderate distance | |
| 7. Size and space for approach and use | Regardless of user's body size, posture or mobility space size is allocated for approach, reach, manipulation and use. | Make wide enough, but comfortable to reach | *The department is too far.... And the steps in the library are too many to climb...* |
| | | Make wide enough, but comfortable to enter, | *I cannot enter with a wheelchair, but I can manage with crutches (R8_SB);* |
| | | Make wide enough, but comfortable to circulate | *The toilets are to narrow so we cannot use wheelchair inside* |

Authors Compilation in (A. Ahmed et al., 2016).

**5.7     Overcoming the Barriers at the physical level**

**5.7.1     Equitable use and Flexibility in Use**

Equitable use and flexibility in use gives the person with disabilities and everyone else a power to choose alternatives in the environment he or she operates. There would be no equality, where the disabled are made not to have a choice because of their impairment through man-made design. Example where building design does not take the requirement of persons with disabilities into consideration, persons with disabilities may be forced to take an unfavourable option: *Our rented accommodation is near the school, but the rental cost is higher…we have no scholarship like the science students do. The policy is only on paper (R4_SB).*

To achieve an equitable environment where the majority of users can operate without any feeling of alienation flexible design and user friendly is important to give people the power to choose. The result is often a simple and intuitive (Figure 5.20a) below demonstrates the situation clearly. Otherwise narrow space (Figure 5.20b) or cluttered arrangement (Figure 5.20c) results, neither of which is intuitive.
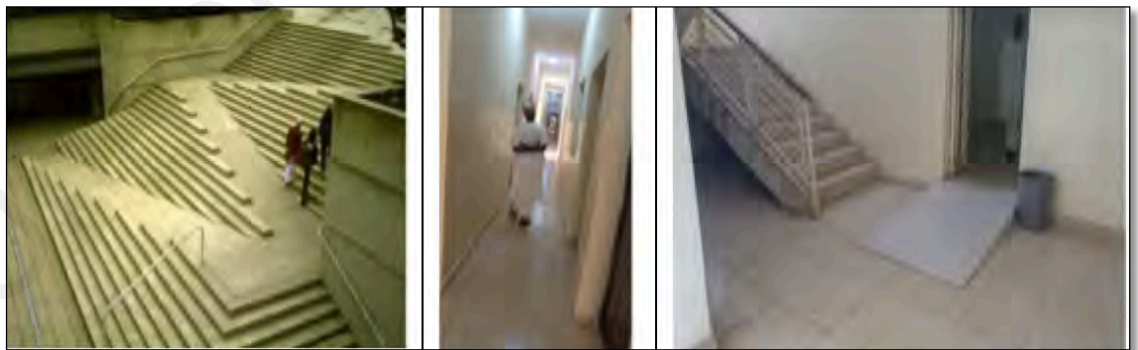


**Figure 5.19:** (a) left: simple and intuitive design using UD approach to encourage equity and flexibility in use source Universaldesign.org in.

*(b) Middle: narrow lobby and (c) right Staircase obstructed by a ramp leading into a narrow doorway, thus the facilities are disability unfriendly yet located within the department of special education*

### 5.7.2 Simple and Intuitive use and Perceptible Information

The visually and hearing impaired often need perceptible information in a simple and intuitive way. To achieve this principle an unnecessary complexity should be avoided, while integrating the user requirement: *I can use crutches, but not wheelchair because the lobby is narrow. The department is too far.... and the steps in the library are too many to climb. I have to abandon the wheelchair (R10_SA) see figure b &c above.*

The department of special education where students with varying disability should be located close to the basic facilities (as in case study site-SB) and not further away as it is in the newly constructed department of special education (in site-SA) and with clearly defined pathways. "*Our department was the last building (R04_SA).* Perceptible information needs to be made consistent and understandable: *We use a typewriter, as there is no braille... The typewriter is only one... and when we make a mistake there is no way we can correct it (R4_SB)*

### 5.7.3 Tolerance for Error

The principle of tolerance for error is related to adaptability by making a facility within a given environment user-friendly, flexible and with margins for error "*because we are humans and not machines*".

### 5.7.4 Size and Space for Approach and Use and Low Physical Efforts

When a bottom up approach to universal design is adopted in such a way as to assume that the user of the environment under consideration is a person with multiple impairment, including hearing, visual and walking, then whatever satisfied the user will more than satisfy everyone. That is what Goldsmith, (2000) called bottom up approach. To achieve this, the toilet should be made large enough to accommodate a wheelchair user, and in that case it will satisfy the requirement of a mother with a child in terms of space dispositions. Table 1 below summarizes the study findings. This will solve the

problem encountered by (R8_SB): *I cannot enter with a wheelchair, but I can manage with crutches); the toilets are to narrow so we cannot use a wheelchair inside (R8_SB).* Proximity is to give consideration to size and space for approach and use.

### 5.7.5 Barriers to Persons with Disabilities Inclusive Mobility: Data from (PAAC) Results

Analysis of the PAAC result follows a similar procedure presented in matrix form. Data collections are based infrastructural accessibility from the six prominently mentioned buildings mentioned by the participants are meant to support all students irrespective of ability or disability see (Figure 5.21).
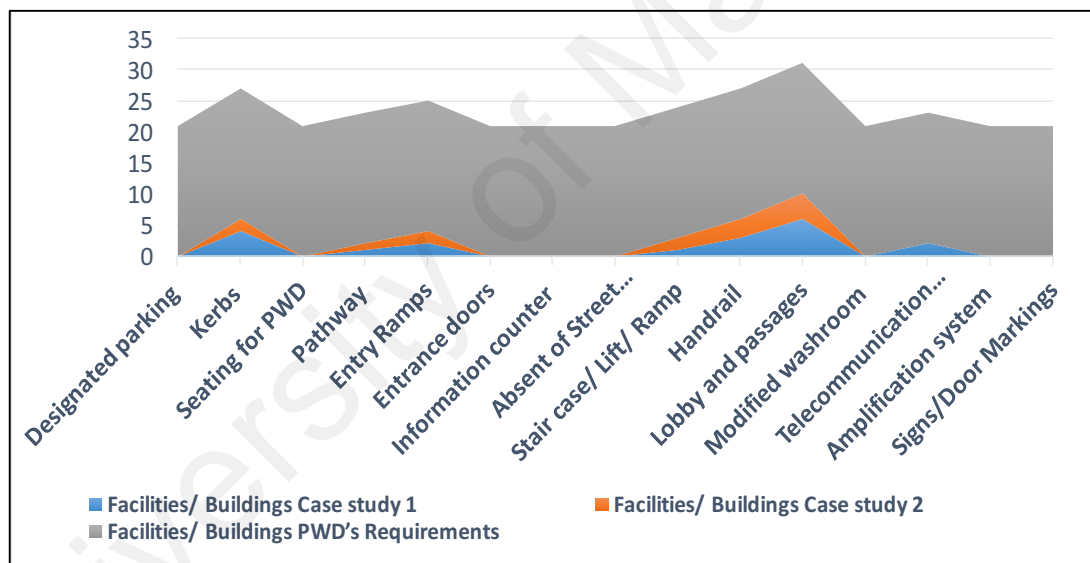


**Figure 5.20:** Facility provisions for persons with disabilities

Source: Authors published in (A. Ahmed, Mastura Adam, & Norafida A. G., 2015)

### 5.8 Summary and Link

This chapter portrayed the mobility experience of staff and students with disabilities in tertiary institutions. The discussion in the chapter revealed a complexity of mobility disability and how it affects campus livelihood. Barriers to mobility are identified and a viewpoint on how it is experienced and negotiated by persons with disabilities. The

interpretation of the findings is to done to produce a multitier and nuanced, yet holistic synthesis of data. Reducing the volume of data is done through pattern and identification of themes. Within and cross case analysis performed attached possible explanation as to why a certain phenomenon may appeared more prominently in one case and not the other.

Data presented is rich in content and scope, yet the research sample size is relatively small, comprising of 19 staff and students from two tertiary institutions. A physical observation and auditing is performed to add strength to qualitative enquiry. Thus, the implication of the study is specific to the experience of the participants and a representation of the researcher's understanding of the collected data, rather than the reality as it really is. Interpretation is subjective in axiology and is hereby acknowledged. To minimize this limitation, the next chapter relates the study findings between individual cases to strengthen the internal validity and then compare the findings favourably with peer-reviewed articles in the open database for external validity.

## CHAPTER 6: DISCUSSIONS ON FINDINGS

**6.1      Introduction**

The previous chapter presented the findings from the two case study locations as they relate to each other through cross-case analysis. This was done in order to make a generalization of some aspects of the findings in a form of replication logic. This chapter went further to give an interpretative insight into the study findings as they relate to the study objectives with contextual implications. The discussion warranted by the study findings is based on the conceptual framework for the study reflecting the study objectives and theory as depicted in Figure 6.1.
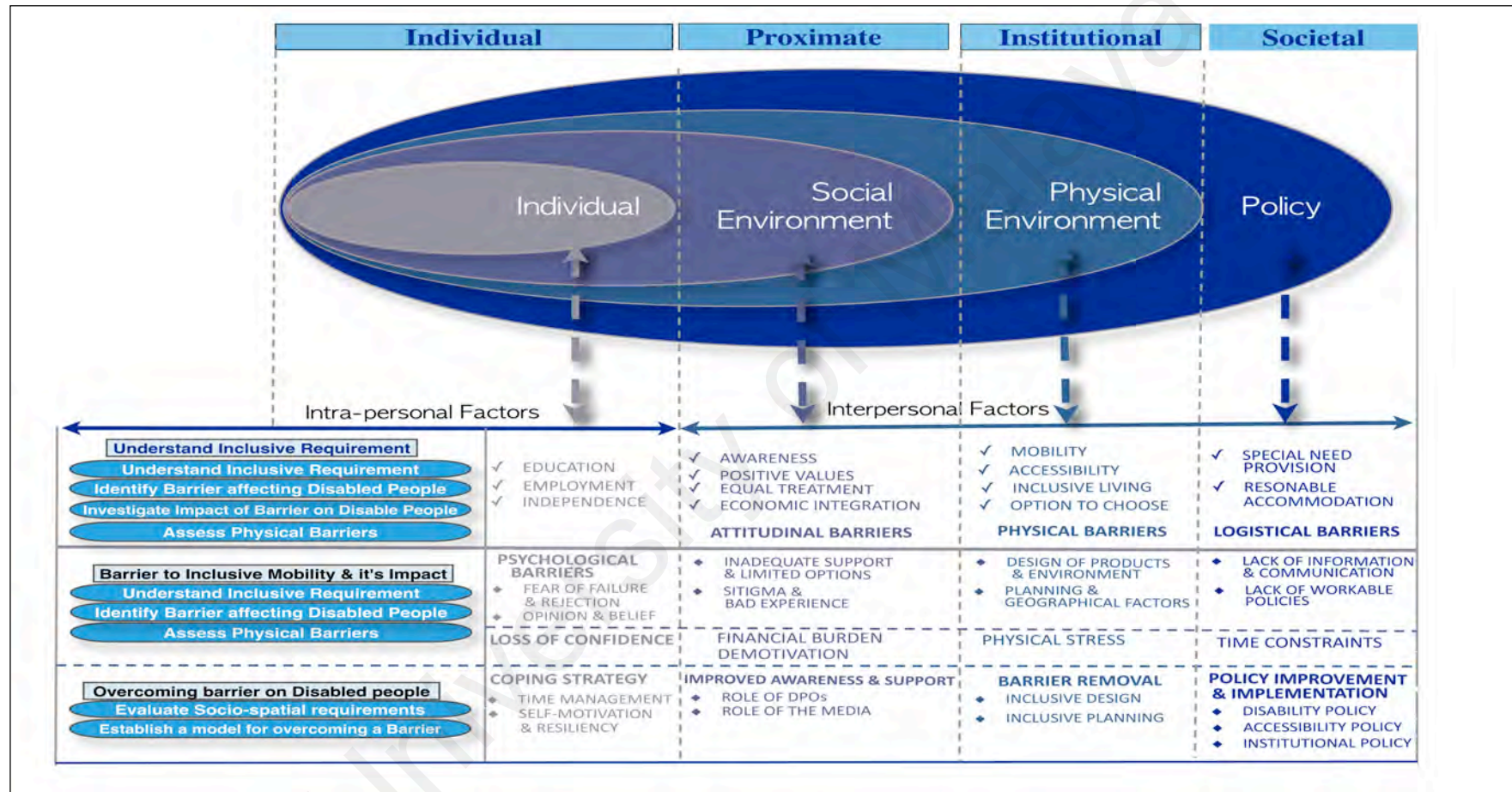
**Figure 6.1:** Model for overcoming the barrier to inclusive mobility in the tertiary institutions in Nigeria

## 6.2 Persons with Disabilities' Requirements for Navigating, the Built Environment

The environment can be a medium of inclusion or exclusion of people with impairment. The disability becomes a human rights issue (Degener & Quinn, 2000; Lang, Kett, Groce, & Trani, 2011), because persons with disabilities are denied access to basic services because of their disabilities (Kitchin & Law, 2001). The United Nations (UN) Convention on the rights of People with disabilities (CRPD) requires the modification of attitude (social), access (policy) and accessibility (physical) to different environmental domains, such as the built environment, transportation system, curriculum and information and communication. It is established that the domains are interconnected, such that the barrier in one is sufficient to impose restrictions on the persons with disabilities to inclusive participation (Shakespeare & Officer, 2011).

To succeed, in achieving inclusive living with persons with disabilities, a number of international documents supported the rights of persons with disabilities in inclusive living, including the World Program of Action Concerning Disabled People (1982), the Standard Rules on the Equalization of Opportunities for People with Disabilities (1993), and the most recent one UN CRPD stipulated that individual country adhere to the treaty and prioritize barrier removal. Thus, the international policy agreement provides a general framework to which national policy should take an offshoot taking into account the cultural variations, technology, affordability, and competing priorities. To prioritize national policy, therefore, there is a need to understand how the existing policy is responding to the needs of society and how the effect of the policy translates into the experience of the targeted beneficiaries. For example, in an effort to understand the barriers and facilitators that make education inaccessible or accessible to persons with disabilities in Nigeria, the most current Nigerian disability policy is reviewed. The summary of the policy is presented in the Table 6.1:

**Table 6.1:** Rights of Disabled persons as contain in the National Disability Decree (NDD), 1993

| Disability Decree | Section title | Key Emphasis |
|---|---|---|
| **Section 1** | General Principles | Clear and comprehensive legal security…. Standards for enforcement…. applicable to Disabled in Nigeria |
| **Section 2** | Declaration of policy | **Disabled …guaranteed equal treatment …for all purpose... All authorities to adopt policies and ensure full integration and mainstreaming of** persons with disabilities |
| **Section 3** | Interpretation | Meaning of disability and commission in national context |
| **Section 4** | **Rights and privileges** | Equal **access to health** services etc. |
| | | (a) Free medical health, (c) health services |
| | | (d) Purchase, transfer or gifts to persons with disabilities devoid of levies or tax |
| **Section 5** | **Education** | 5.1- **free education at all levels** |
| | | 5.3.2-structural **adaptation of all educational institution**s at all levels |
| | | 5.4.2.1- provision of **special needs of the disabled** |
| | | 5.4.2.2- establish a national institute of **special education to facilitate needs of the disabled** |
| | | 5.4.2.5 improve university education facilities to ensure maximum benefit for the disabled- |
| | | "Government shall **ensure** that no less than 10% **of all educational** expenditures are committed to the **educational needs of the disabled** at all levels" |
| **Section 6** | **Employment and vocation** | **Without discrimination** |
| **Section 7** | **Housing** | **Access** and accessibility |
| **Section 8** | **Accessibility** | 8.1- "**accessibility to public institutions and** facilities are hereby guaranteed to the disabled" |
| | | 8.2- governments shall provide (a) **adequate** mobility within its facilities (b) suitable exits for the disabled |
| **Section 9** | **Transportation** | **Transportation** |
| | | 9.1- **free transportation by bus, rail or any other than air** |
| | | 9.2 Adjustment of the transport system to persons with disabilities' needs |
| | | 9.3 Priority shall be accorded to persons with disabilities by reserving reasonable number of seats to persons with disabilities |
| **Section 12** | **Telecommunication** | **Facilities are guaranteed under this act** |
| | | (a) …Sign language in programs with national significance (b) provide at reasonable price devices for hearing impaired (c) free postal services to persons with disabilities |

*Source: author's compilation from "the Nigerian with disability decree 1993"*

The comprehensive policy on disability is a couple of decade's old. Like most other decrees it is meant to safeguard the rights and dignity of persons with disabilities to pursue their education on equal merit. Nonetheless, several authors including (Abang, 2007; Aluko, 2006; Eleweke, 1999b) posit their sentiments, expressing concern that the law does not apply in practice in the Nigerian context. Consequently, inaccessible built environment impacts the quality of life of persons with disabilities (Hamzat & Dada, 2005; Lang & Upah, 2008).

However, none of such claims regarding lack of policy implementation advanced a verifiable fact or statistics to prove that the policy is not being implemented. What needs to be done to overcome the dearth in the implementation of the policy is not only important, but a starting point of a corrective measure. These views are in agreement with Yusuf et al. (2009)'s concern that disability as a structure of inequality has not received significant attention it merited in relation to higher education in the sub-Saharan Africa. Very few studies examine the built environment in the Nigerian context (Hamzat & Dada, 2005). However, the major limitation of previous studies is their focus on public spaces not specifically designated to serve the need of persons with disabilities and from positivist epistemologies. Also, medical practitioners often conducted these previous studies with a focus on medical rehabilitation rather than environmental modification. This is reinforcing a medical model of disability, which regards "… *the human being... flexible and "alterable" whilst the society... fixed and unalterable... leaving the disabled people to a hostile environment"*(Holmes-Siedle, 1996). This research is not medically, but socio-spatially inclined.

Findings from the documents review of policy decree to reveal the inclusive rights of persons with disabilities in the Nigerian context are presented in (Figure 6.3). it is noteworthy, that the policy has been in existence for upwards two decades (1993-date) served two purposes. First, it provides a basis for the study, and secondly, serves

as a source for the triangulation of findings at the end of this chapter. In consequence, how the policy translates into the life of persons with disabilities, through the exploration of socio-spatial experience of mobility disability in the campus built environment is required.

> *Sincerely as the saying goes about the rights of the disabled, nationally or internationally on a serious note none of the policy is being implemented. Because within it has been stated that "person with special needs has the right to reside where s/he need to. To lead a life s/he wants to, but that is not what is obtainable in reality. The cost of modification or government's logistics attributes environmental modifications no matter how insignificant to policy directives (R7_SB).*
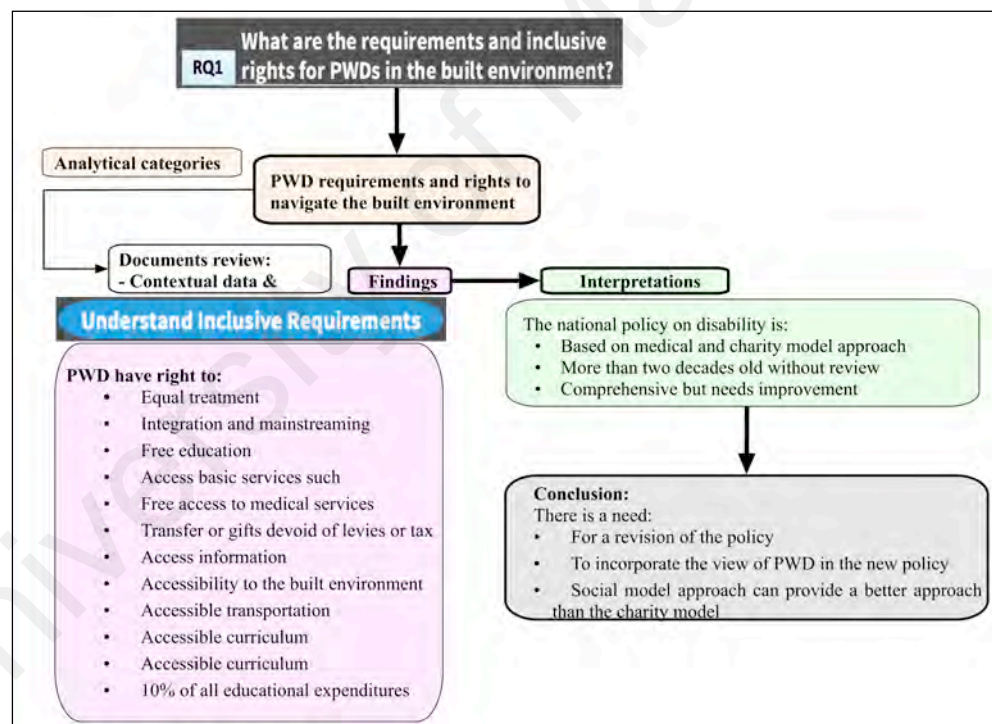


**Figure 6.2:** Summary of findings on the inclusive rights of persons with disabilities in the built environment

## 6.3    The Barriers to Socio-Spatial Mobility Experience of Persons with Disabilities

Mobility disability in an educational setting relates to the difficulties persons with disabilities experienced in a bid to negotiate a disabling environment. The experience differs from place to place and therefore, is a much-debated topic for governments and researchers alike (Shakespeare & Officer, 2011). Data generated from the experience of the study participants revealed inter group similarities and differences (Adam & Ahmed A., 2016).

### 6.3.1    Barriers to Mobility: Psychological Barriers

The perceptions and beliefs of the persons with disabilities themselves could be a barrier to participation. Loss of confidence and demotivation prevents persons with disabilities from socializing and reaching out to participate in an inclusive setting.

### 6.3.1.1    Fear of Failure/ Rejection

persons with disabilities revealed the experience of disablement as a result of interpersonal action and interactions than bodily limitations and psychological barriers. Thus, participants rarely express findings under fear of failure/rejection. The participant too, in most cases experienced a stigma resulting in the manifestation of fear that a negative consequence may follow any action performs attributed to the previous experience and the knowledge of the societal disposition towards persons with disabilities. Example:

> *I am afraid People can be good, but they rarely choose that option. It is really annoying that issues concerning human life are given a secondary priority, what can you do if no one is ready to take care of you? What else can I do if I am not helped and people don't want you? (R05_SA). I am made disabled by the environment because it is not welcoming... sometimes I just don't know what is wrong you see, nothing seemed to be working, if you talk about facilities where are the facilities, I am both able and disabled at the same time (R9_SB).*

### 6.3.1.2    Opinion and Beliefs

Again opinion and belief can be a source of inhibition that constraint persons with disabilities from actively participating. These intra-personal attitudes are linked to the bad experiences in the past. Also lack of awareness may lead to persons with disabilities to belief that there is no opportunity out there.

> *I must admit that I am not the social type; I mind my own business and let other mind theirs too. I am content with this way of life, I have gotten friends at home and my families are always there for me. What else will I require? (R10_SA).*

Also the nature of belief in the predestination often leads persons with disabilities to resign to fate and keep their distance. *That's how my creator made me and wants to see me (R03_SA). What else can I do if I am not helped? I believe there is nothing I can do (R05_SA). The society is the initiator of our own troubles and I believe there is nothing we can do about it (R09_SA).*

### 6.3.2    Barrier to Mobility: Attitudinal Barriers

A more frequently expressed barrier concerns the attitude of people towards persons with disabilities in two ways. One involves the inadequate support and limited options, example cost of equipment (inadequate support) in the light of financial inadequacy (limited option). Two, stigmas associated with the bad experience. Thus, negative attitude and stereotypes create an ingrained prejudice towards persons with disabilities, which hampers their social, educational and vocational participation (M. J. White, Jackson, & Gordon, 2006). This study reinforced the above assertion with practical examples.

> *It is very difficult to ask for direction because people often think that you are about to ask them for money. If people are supportive and helpful; I mean if they are helpful in providing things nobody will want to beg, but we are limited as we*

*cannot see.… Within the campus people are more tolerant, but outside it is a different world you hardly find someone ready to help (R04_SA).*

### 6.3.2.1 Stigma and Bad Experience

Persons with disabilities consistently and overwhelmingly identified societal attitude, where the phrase "our society" was repeated several times by the study participants from both study locations and with different impairment. Many researchers, including (Antonak & Livneh, 2000; Brostrand, 2006; Hannon, 2007) and many others mentioned elsewhere in this work elicit a degree of persistent exclusion suffered by Persons with disabilities as a result of negative attitudes and prejudice against them. However, there are reports of improvement of attitudes and opportunities for persons with disabilities most especially in high-income countries (Grewal, Joy, Lewis, Swales, & Woodfield, 2002). However, monitoring attitudes towards disability are important to differentiate transient fluctuations in attitudes from on-going positive trends. In low-income countries, however, persons with disabilities suffer exclusion from being denied access to education, especially at the higher-level stage (Croft, 2010). While the quantitative increase in persons with disabilities is being recorded in higher institutions, a cautious warning is sounded by Yusuf et al. (2009), to balance the quantity with quality to avoid over registration of students into dysfunctional institutions. A more negative attitude is predominant in societies where traditional beliefs predominate positive scientific thinking (Mu'azu, 1997). More negative attitudes towards visually impaired is reported than walking impairment, while hearing impaired recorded less personal experience of attitudinal barriers.

*People can be good, but they rarely choose that option.… It is really annoying that issues concerning human life are given a secondary priority. We are not advanced, but our attitude is the most primitive. What can you do if no one is ready to take care of you? (R05_SA). We need encouragement and motivation, but it is unfortunate because all we get is scorn. People laugh at me…People*

*call you names…some will say you are blind yet you want to do this. Mr. Blind they will say and you will be together for years they will not bother to know your name…when you approach them for help they jump to conclusion you will request for cash. It worries me that they call themselves human yet they behave as if they are expecting something bad to happen to you, and they will say no he is blind of course (R04_SA).*

Elsewhere recounting on the bad and stigmatizing experience of marginalization, (R04_SA), as he seeks admission in some schools was denied based on impairment as he recalled*: "the lecturer… He told me point blank this department is not for the blind" (R04_SA).* This finding is in agreement with the belief that education in sub-Saharan Africa, to which Nigeria is included, is often denied disabled consciously or systematically (Howell, 2005). In reality persons with disabilities are like every other people. They have ability and disability, but the reality for the disabled is:

*"… People want to see where you are limited not where the environment is limited. You hardly get employed based on your merit unless when the vacancy is specifically meant for a person like you. My main problem is not being able to pray in congregation, because you have to cross the highway to reach the mosque…and you know praying in congregation is more rewarding than praying alone…if I must go then I have to rely on some body to escort me and you see (R5_SB)*

### 6.3.2.2  Inadequate Support and Limited Options

Historically, assisting and supporting persons with disabilities has become a prerequisite to their participation in major life activities. Otherwise, they become overly dependent on the society and particularly their family members of support. Nonetheless, the provision of support and solution to what was considered the persons with disabilities problem (in the medical model) has largely been met through struggle for inclusion in segregated setting called special schools (Oliver & Barnes, 2010). Findings from this study reinforce the beliefs that are more constrained by environmental factors

than their body limitations. Thus, the study provides a basis for the implementation of UN CRPD and the national disability policies to promote inclusive participation. Unless this is done, the inclusive dream of the participants will remain elusive and they will continue to suffer segregation and exclusion not because of their impairment, but because of lack of support and limited options:

*"I feel excluded because the facilities are not configured to tally with our accessibility needs since we are few in number ...even the new building is like the old it is not appropriately placed, not for the visually impaired nor for a wheelchair user... is the same inaccessible toilet you see there. Inclusion well there is mainstreaming here, but even the mainstreaming is not properly done. But inclusion is what is practiced globally, but not here ... (In some more developed countries like (name of a country) they have what is called inclusion. They made the design and places.... in such a way that (wheelchair users) ...will wind up the wheelchair down to their level, before the wheelchair is removed do you understand? (R06_SA).*

Though evidences exist to show that intra-personal attribute of persons with disabilities contributes to their exclusion and segregation, more evidences are pointing in the direction of attitudinal barriers followed by physical and then logistical than psychological. Many persons with disabilities need support and assistance, but most reported lack of support and limited options.

*"If you are visually impaired, you need support and any support you can get will never be too much... (R7_SB). When I talk my voice quiver and I found it difficult without aids, and you see this instruments are not free if you are not supported you become demotivated as a person with hearing impairment (R01_SA).*

The persons with disabilities sees support, as a right rather than privilege, otherwise begging becomes the last option where limited options are provided and shrouded with disabling barriers to reach. Thus, for equality of treatment, the persons with disabilities are entitled to support, together with their caregivers in line with the provision in the national disability policy, which made it clear that:

*"Government must ensure the education system at all levels is inclusive and geared towards supporting disabled people to achieve their full potential and participate equally in society… disabled people should be able to achieve their full potential and participate equally in society. Disabled people must not be excluded from the general education system (at any level) because of their disability. Disabled people have rights to reasonable adjustments and extra support to take part in education-(Article 24, UN CRPD)*

The demand for caring for persons with disabilities stressed the caregivers physically and economically, especially when the caregiver involves being women, who often shoulder the responsibilities of domestic labouring (Budlender, 2008). Thus, UN CRPD was quick to point out that: *Governments should recognize that disabled women and girls face more discrimination (worse treatment) - (Article 6: UN CRPD).* This study conquered with such assertion where it has this to report:

*I used to be the only one (with visual impairment in the school), but now we are two…. gradually opportunities will open for others females with visual impairments they need to be aware… We need motivation and encouragement but I will say it without any regret that we are not getting enough in this country, we only celebrate the "world disabled day", but we don't showcase anything positive it is not worth celebrating, it is supposing to be a day of mourning* (R6_SB).

Support factors include faculty's attitude towards their students with disabilities (Rao, 2004). Another example of the impact of negative attitudes on inclusive high school service offered to persons with disabilities was given in (Dymond, Renzaglia, & Chun, 2008). Often the low value attached to persons with disabilities education makes the last into school and the first to drop out when the scarcity strike:

- *One may easily lose confidence but that is what I will not allow myself to do because it affects one's health otherwise I will have surrendered. Everyone… I am not worried, I just realized I am only lucky to have a family to sponsor my education otherwise I wouldn't be here, because I realized most of my colleagues stopped at secondary school level (R10_SA).*

Thus, dropping out of school is a phenomenon strongly linked with marginalization and exclusion and of course affects the quality of academic success. While in high-income countries like the United State where more than 75% of persons with disabilities are receiving support from informal caregivers (Thompson, 2004), in Nigeria the report is as follows:

*It is an unfortunate habit that has no moral or cultural basis. People can be positive towards you, but not always some people think helping you will add to their burden. They forget all moral obligations. It is discouraging …so when you see a visually impaired person begging it could mean the society is not fulfilling its parts…otherwise why should we degrade our salves (R6_SB).*

While some of the barriers are intangible (such as attitudinal) some are unpredictable (such as psychological and logistical). The tangible data exist in the form of physical barriers.

## 6.4    Specific Evidence of Disabling Barriers in the Built Environment

An important finding of this study is the significant difference between accessibility provision in the department of special education and those in any other building within each respective case study location. In all the persons with disabilities experience of interaction with the built environment, DSE recorded the accessibility infrastructure in terms of availability. A closer look and participatory auditing of the facilities, however, reveal a yawning gap between persons with disabilities expectation and the so-called provisions orchestrated by the designers. Thus, two categories of physical barriers are

classified under this theme. They are the design of products and environments and the planning and geographical factors.

Availability of appropriate facilities required by the persons with disabilities, including the hearing and visual aids, wheelchairs and the building accessories, furniture, fittings and fixtures present a formidable barrier to persons with disabilities inclusion.

*Even if I want to participate where are the facilities? No, walkway is not provided; the doors are narrow … toilet is small you cannot turn. Some entrances are better without the ramps, the door is opening in the wrong direction, there is this pillar is causing a lot of trouble (R08_SA). The road should have central islands. We need signs in braille. We need tactile pavements and a clear pathway in that case we will feel included. When there is no sign to tell me… I easily become loss. All I need is a sign to tell me information (R04_SA).*

Just as the availability of equipment and basic facility is important for the inclusion of persons with disabilities, so is the adequacy of the facilities (Holmes-Siedle, 1996). Some facilities are provided, but not meeting the requirement of persons with disabilities quantitatively.

*Equipment is not enough; we share one typewriter… the campus is large the school can build more accommodation somewhere... my greatest worry is lack of accommodation... for disabled people (R5_SB).*

Moreover, qualitative assessment of the facilities conducted using PAAC revealed non-usability of most basic inclusive needs provisions. Most buildings are not physically accessible to persons with disabilities without exerting an undue hardship on them. Yet, the policy clearly stated that:

*Government should ensure the:*

- *"Structural adaptation of all institutions at all levels" (Section 5:3:2: NDD)*
- *"Improved University education facilities to ensure maximum benefit for the disabled" (Section 5:4:2:5: NDD*
- *"Housing access and accessibilities" (Section 7: NDD)*
- *"Accessibility to public institutions and facilities are hereby guaranteed to the disabled" (Section 8.1: NDD)*
- *Adequate mobility within its facilities and Suitable exit for* persons with disabilities *(Section 8.2: NDD)*

### 6.4.1 Barrier to mobility: Physical Barriers

### 6.4.1.1 Barrier to Mobility: Design of Products and Environment

Many of the buildings do not lend themselves to a "within a simple budget" modification. The inaccessibility of such facilities can be avoided with inclusive provision at the design stage, but even the newly constructed buildings are conceived with the same inaccessible features.

After decades of policy statements like:

*The government shall ensure the structural adaptation of all educational institutions to the needs of the disabled as much as possible.… Improvement of facilities and equipment in educational institutions to facilitate the education of the disabled… improvement of university education facilities to ensure the maxim benefit of university education for the disabled (Section 11: NDD)*

And this:

*… Free education for disabled, at all levels in the public educational institutions are guaranteed… while government should ensure that no less than 10% of all educational expenditures are committed to the educational needs of the disabled at all levels- Section 5 (NDD)*

It becomes imperative to remind the authorities to merge promises with action.

*"Mobility wise we really faces challenges as we are coming to school...because sometimes we will be alone without a guide, so how to locate where the lecture hall and your department is, becomes a problem, because it is when you are there that you will get a colleague to take you to the appropriate classroom or lecture hall. The problem is lack of pathways that leads directly to the lecture hall or our department... If the pathway is there, then we are Ok. So if that can be taken into consideration it will help a lot. Without the guide it will be very difficult almost impossible to locate a lecture hall because I cannot see and the classroom cannot talk to me. There is no clear pathway within the campus premises ways leading to the department is full of obstacles (R4_SB).*

Transportation facilities are yet another challenging barrier to persons with disabilities inclusive involvement in major life activities. No public transportation facility was identified with disability friendly access, by the researcher, neither in the case study locations, nor by the participants during their academic life in the institutions as revealed by the participants.

*Public transportation needs to be changed, because I have never seen a wheelchair accessible bus here. All we ask for is equal access and opportunity available to other individuals those necessary modification needs to be put in place. I am not saying everything depends on policy, policies are not everything, but a good starting point you see if we really want development. Milestones have been recorded in this university, but in relation to what? I think more need to be done to make the environment inclusive (R08_SA)*

Thus, the cost of special transportation like wheelchair, for example, is an additional difficulty to persons with disabilities. However, the policy is clear that:

*The government shall ensure: "Access and mobility within its facilities" (Section 8: NDD). A disabled person shall be entitled to free transportation by bus, rail or any other conveyance (other than air transport) ... priority shall be given to the disabled in all publicly supported transport systems. Accordingly, reasonable number of seats shall be reserved solely for the use of the disabled (Section 9: NDD).*

Yet disabled people have this to report:

*I am not residing here (on campus), because I don't have money stashed in my account if I have one\* (the account), I have to go back and fend for myself, but the cost of accommodation... is getting on my nerves, one cannot think of following the bus and taxi is expensive, but option do I have... (R04_SA).*

Female students generally enjoy parental support at their ages and levels of education, and therefore expressed less disabling barriers in public transportation, but they are quite limited in number in all the case study location. Thus, it may be assumed that only parents with financial sufficiency are affording the burden of educating their female daughters. This assumption can lend credence to the assertion that "being female and disabled carry a doubled disadvantage (Hanna & Rogovsky, 1991). The study presents a need for further research on why females with disabilities are generally underrepresented in educational settings. This finding is reinforced by the fact that no disabled female staff was found in any record in any of the case study locations. Yet, "*while close to half of the population will like to attain the status of a literate person, rates of literate males are higher than literate females, and the rates are higher in more urban than in rural areas*" *(National Literacy Survey, 2010)* p. 8

### 6.4.1.2   Barriers to Mobility: Planning and Geographical Factors

Central to the inclusive goal of the planning process designer are expected to have a wider understanding of the relationship between the persons with disabilities as users of the environment and the campus setting. Thus, the ability of persons with disabilities to reach, to enter, to circulate and to use a given space determines its degree of inclusivity,

which incorporate the concept of reachability, usability, and safety. In shaping the man-made physical environment, a designer influences the activity and behaviour of people and therefore their social life. Thus, participation could be a tedious activity or otherwise. This is what Carmona (2010), explained in the statement *"what people are able to do is constrained by the environmental opportunities available to them"*. This view is clearly in agreement with what the participants believe when they mentioned the word "needs":

> *If only the facilities are made to include our needs (R02_SA). Designer's needed to be more conscious of our needs (R04_SA). Design should be made to if not totally then reasonably include our needs... All we ask for is equal access and opportunity available to other individuals those necessary modification needs to be put in place. I think more need to be done to make the environment inclusive (R08_SA)*

### 6.4.2 Barriers to Mobility: Logistical Barriers

### 6.4.2.1 Lack of Information and Communication

Where there is a lack of information and communication, lack of adequate, sufficient, suitable, and efficient provisions logistical barrier results. Inaccessible information and lack of communication often result from the non-availability of basic facilities such as hearing aids, amplification system or design of products such as telephone system and services like signs and maps provisions. It may also result from disallowing disabled people to:

> *"... Express their view freely and access information on an equal basis with everyone else by doing things like, providing disabled people with information in accessible format and technology at no extra cost, and in a timely way. Urging private sectors including the media to provide accessible information and accessible websites and make their services accessible (Article 21: UN CRPD).*

This policy as important as it is will remain a dream if the potential of technology is not tapped and the attitudes of people including the media towards disability is not altered:

*"Technology is evolving every day and you see the media is a part of that changing technology including social media. People need to be communicated, people need to be aware and realize the effect of their attitudes on us. The media we should resist their style, because they can be instrument for our exclusion because they often defined us as disabled because of our impairments: (R04_SA)*

### 6.4.2.2 Lack of Workable Policies

Over the century, persons with disabilities have suffered segregation and exclusion in most of the developed countries (Digby & Wright, 2002; Miller & Gwynne, 1972; Scull, 1979), a phenomenon which (Ingstad, 1995; Shakespeare & Officer, 2011; Turmusani, 2003; Zinkin & McConachie, 1995) believed is unknown to the low-income countries until recently with the advent of NGOs (Shakespeare & Officer, 2011). Today, persons with disabilities worldwide advocates for inclusive livelihood in educational setting to exercise control over their lives (Brandt, 2011). To achieve the objectives of inclusive living, however, various policies are advanced in different societies. The end results for some have translated into a positive result, but the majority of persons with disabilities see the outcome of an inclusive relationship with them as experimental and patronizing (Freidson, 1988). The following study participants share this view:

*"We are tired of on paper survey that seldom materialized into meaningful outcome"* (R07_SB). *OK, yes they are all there* (in…. name of another country) , but talking about here those facilities... *are … only on paper. Sincerely it's all in theory* (R06_SA). *A lot of them have made changes to their buildings, to their structures to make them accessible. Why can't our government do the same thing? Why must we always wait for a law...a law...a law? (R10_SA)*

Both tangible (physical) and the intangible (attitudinal) barriers continue to affect persons with disabilities inclusive livelihood on equal merit (Figure 6.3). Thus, the knowledge of how the barriers impact persons with disabilities is discussed.
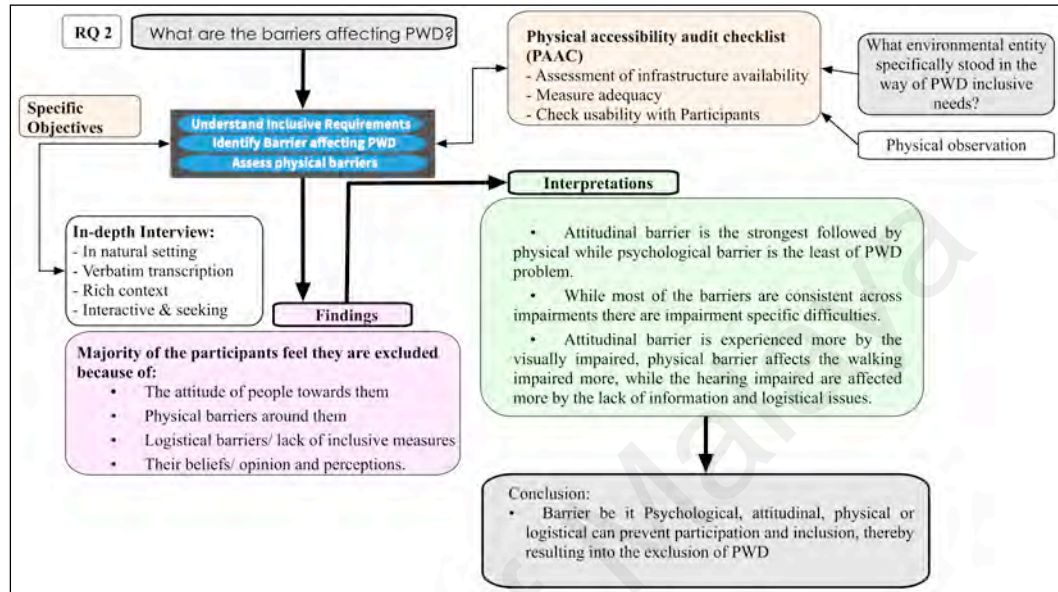


**Figure 6.3:** Summary of findings on the Barriers Affecting persons with disabilities

## 6.5    The Impacts of the Disabling Barriers on Persons with Disabilities

Knowledge about the barriers influence on persons with disabilities (Figure 6.4) is important in providing useful insight into the magnitude of the physical, and mental stress, as well as economic constraints that persons with disabilities are made to bear with, resulting from such barriers imposed on them through omission or commission.
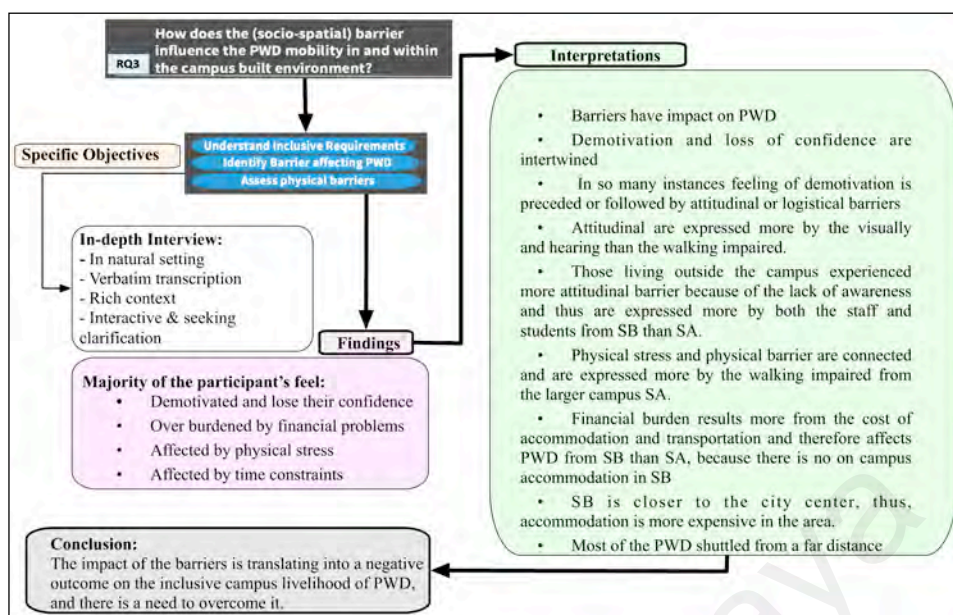
**Figure 6.4:** Summary of findings on the Barrier influence on persons with disabilities

### 6.5.1 Impact of Barriers: Demotivation and Loss of Confidence

De-motivation and stigmatization fuel marginalization, rendering persons with disabilities with a low expectation and underachievement thereby resulting in a feeling of confidence lost. Forged in a society, that placed restrictions on education on the body limitation and appearance. Persons with disabilities inclusive opportunities become a subject of much debate. Loss of confidence often resulted from an attitude linked to a bad experience and de-motivation. Example:

*…Often the people we started with "falls out" because they cannot support themselves it is very demanding… when I said \*[17] "falls out" I mean simply gave up the study* (R04_SA). *I used to get humiliated, instead of people to motivate you – the whole class may laugh at you that is definitely not an enviable feeling. It is something I cannot forget…  Yes, some attitude worries me so much that I felt low* (R5_SB) …

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[17] Participant was asked to clarify the meaning of falls out

### 6.5.2    Impact of the Barriers on Persons with Disabilities: Financial Burden

Cost of living with impairment escalates in a disabling environment. It comprises not only the cost of medical equipment, but also the cost of purchasing and maintaining assistive devices such as hearing and walking aids. In addition to that, the transportation fare, may add to the financial burden on persons with disabilities considerably. Unequal opportunities underpin the idea of financial burden be lifted up the shoulders of persons with disabilities. Millions of disabled people are denied education for the simple reason of their lack of affordability because of financial inadequacy. In many instances being disabled means one has to pay extra to get the same service as non-disabled (Braithwaite & Mont, 2009; P. Saunders, 2007; Zaidi & Burchardt, 2005). This adds to the limitation of their purchasing power. Quantitative research on the socioeconomic position of persons with disabilities in the developing countries has recently grown. The outcome has consistently portrayed persons with disabilities at a disadvantage in educational attainment and ownership status (Eide et al., 2011; Mitra, Posarac, & Vick, 2013).

While persons with disabilities requires both minor and expensive financial interventions, most disabled people are guaranteed financial aid on the paper promises like the following:

> *"... Free education for disabled, at all levels in the public educational institutions are guaranteed... while government should ensure that no less than 10% of all educational expenditures are committed to the educational needs of the disabled at all levels- Section 5 (NDD).*

Transportation and accommodation cost is among the greatest barriers persons with disabilities faced in their bid to inclusion. For interpretation, the frequency with which financial burden associated with transportation and accommodation was described by persons with disabilities is an indication of worries and woes linked to a lack of on

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campus accommodation and subsidized transportation from the place of residence of the participants. In most cases persons with disabilities residing outside the campus traverses a long distance journey, because of accommodation demands and that accommodation cost near the campuses, is relatively higher when compared with those further away. Lack of supportive services such as accommodation cost subsidy has been reported elsewhere as in (Mpofu & Wilson, 2004) , but not to this degree.

*We reside in the same house for the four of us sometimes we come together without a guide, but we all need one another (R5_SB).* "*Lack of accommodation within the campus or even around the campus creates so many problems for us, yet the policy says we have freedom to reside wherever we wish*" (R6-SB)*. Now I have to reside with my family in (name of a place) and commute here because it's more economical and I cannot get a place to stay here* (R7_SB)

Non-economic cost includes independent living:

*We need independent living because we know we can; we need to be able to live independently as everyone. I keep on saying the society is fashioned in such a way that, it is simply impossible to be independent one has to depend on someone for even the most basic things like toileting (R10_SA)*

Physical stress is also non-economic cost

*The university is big and with so many obstacles I become stressed because I cannot concentrate on what I am here for; physically I become stressed... I can endure any hardship, but people's attitude…. I simply move on when I remember what I am here for. I am not a disabled in every respect, because everyone has a level of endurance I mean physical (R05_SA).*

### 6.5.3    Impact of the Barriers on Persons with Disabilities: Physical Stress

Although not all participants expressed a worry about physical stress, the majority expressed exhaustion after covering a long horizontal and vertical distance and therefore advice on the need to provide seating for relaxation within the campus premises.

*... There is need for public seating arrangement everywhere in the campus for resting ... If the obstacles are removed one can go to many places one has to pass through so many obstacles and cross many roads as there is no clear pathway access for people to walk (R09_SA). We need seating areas within the campuses because sometimes you just need to seat and wait because you are early.* (R6_SB).

### 6.5.4    Time Constraint and the Need for Early Preparation

If time and speed, are all tools for measuring efficiency and productivity then persons with disabilities are at the disadvantage vantage point, where facilities and services are not available, inadequate or unusable. Thus, persons with disabilities on their part require more investment of time and speed for self-maintenance and participation in education. Generally speaking, persons with disabilities expressed the need for more time and support than those given to their counterparts without disabilities to accomplish an academic task. Clearly, thus, is expressed in statements like:

*I have to wake up very early to get a transport because of congestion otherwise I will be late for my lectures (R05_SA). Because they always said our number is not much they don't want to waste time on us (R09_SA).*

This important finding is congruent with what has been established by other researchers such as (Schreuer, Rimmerman, & Sachs, 2006). Once the gravity of the situation on which persons with disabilities are subjected to have been identified, it becomes imperative to look into the possible way to overcome the barriers. An

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inclusive environment, while particularly relevant for persons with disabilities participation, it benefits a broader range of people (Goldsmith, 2000; Shakespeare & Officer, 2011). Thus, the knowledge of overcoming such barriers based on scientific evidence is required. Literature reviews show how such evidences are utilized to neutralize the effect of disablement on the persons with disabilities globally. However, such barriers are not linear and the same everywhere. Secondly, the point of view of those experiencing the barriers is important, but hardly found in the Nigerian context.

## 6.6 Evaluation of the Socio-spatial Experience of Persons with Disabilities'

Barriers manifest in in different ways and they collectively influenced the inclusive livelihood of persons with disabilities in a given campus environment. Either consciously or unconsciously the persons with disabilities on their part have adopted a useful strategy over time to overcome the disabling conditions. Those strategies were developed at the interpersonal and intrapersonal levels of influences as shown in (Figure 6.5).
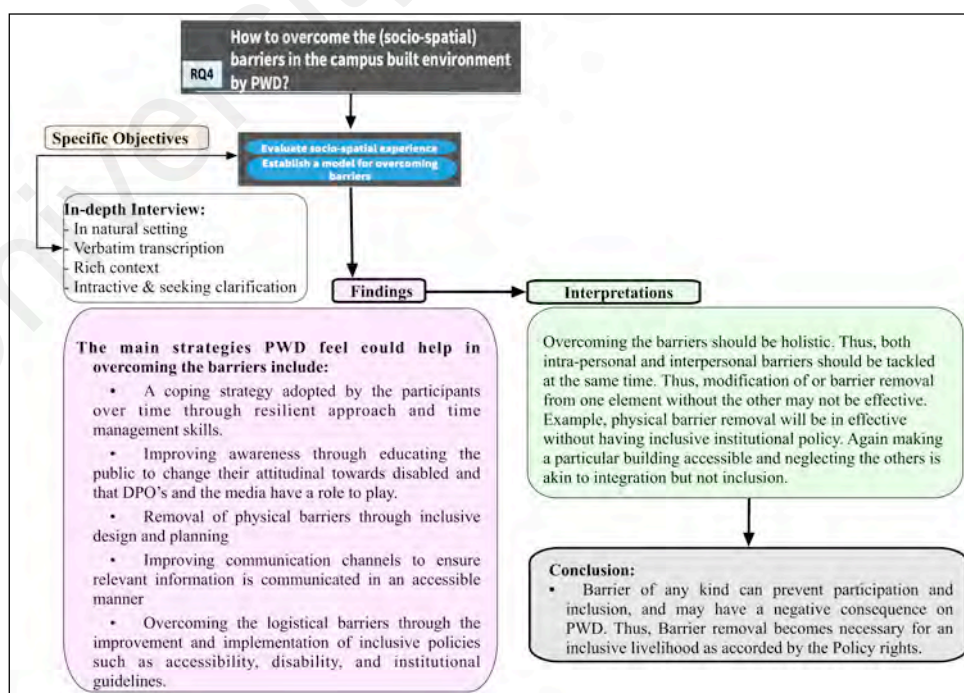


**Figure 6.5:** Summary of findings on overcoming the Barrier in the campus built environment

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### 6.6.1 Overcoming Psychological Barriers: Coping Strategy and Resiliency

An encouraging finding shows that a coping strategy has been invented and invested over time by the participants in the form of an adaptive strategy as a way out for the persons with disabilities to overcome the disabling barriers. Some of the main issues raised by the study participants are categorized under self-motivation and resiliency as well as time management.

> *So I simply do the needful and carry on with my life…. I don't allow things like this to worry me…I feel sorry for them they feel they have all it takes forgetting that they too are disabled in some ways. For just been here is an indication that one is not the depending type. We want to acquire the knowledge that will enable us stand on our feet (R04_SA).*

Self-motivation and resiliency also include not allowing one to surrender and lose confidence.

> *One may easily lose confidence, but that is what I will not allow myself to do, because it affects one's health, otherwise, I will have surrendered. Everyone… I am not worried, I just realized I am only lucky to have a family to sponsor my education otherwise I wouldn't be here, because I realized most of my colleagues stopped at secondary school level (R10_SA).*

### 6.6.2 Overcoming Attitudinal Barriers: Awareness Improvement and Support

Disabled people's organizations have a role to play in the improvement of awareness and support services to persons with disabilities. Relationship between media and disability is often unfavourable to persons with disabilities (Byrd & Elliott, 1988).

*The media we should resist their style, because they can be instrument for our exclusion because they often defined us as disabled because of our impairments (R04_SA)*

### 6.6.3　Overcoming Physical Barriers: Barrier Removal

Overcoming barrier has been recognized as a central factor in the participation of disabled people in general (Olaogun, Nyante, & Ajediran, 2009; Zarb, 1995), the academic success of disabled students in educational setting in particular. Overcoming physical barriers involves flexible design with a wide ranging requirements (Baris & Uslu, 2009; Barnes, 2011). This is what the participants referred to when they said: *Designer's needed to be more conscious of our needs (R04_SA). Every simple modification requires complex procedure before it is done (R07_SA).*

### 6.6.4　Overcoming logistical barriers: Policy improvement and implementation

Developing effective policies requires more than a paper document. It requires practical implementation, which most countries took measures to adhere to (Shakespeare & Officer, 2011). Several institutions come up with innovative programs to integrate the requirement of persons with disabilities such as the visual and hearing impaired needs (Sachs & Schreuer, 2011). Despite the inclusive promises in the national disability policy and legislative guidelines on the provision of equal opportunities for education of persons with disabilities, there is a long way to go in the Nigeria. An inquiry into the persons with disabilities knowledge on the existence of accessibility standard has found a generally low awareness, particularly among the students at the lower level. Participants aware of its existence are few and their concerns were raised about its workability and applicability in the public built environment. *I often wonder if there is a monitoring body that inspects how buildings are made with*

*access requirement. Its either there is no monitoring or no policy for access requirement? (R10_SA)*

While the majority of the participants do not know of its existence, only a few are aware of how accessibility policy can help improve accessibility in the built environment. Whether this account for lack of implementation or not is an area that requires further research. National building code on access and accessibility is at the formative stage in Nigeria.

A review of the national building code (NBC) indicated the presence of barely four paragraphs out of over four hundred pages, touching on the accessibility needs of what the documents called "persons with physical challenges" referring to persons with impairments, whom the authoritative document considered to "*mean persons with physical impairment which limits their ability to use building effectively*" (NBC) Thus, the disability was located within the body of the individuals rather than the society or both. Elsewhere, the national document refereed to persons with disabilities as "*people suffering physical limitation because of age or health and therefore need access to medical facilities and other care or treatments*" *(p. 35-36).* To achieve this goal, the document, specify that for any public facilities with "*more than twenty dwelling units at least one should be allocated to the physically handicapped*". The guideline went ahead and put restriction that "*access to additional floor without public facilities is not required*" (p.82). Another restriction elsewhere stated, "*Except the ramps required for the physically challenged maximum gradient should be one unit vertical eight units horizontal*". Again, "*ramps for the physically challenge should have rail*"

Exclusion of persons with disabilities at the institutional level is not a product of formalized action. Rather, it is an unconscious institutionalized discrimination that disregards the peculiarity of persons with disabilities needs. The simple "*take care of*

*yourself*" approaches are enough to discriminate persons with disabilities, because support is shown to be an important element for persons with disabilities inclusion. Yet the national building code demonstrated clear segregation and marginalization of persons with disabilities. Findings from this study contradicts the following statement:

According to the document it is the*: "Physical impairment, which limits their ability to use building effectively"* rather than the socio-spatial and socio-attitudinal environment. Thus, it went ahead to state that: "*People suffering physical limitation because of age or health"* need access to not only to "*Medical facilities and other care or treatments"*, but also access to the remaining 19 out of the *Twenty dwelling units... allocated to* the so-called physically non *handicapped* group. Who said, *"Access to additional floor without public facilities is not required"* by the persons with disabilities? Is this an official declaration that persons with disabilities need not to visit their friends and relatives, in their private domain because they have physical impairment? persons with disabilities need to access more than just *Medical facilities and other care or treatments.*

They need access accessibility to education and educational built environment in its entirety. Not necessarily in a segregated setting. Thus, they may be no need for making this distinction that "*Except the ramps required for the physically challenged maximum gradient should be one unit vertical eight units horizontal*". Again, "*ramps for the physically challenge should have rail*". After all, impairment, the society or both can physically challenge everyone temporarily or permanently. Lack of responsive curriculum impacts persons with disabilities inclusive livelihood and thus spell out the need for further study on how it impacts the academic performance.

*It is an unfortunate habit that has no moral or cultural basis. People can be positive towards you, but not always some people think helping you will add to their burden. They forget all moral obligations. It is discouraging when you are challenged about what you obviously cannot do because you cannot see. We need to have an organization to fight for our rights. Every issue is resisted, you have to struggle and fight for your rights, it is unbelievable. Honour of human sanctity as a human being is my right and this is what I mean by... Our religion does not encourage begging it only encourage helping the needy, because it is the last option for us, but a priority for you people...so when you see a visually impaired person begging it could mean the society is not fulfilling its parts...otherwise why should we degrade our salves (R6_SB).*

## 6.7 Summary and Link

In the previous chapter, the implication of the study is presented specific to the experience of the participants as interpreted by the researcher understanding of the collected data. Thus the replication logic adds strength to the internal validity. This chapter presents a model for the inclusion of persons with disabilities in the tertiary institutions based on the study findings. It also compares favourably with peer-reviewed articles in the open database for external validity. Furthermore, an interpretative insight of the study findings as they relate to the study objectives is diagrammatically presented. Thus, multiple methods are and sources are combined in form of triangulation of the findings and discussed in detail in this chapter. The next chapter reviews the overall research findings inform of conclusion. It also offers implication of the respective findings and advanced recommendations and highlights the study limitation and the areas that require further research.

**CHAPTER 7: RECOMMENDATIONS AND CONCLUSION**

**7.1     Introduction**

It is insightful to recall that this study was undertaken to establish a model for overcoming the barriers to the inclusion of persons with disabilities in tertiary institutions in Nigeria. By way of conclusion, this chapter summarizes the overall research findings with at least a conclusion per outcome. The chapter also offers implication of the respective findings. Recommendations are finally presented justified by the study findings. Major contributions to knowledge are highlighted. Limitations in the form of thrust for further studies were advanced.

Arguably, the mobility experience of persons with disabilities is important in disability study. Yet, the voice of persons with disabilities in the Nigerian context appeared limited in the disablement literature. The root cause of the barriers is best understood from the subjective epistemologies of those experiencing the barriers. Accordingly, the study questioned the mobility barriers and how they impacted the persons with disabilities experience of socio-spatial environment amidst inclusive policies and guidelines with a view toward reducing if not eliminating the barriers.

Consequently, thesis is about the everyday mobility experience of disabled people in education setting. More specifically, it is about the socio-spatial reality of disablement in the Nigerian context.  An interpretation is given to the meaning persons with disabilities construe of other people's attitudes towards them, and the response of physical environment on their mobility needs. The focus was to locate evidence of disablement that may underpin socio-spatial inequality in and within the built environment. The study relies largely on man-environmental relationship to discursive mobility experience to expose mobility barriers to an inclusive campus livelihood. The

multiple sources of evidences employed are with a view towards overcoming the barrier subjectivities.

## 7.2    Main Findings from the Study

Complexity of the findings does not give rise to a predictable model of a linear association. Rather, the study revealed as socio-spatial construction by foregrounding the mobility experience of staff and students and other stakeholders. Thus, a complex relationship was established between intra and interpersonal factors as they converge into impediments to inclusive livelihood. Participants reported a range of factors that barred their inclusive mobility. Major findings why persons with disabilities feel they are excluded are woven into barrier factors in four levels of influences. The barriers are:

- Psychological barriers at the individual levels

- Attitudinal barriers at the social level

- Quality of the physical environment at the physical level and

- Logistical barriers at the policy level

*Firstly:* Psychological barriers exist through fear of failure or rejection and opinion and beliefs. Such barriers emerged less prominently, but linked to a preceding bad experience of stigma associated with the attitude of people at the social level of interaction.

*Secondly:* Attitudinal barriers emerged the greatest barrier to inclusive living, particularly for those living off-campus premises. Consequently, the impact of stigma and bad experience translated more on staff and students living were on campus accommodation is not provided as in SB. Provision of on-campus accommodation has the potential of alleviating problems associated with the cost of accommodation and transportation that weighted heavily on persons with disabilities staff and students with

90% reported cases from SB. The resilient approach by persons with disabilities staff and students to strive and even prosper in the midst of disabling attitudes is further hampered by shortages of income and social support, physical barriers and lack of access and accessibility to facilities and services.

***Thirdly:*** Physical barriers include the quality of the physical environment such as the unavailability, inadequacy and non-usability of facilities and services as well as planning and design factors. These when added to attitudinal barriers aggravate the exclusion and marginalization of persons with disabilities. Consequently, the impact of physical barriers becomes pronounce on campus with more vertical and horizontal distance persons with disabilities are made to negotiate in their daily within campus mobility. Similarly, physical stress featured more prominently in SA than in SB. In the course of conducting the research, a number of contrasting themes emerged. Glaringly, themes categorized under resiliency and coping strategies, conflicts with those under "loss of confidence and demotivation". For example, participants revealed a desire to forge ahead amidst restrictive physical barriers and stress, while at the same time exhibiting a loss of confidence in relation to their ability to do so.

***Fourthly:*** Knowledge of the existence of inclusive treaties and policies in the country developed a sense of vulnerability rather than the liberation of persons with disabilities. Consequently, staff and students at the higher levels defined lack of policy implementation as a "normal abnormality".  These translated into the words of (R07_SA) when he said: *"we are tired promises that seldom materialized into fruitful results"*. These assertions resonated with the reality of (Oliver) who defined disability as a sophisticated form of oppression. Disability here includes financial burden, lack of accommodation, and lack of adaptive transportation and host of other barriers discussed in the study. The impact of such disabling barriers and lack of policy implementation on

persons with disabilities can be linked to the isolation of persons with disabilities, lack of awareness, information and communication. These rendered persons with disabilities vulnerable to further exploitation. Few disabled people in Nigeria get access to education. Thus, lack of education may explain the silence of persons with disabilities in the Nigerian context on issues concerning their rights. The voice of disability researchers in the Nigerian context is also muted and inaudible. The few studies carrying the persons with disabilities voice mostly focuses on the area of medical rehabilitation and human right activism. persons with disabilities in the world sing along with the popular lyrics "*nothing about us without us*" in the other hand. The policy itself is charity inclined (Lang & Upah, 2008) promising welfare entitlements to persons with disabilities. This is clearly reflected in the Nigerian disability decree as revealed by the qualitative content analysis of the national disability decree. Persons with disabilities concern is on improving support, integration and inclusion, which are more than just a token of allowance.

Largely, the potential of this study lies in challenging the existing theories and practices, with a view towards placing disabled people and disability-related issues into a workable and implementable framework. These require a critical awareness of the root cause of the disablement process as highlighted on the above onset. Those experiencing barriers are suited to reality of such exclusionary experiences. Thus, the qualitative approach adapted to provide a veritable tool for deciphering the data collected is with the regards to socio-spatial disablement. The problems highlighted in the study are too complex to explain in the narrow confines of interpretation with linear association. However, the study does not present a pessimistic outlook on disability issues in Nigeria. The situation is not entirely out of control or a "*loss cause of a helpless case*". Overcoming the barriers to persons with disabilities inclusive participation is possible and achievable after understanding the gravity of the situation.

Thus, the study represents a baseline from which Nigeria and anywhere else with similar predicaments should take an offshoot.

Key findings of the study include inadequate infrastructure and service provisions as presented. Thus, it will be correct to conclude that persons with disabilities are not adequately integrated into the mainstream. To achieve inclusion at tertiary institutions, the study argued that knowledge about barriers is essential in the provision of appropriate intervention based on priority. In many instances persons with disabilities made references to what they called "the on paper promises" made by the successive governments, yet remain unfulfilled.

## 7.3     Achievements of the Research

The study raised six research objectives. Firstly, it sought an understanding of persons with disabilities' requirements in the navigation of the built environment. National building codes (NBC) were further reviewed to find out whether the requirements of persons with disabilities are included as guaranteed by the law or excluded. The study revealed that persons with disabilities requirements in the policy are not adequately covered in the building guidelines. This was further confirmed by interview with persons with disabilities. Thus, the study advocates for a more inclusive environment through policy improvement and implementation.

The second research objective focuses on identifying the barriers in relation to socio-spatial mobility experience of persons with disabilities in the campus built environment in the Nigerian context. The rationale for this objective was informed by the gap in literature which implies that persons with disabilities voice is limited in the Nigerian context, yet important considering the fact that there are many assertions that persons with disabilities are experiencing barriers to mobility although not verified either from the persons with disabilities or the environment itself. Thus, this research

has incorporated voices that are important but appeared limited in disablement literature.

To answer the third objective, the researcher believed that disability is best understood from the ontological reality gained from the epistemological understanding of the experience of those affected by it. Thus interview is employed to investigate the impact of disabling barriers on persons with disabilities in the campus built environment.

The fourth objective assessed the physical barriers in relation to persons with disabilities mobility in the built environment. The fifth objective focuses on evaluating the socio-spatial experience of persons with disabilities and the impact of the physical barriers to persons with disabilities. This was achieved through synthesis of finding from the semi-structured interviews and observations across the two case studies. Findings from the synthesis indicated that both intra and interpersonal factors contributed to the creation of barriers to the inclusion of persons with disabilities in the campus built environment. The overall findings are aimed at providing a model for overcoming the identified barriers subjectivities. Thus, objective six was achieved through the presentation of a model with holistic approach to disability. The argument is that removing a barrier in one domain without the other is tantamount to segregation and may lead to exclusion of persons with disabilities.

## 7.4    Research Contribution to Policy

1. The study also raised dilemmas associated with inclusion with respect to effort and exertion persons with disabilities dissipate to meet the socio-academic demand in bearing the physical stress, transportation and accommodation costs. Thus, the study draws attention to the policy provision

that guaranteed the elimination of discriminatory tendencies to be implemented in practice.

2. The present study is timely. Now is the critical time of social and legislative changes following decades of promulgation of national disability rights for persons with disabilities in Nigeria. The study confirmed the assertion that Nigerian with disability decree is charity inclined through content analysis of existing documents and triangulation with persons with disabilities perspective. Thus, recommends an immediate review based on the social model of disability, which defined disability as a sophisticated form of oppression.

3. While access and accessibility codes are yet to be defined in Nigeria, the study highlight the need to align the national building code on access and accessibility from the onset to the 7 principles of Universal Design (UD).

4. Institutional based policies and practices and guidelines were shown to have had a significant impact on persons with disabilities inclusive academic success. Thus, resource investment by higher institutions should be tailored towards flexible admission procedures, provision of extra examination time, on campus accommodation, procurement and providing accessible reading materials in braille in the libraries and lecture halls, and with other assistive technologies. Reinforcing this urgency is the participants complaining about the high costs of assistive devices and their low level of purchasing power. The few privileged that procured these basic inclusive devices such as wheelchairs are impacted by inaccessible pathway access.

5. Inclusive access is important in realizing the rights to education of persons with disabilities as contained in the UN CRPD on the basis of equal opportunity. Yet, realization of inclusive access entails removing the barriers

that bar the participation on equal merit. The study, however, revealed a yawning gap between enrolment of male and female disabled students. Similarly, absence of disabled female staff in the record in any of the case study locations was noticed. Thus, reinforcing the belief that being female and disabled carry a doubled disadvantage in most study context (Hanna & Rogovsky, 1991). There is a need for a monitoring framework on what is happening to the individuals that are excluded from gaining access to the educational sector.

6. Both educational institutions serving the so-called special needs of persons with disabilities are located on the urban periphery. Findings from the study, however, indicated 53% of the study participants are commuting from outside the metropolitan local governments. Therefore, government should help decentralized and provide the requisite facilities to those living in the greater part of the state and the country in general.

7. Considering the relevance "disabled people, organizations" (DPOs) have in creating positive awareness about disability and educating the society, government should do well to encourage and support them. It is noteworthy that: "persons with disabilities *have no other place to live than the one we jointly owned"(Abdulrahman, Oniye, & Agbonlahor, 2009)*

## 7.5     Research Contribution to Practice

The study launches the future direction stakeholders on policy formulation and built environment professionals should consider towards empowering disabled people. To empower disabled people barriers should be removed. To remove these barriers everyone is required to contribute.

1. Beginning with disabled people themselves through resiliency and coping strategy such as time management and self-motivation in their individual capacity. (PWD)

2. Improvement of awareness and support of the proximate environment (such as by the DPOs, family, colleagues, Media)

3. Review and implementation of inclusive design and planning at the institutional level (such as by environmental designers, institutional managements and local authorities)

4. Review and implementation of inclusive policies and building guidelines at the policy level (Policy Makers)

## 7.6 Research Contribution to Knowledge

1. Previous approaches to disability have been responding to the problems in isolation. Focusing either on social, physical or policy issues. This research gives a holistic overview of the disabling practice and experience as well as ways to overcome the disablement from multiple point of view that are shown to be interconnected.

2. Furthermore, previous disability researches in the Nigerian context are either with objectivist epistemology and therefore lack the voice of persons with disabilities which is important in the disablement literature in the Nigerian context.

## 7.7 Recommendations for Further Studies

1. The impact of disablement can be devastating not only to the individual with disabilities, but family, caregivers, and helpers. Thus, future research should include this group of people with a view towards extending disability support to them.

2. This study provides an interpretation of persons with disabilities mobility experience with a view towards making recommendations. Future studies should

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address and evaluate the needs and priority of persons with disabilities in the light of available resource and propose practical ways to embark on a rapid transformation of the socio-spatial environment with minimum resources.

## 7.8 Limitation of the Study

The limitations associated with the research methodology are acknowledged in chapter three. The limitations of the overall research are hereby acknowledged. Multiple realities exist out there waiting to be discovered. Yet, the ontological reality is restricted to gain understanding from the point of view of persons with disabilities to fill the gap identified in the disablement literature. However, had the perception of nondisabled persons taken as the basis of the research the result would have been different.

Another limitation of the study is that the participants are either self-selected which is judgmental or snowball sampled. Thus, it should be acknowledged that the barriers to inclusive mobility of staff and students is not a representation of all disabled students' point of view or experience. Further limitation associated with the sampling procedure is number of cases, which limit the generalizability of the findings. In addition to that, the variation in respondent demographic attributes like gender or levels of study, which is not systematically selected because the participants are few or simply not available on the records is acknowledged as a limitation.

## 7.9 Significance of the Findings

Having acknowledged the limitations associated with the findings of this research because of the limitations of qualitative research, it is not without some significance with regards to transferability. Thus, the transferability of the findings for this research are categorized in four level of influence in line with the study framework as follows:

### 7.9.1 Transferability at the Individual Level

The sample size that may make this research unconditioned towards generalization. Nonetheless, because the selection of the participants was made with a bottom up approach in mind the findings that are applicable to persons with disabilities can be transferable to the nondisabled including mothers with baby trollies, the elderly and everyone. This selection permits the researcher to presume that the mobility requirements of this group of participants is universally accommodating. In that it will accommodate the needs of other disabled and the non-disabled as well. The provision would have traditionally been a top-down one. As an example, an accommodating environment will recognize diversity and extend a supporting hand to disabled and non-disabled people at the social level. At the physical level, the institution selected for this research are those having make conscious effort to integrate the requirements of disabled people by making provision to provide services and facilities for such, yet physical barriers exist in such institutions. What will be the fate of other institutions that do not extend the accommodative gesture. Findings from this study can also provide space for the voices that were earlier unheard.

### 7.9.2 Transferability at the Social Level

At the social level the research findings can extend its influence on the regional scale. A preliminary study conducted by the researcher indicated that Ahmadu bello University Zaria as the most prestigious university in northern Nigeria and the second largest university in Africa in terms of landmass (Ahmadu Bello University Zaria) is lacking of accommodative provision for persons with disabilities. No wheelchair user, person with visual or hearing impairment was found on record. At the state level, Kano as the most populous state with a population around 12 million is having several tertiary institutions. It is also, the only state with two state owned universities including Kano University of Science and Technology, (KUST) Wudil, North West University Kano.

The federal university Bayero University Kano (BUK), and other numerous tertiary institutions are also available in Kano, including, College of Arts, Science and Remedial Studies, School of Technology, School of Management Studies, Audu Bako School of Agriculture, School of Social and Rural Development, Aminu Kano School of Islamic and Legal Studies and Saadatu Rimi College of Education (SRCOE). Nonetheless, only two are catering for the educational needs of persons with disabilities. This means none of the other institutions is having provision for disabled people other than the two selected case study sites. For example, Northwest University Kano is a multi-storey building of 13 floors without a functioning lift, how will it be possible to have a wheelchair to study in such environment? Consequently, findings from this study which is conducted at the institutions that are purposely designed to cater for the mobility needs of persons with disability may be transferable to any institution in Kano and most institutions in Nigeria.

### 7.9.3    Transferability at the Institutional Level

It will be correct to state that the enrolment of persons with disabilities in higher education ought to have induced a corresponding service delivery as provisioned in the policy. Yet, the reality of the findings indicated otherwise, which could serve as a thrust for further studies. In addition to that, had there been disabled persons in any of such institution in Kano, they will have experience similar predicament with the ones identified in this research, if not worse, because the institutions are not conceived to accommodate persons with disabilities requirements physically, neither where they modified for such. A review of the national building codes as it affect the mobility of disabled people in Nigeria is thus prevalent.

### 7.9.4    Transferability at the Policy Level

At the policy level, findings from this research stand transferrable, because the policy and national building codes are at the national scale. It is also pertinent to state that policy level is the most authoritative level that can assert its influence on both the physical, social and individual level. Thus, it is expected that whatever is not provided in these institutions catering for the needs of disabled people may not be specified in other institutions that have not made any visible effort to integrate the need of disabled people. It appears, therefore, that the recommendations advanced in this research will go a long way in overcoming the barriers to inclusive mobility of disabled people not only in the case study areas, but Kano, Northwest Nigeria and the Nigeria at large. Moreover, Nigeria is not the only country where the requirements of persons with disabilities are not incorporated at the policy level which may translate into physical and even social level and affect individual with disability. Thus outcome from this research excels a restricted setting in Nigeria.

### 7.10    Final Words

While the interpretation of the mobility experience of staff and students with disabilities may appear contextually restricted, it is realistic to anticipate the existence of similar experiences that transcend a localized setting. Triangulation of sources and methods reinforced the veracity of such assumption. It is, therefore, imperative to acknowledge that the interpretation of mobility disability in this study is not only intrinsic but also instrumental towards overcoming a socially engraved phenomenon that paved way for the exclusion of those acknowledged as the largest marginalized group in the world. 75% of which are said to be from developing countries to which Nigeria is not only belonging to, but also accommodating the greatest number in Africa. Thus, the study is particularly relevant owing to the fact that phenomenon of inequality in treatment is not justified based on numerical strength of the affected victims, but the

impact it has on the affected person(s). Presently, it is apparent that persons with disabilities that are privileged to be part of those seeking education are paying a very high price psychologically, socially and physically. What happened to the bulk of persons with disabilities that do not have the opportunity to be in school remain to be explored. This research is only adding credence to the world health organization (WHO) statement that considered persons with disabilities from poverty-stricken countries as the *"poorest of the poor"*. They need support. Word of the participant comes to mind:

> *"If you are visually impaired, you need support and any support you can get will never be too much... I am telling you this because I was born blind. And you may not know what that means... It means I cannot imagine the meaning of the word colour, but I can perceive distance, height and depth probably more than you, because their influence on me is real and there is nothing I can do about it. But for you there is something you can do if you are sincere... Why am I telling you all this... because I want to you to understand when I said no support is too much for the blind... the people that are supposed to help you may not help you* (R7_SB).

This is the reality. In this way institution from primary to the ivory tower can be the starting position of reform in order to wipe out all forms of excommunicating barriers, because education has the ability to transform lives. It broadens freedom of choice and action, allowing the participation in social and physical life and equipping people with the requisite skills to improve their quality of life (Mittler, 2012).

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# APPENDICES

**Appendix A:** Consent Form for the Interviewed Participants

For the research project titled:

**"Overcoming Barriers to Inclusive Mobility: Experience of Disabled People in Tertiary Institutions of Kano, Nigeria"**

The aim of the study is to establish a model for overcoming the barriers to the inclusion of persons with disabilities in tertiary institutions in Nigeria. It is expected that the knowledge from this inquiry, would afford a new insight into a more informed decision-making in the practice and policy levels.

**I agree to take part in the above research project. I have had the project explained to me, and I have read the Explanatory Statement, which I keep for my records. I understand that agreeing to take part means that I am willing to:**

- Be interviewed by the researcher one on one
- Allow the interview to be videotaped/audiotaped
- Make myself available for a further interview should that be required
- I understand that my name and identifying details will be changed and access to the original tapes and transcripts restricted to the researcher and supervisor to protect my identity from being made public
- I understand that I will be given a transcript of data concerning me for my approval before it is included in the write up of the research
- I also understand that my participation is voluntary, that I can choose not to participate in part or all of the project, and that I can withdraw at any stage of the project without being penalized or disadvantaged in any way.

**Please tick the appropriate box:**

- The information I provide can be used in further research projects which have ethics approval as long as my name and contact information is removed before it is given to them
- The information I provide cannot be used by other researchers without asking me first
- The information I provide cannot be used except for this project

**Name:**                                              **Signature:** *Mubeen.*

**"Overcoming Barriers to Inclusive Mobility: Experience of Disabled People in Tertiary Institutions of Kano, Nigeria"**

To be read aloud

Good day/ Assalamu alaykum

My name is Abubakar Ahmed and I work at Kano university of Science and Technology as a teacher. I am also studying at University of Malaya in Malaysia for a qualification of Ph.D. As part of the requirement for the fulfilment of this study, I choose to do a project looking at:

1. The rights people with disabilities have in Nigeria,

2. The difficulties or troubles they encounter in their day to day activity at school particularly regarding their mobility from place to place,

3. I want to establish how these obstacles are affecting them and

4. To know the possible way, it can be broken down or prevented.

I am now looking at the issue from within the campus

**Participant's rights:** You are under no obligation to participate if you do not have interest and you are free to decline to answer any particular question or even withdraw from the study all together, either now or letter, you can also ask any question regarding the study. The information you provide will not be attached to your name unless you preferred that to be done. You're entitled to access the information you provide and request for something's to be deleted or make clarification if you so wish.

**Appendix C:** Sample of Interview Guide

Given the interpretative approach used, the semi-structured questions asked include:

1. *What does the word disability mean to you?*
2. *Can you tell me about your experience of living with disability in this school?*

The participants were purposively selected, and therefore are to a certain degree assumed to have been aware of disability as a socio-spatial construction. Thus, once persons with disabilities linked disability with interpersonal activity or feature of the environment. The next question followed.

1. *What environmental entity or feature specifically leads to your disability experience? How will you describe it or why? Or;*
2. *What do you believe caused you to have that or;*
3. *What is the most difficult and challenging thing you faced regarding movement within the school? Or;*
4. *How do other people feel about your impairment?*

The barriers are expected to be physical and therefore can be seen through observation, or attitudinal, which cannot be seen. Therefore, the next question to follow is:

*How it may affect performance (on equal merit as guaranteed by the law),*

Followed by:

*What need to be done to correct or modify the situation?*

Meanwhile, before each interview process commenced participants were invited to review and sign a consent form attached in the Appendix A.

On completion of the interview audio-recorded interviews were transcribed verbatim.

Q1. Name ……………………….

Q2. Campus (1) BUK (2) SRCOE

Q2. Age (in years) ………. years old.

Q3.  Gender……. (1) Male (2) Female

Q4. Marital status (1) Single, (2) Married, (3) Widow, (4) Divorced

Q5. Level of education (1) Beginning year, (2) Second year, (3) Third year and (4) Final year or (5) Employee/staff

Q6. Year of enrolment/employment

Q7. Place of residence: (1) Less than 1 km (2) 1 to 10 KM (3) 11 to 20 KM (4) 21 to 30 KM (5) More than 31 KM away

Q8. Caregiver: (1) Couple (2) Child/Parents (3) Employee (4) Relatives (5) Others

Q9. Income (1) enough and save, (2) Just enough, (3) Not enough

Q10. Tuition/Academic charges (1) Self-support, (2) Family/ Relatives, (3) Government Support, (4) Social work Support, (5) Life insurance (6) Free

Q11. Religion (1) Islam, (2) Christianity (3) Others

Q12. Impairment type (1) Hearing, (2) Visual, (3) Walking (4) Others

| CRITICAL AREA | OBSERVATION | REMARKS |
|---|---|---|
| **ENTRANCE** | | |
| Before main entrance<br><br>• **Are there steps?**<br>• **Do the steps have railing?**<br>• **Is there a ramp?**<br>• **Does the ramp have railing?**<br>• **Does the ramp have an edge protection?** | • Yes/ No if yes how many?<br>• Yes/ No if yes one/both sides?<br>• Yes/ No<br>• Yes/ No if yes one/both sides?<br>• Yes/ No if yes, height of edge protection? | |
| Main entrance<br><br>• **Is the entrance width equal to or greater than 900mm?**<br>• **Type of door?**<br>• **Type of door handle (if applicable)?**<br>• **Is the height of the door handle between 900-1100mm?**<br>• **Is there Kerb at the entrance?**<br>• **Is there a Kerb ramp**<br>• **Is the international symbol of access displayed?** | • Yes/ No width: ------------<br>• Automatic/ swing/ Sliding*<br>• Lever/knob*<br>• Yes/ No<br>• Yes/ No if yes one/both sides?<br>• Yes/ No* if yes, height of edge protection?<br>• Yes/ No height*:------------ | |
| Side entrance<br><br>• **Location (if there is more than one location please specify all)** | vii.<br><br>• Yes/ No* if yes, location at:------<br>-------------------------------------- | |
| Side entrance<br><br>• **Is the width of the entrance greater than or equal to 900 mm?**<br>• **Type of door**<br>• **Type of door handle (if applicable)?**<br>• **Is the height of the door handle between 900-1100mm?**<br>• **Is there Kerb at the entrance?**<br>• **Is there a Kerb ramp**<br>• **Is the international symbol of access displayed?** | viii.<br><br>• Yes/ No width: ------------<br>• Automatic/ swing/ Sliding*<br>• Lever/knob*<br>• Yes/ No<br>• Yes/ No height<br>• Yes/ No* height of kerb<br>• Yes/ No gradient*:----------<br>• Yes/ No* if no give details<br><br><br>ix. | |

# UNIVERSITY OF MALAYA

## INCLUSIVE UNIVERSITY POLICY

### 1.0 INTRODUCTION

In Malaysia, the number of persons with disabilities (PWDs) who are admitted to institutions of higher education has been increasing with every passing year. As the premier public institute of higher learning in the country, University of Malaya (UM) recognizes the rights and needs of the disabled to pursue their studies to the highest level. The university, from the top management level to the support staff, are committed to provide the disabled with equal opportunities in education as is available for non-disabled persons. Thus, UM has attempted to provide an environment that is capable of supporting disabled students in order for them to move freely and independently both socially and emotionally, and in the physical environment. It is hoped that these efforts will enable disabled students to experience life in the best way possible throughout their sojourn on campus.

The provisions made to meet the needs of the disabled which include facilities, equipment, and services are no longer a choice or charity-based action. It is a right of the disabled which must be fulfilled and maintained, as has been enjoyed by non-disabled students. These efforts are not works of charity or a corporate social responsibility (CSR)) merely carried out when an institution has a surplus of funds or spare workforce. This is in line with the Disabilities Act 2008 and the United Nation Convention on the Rights of Persons with Disabilities (UNCRPD) which require all institutions of education in the country to provide equal opportunity to the disabled and to make it fully accessible to them.

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In line with Malaysia's development and UM's intention to become a PWD Inclusive University, and in tandem with the stipulations of the Persons with Disabilities Act 2008 and the UNCRPD, UM has formulated a special policy pertaining to disabled students. The Inclusive University Policy is expected to ensure the rights and needs of disabled students and to strengthen the level of education in the country, in addition to promoting the university's reputation in the global arena.

## 2.0 OBJECTIVES OF THE POLICY

This policy aims to:

i.     Fulfill and protect the rights of disabled students so that they can gain full access to the system of learning and life on campus.

ii.    Empower disabled students with the ability to compete holistically.

iii.   Coordinate the management of disabled students at all levels of administration in the university.

iv.    Raise awareness about the rights of the disabled amongst the entire campus community.

## 3.0 REFERENCE OF TERMS

i.     The term **'PWD student or disabled student'** refers to all students enrolled at every level of study in University of Malaya who have a deficiency or disability which may be physical, sensorial, mental or cognitive. A 'disabled student' is one who has been certified as a PWD and possesses a registration card issued by the Social Welfare Department. This term also applies to international students who have been certified as a disabled person by a medical officer.

ii.    Inclusive University Development Committee, or its abbreviation **JPINK**, is a committee of the highest level in the organizational structure of the administration and management of disabled student affairs in UM. JPINK was set up to replace the Advisory Committee for PWD Student Welfare in University Malaya.

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iii. **The PWD Student Management Unit** or **UPSOKU** is a unit within the organizational structure of the administration and management of disabled student affairs in UM. This unit organizes and carries out the all of the plans laid out by UM, as well as serves as a reference point in matters relating to disabled students in this university.

iv. **The Disability Liaison Officer (DLO)** is a staff of UM who will be selected by each responsibility centre (RC) and will receive a letter of appointment from JPINK.

v. The use of other terms such as **disability, accessibility,** and **reasonable accommodation** carries the same meaning as defined in the Persons with Disabilities Act, 2008 (Act 685).

## 4.0 INCLUSIVE UNIVERSITY DEVELOPMENT COMMITTEE (JPINK)

Inclusive University Development Committee or JPINK is a high-level committee which handles all matters related to disabled students and the development of UM as an inclusive university.

The members of JPINK must consist of:

i. The Vice-Chancellor of University Malaya as the Chairperson of JPINK

ii. Deputy Vice-Chancellor for Student Affairs and Alumni UM as the Deputy Chairperson of JPINK.

iii. Deputy Vice-Chancellor of Academic and International

iv. Deputy Vice-Chancellor of Research & Innovation

v. Deputy Vice-Chancellor of Development

vi. Head of Counselling, Career & OKU UM

vii. Head of UPSOKU as the Secretary of JPINK

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viii. The President of the Association of Special-Needs Students of University Malaya (PERMIUM) as the permanent representative of disabled students at the undergraduate level in UM.

ix. A permanent representative of disabled students at the postgraduate level who will be appointed by the Vice-Chancellor.

For the purpose of paragraph ix above, the term of appointment is as stated in the letter of appointment.

JPINK can from time to time invite any individual or representative of other institutions to provide input or as an advisor for a particular issue. These individuals or representatives will not have the power to vote at JPINK meetings.

In the absence of the Vice-Chancellor, the Deputy Vice-Chancellor for Student Affairs and Alumni UM will preside over the JPINK meeting as deputy chairperson.

JPINK's main functions include:

x. Holding at least one (1) meeting every three (3) months as the need arises to discuss matters arising and to get feedback as well as an update on issues that have been discussed in the previous meeting.

xi. Planning and approving any development projects/programmes and applications pertaining to disabled students.

## 5.0 MANAGEMENT UNIT FOR DISABLED STUDENTS (UPSOKU)

The Management Unit for Disabled Students or UPSOKU functions under the Section for Counselling, Career & PWD UM and is directly responsible to JPINK. UPSOKU's functions are as follows:

i. Collect and process information on disabled students.

ii. Serve as the main place of reference for any type of issue related to disabled students, particularly when it involves academic matters and provision of facilities.

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iii. Serve as the intermediary in development and research programmes involving disabled students.

iv. Train and coordinate the functions of the Disability Liaison Officer (DLO) appointed by each responsibility centre (RC).

v. Develop and implement programmes for the enablement, development, and empowerment of disabled students in UM.

vi. Process all requests and complaints from disabled students.

A special officer (not necessarily a disabled person) who is trained, that is, one who has the knowledge and experience in dealing with matters relating to PWDs should be appointed as the Head of UPSOKU. Recruitment of additional staff can be done based on the requirements and provisions for assisting the Head of UPSOKU in executing the functions of this unit.

## 6.0 DISABILITY LIAISON OFFICER (DLO)

The Disability Liaison Officer (DLO) is a UM staff selected by each responsibility centre (RC) and who has received a letter of appointment from   JPINK.

The roles and duties of the DLO are as follows:

i. Serve a source of reference to staff and students on disabled students in their respective RCs.

ii. Act as a liaison between RCs and UPSOKU and vice versa in the sharing of information regarding disabled students.

iii. Help disabled students to enroll in their respective RCs.

iv. Recommend the best methods and approaches for reasonable adjustments to be made based on the scope and affordability of each RC.

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v. Manage facilities and support services for disabled students in their respective RC.

Duration of an individual holding the position of a DLO is determined by the CR. JPINK will send a letter of renewal of appointment once (I) every year.

## 7.0 ACCOUNTABILITY FOR THE INCLUSIVE POLICY AND DISABLED STUDENT ISSUES

The accountability for the Inclusive University Policy and issues relating to disabled students in UM are as follows:

i. UM via all the RCs under it should always be **ready** to meet all the objectives and matters stated in this policy as well as what has been decided upon by JPINK.

ii. All RCs which are directly or indirectly involved in the system of teaching and learning in UM have a **shared responsibility** to fulfill the rights and needs of disabled students as well as to provide support services to them as stipulated in this policy.

iii. All RCs must **work together** to meet all the objectives and matters stated in this policy in accordance with the functions entrusted to them.

iv. All students and staff have a **shared responsibility** to ensure that UM becomes a university that is inclusive. All students and staff must also use appropriate methods and channels to raise issues related to disabled students or an inclusive university environment.

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## 8.0 STEPS FOR IMPLEMENTATION OF THE INCLUSIVE POLICY FOR DISABLED STUDENTS

Implementation of the Inclusive University Policy for a PWD who wants to be a student of UM begins from the admission of the disabled student until the completion of the student's study. The implementation comprises the following steps:

### 8.1 Registration of the Disabled Student with UPSOKU

All disabled students must be registered with UPSOKU in order for their rights and needs to be effectively attended to and supervised. If required, disabled students must submit a medical report, an assessment of the type and degree of the handicap, and the level of disability they face so that their needs can be addressed by the parties involved.

### 8.2 Adjustments of Disabled Students on Campus

UPSOKU is responsible for coordinating a support system which includes services and equipment and for organising activities to help disabled students to adjust to the life on campus.

### 8.3 Provision of Facilities for Disabled Students

All disabled students in UM are entitled to obtain facilities that are suitable for them to live comfortably on campus on par with other students. The provision of facilities for disabled students need to be disability-oriented and related to disability issues faced by them. Parties involved in providing the facilities must make reasonable adjustments to meet the needs of a disabled student.

## 8.4 Teaching and Learning Process of Disabled Students

All academic staff need to provide assistance and support as maximally as possible to disabled students during teaching and learning sessions so that they can fully participate in them. This includes the provision of alternative materials that can be accessed (e.g. a soft copy format for blind students), permission to record lectures / tutorials (for blind students), the choice of a lecture room or hall that can be accessed (for wheel-chair bound students) etc. The responsibility centre can consult UPSOKU and the students involved to obtain information and their opinions in relation to the provision of such support systems.

## 8.5 Requirements During Examination

The academic division and the responsibility centre where the disabled students are registered for their academic programme should provide them with the necessary equipment and services so that they can sit for their examinations in a conducive environment. The format and contents of the exam paper, including diagrams, citations, tables etc should be provided in a form that is accessible to disabled students based on their needs and requests. Disabled students are entitled to extra time based on the examination procedures and, conditions and terms set by UM.

## 8.6 Assessment Methods

The lecturers need to put in place suitable evaluation methods according to a disabled student's level of disability (for e.g. learning solutions require questions in graphic form and not in the form of words)

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### 8.7 Plan for Development

University of Malaya will put forth its efforts in infrastructure development on campus based on the concept of a universal design as stated in the PWD Act of 2008. All buildings and new facilities that are to be built must comply with the MS1184, MS1331 and MS2015 standards. The existing buildings will be upgraded in stages to comply with the same standards.

### 8.8 Development and Organization of Activities for Disabled Students

UPSOKU should monitor the holistic progress of all disabled students that is in terms of the academic, social and emotional aspect, and soft skills. UPSOKU can consider any approach and method that works best to achieve this goal. All the planning and implementation of activities on campus also must be universal in terms of content and presentation. The activities must be held in locations which are accessible and which provide an appropriate support system. Special activities for disabled students must be recommended by UPSOKU in order that the activities are relevant to the target group and the programme objectives are achieved.

### 8.9 Technology and Tools

Any tools and technology needed for the use and convenience of disabled students can requested by the students themselves or by the responsibility centre concerned. The procurement and setting-up of the technology and tools must be done via UPSOKU and JPINK. The status of the ownership of the tools requested by the disabled students is subject to JPINK's decision, while the tools and technology that the responsibility centre has applied for is the property of UM. The benefits of using the tools and technology in any responsibility centre should be enjoyed by all disabled students.

### 8.10 Award and Certification

Disabled students must not be denied the right to receive an award or certification awarded by the University on the reason of their disability.

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## 9.0 SAFETY OF DISABLED STUDENTS

Disabled students are responsible for their own safety. At the same time, the responsibility centre should ensure that its environment is safe. It should also formulate and provide a plan for a safety route or passage and Standard Operating Procedures (Standard Operation Procedure (SOP)) in the case of situations of risk, such as fires, accidents, and natural disasters.

## 10.0 PUBLIC SPEECHES AND MEDIA ANNOUNCEMENTS

All messages conveyed through any form of public speaking and media announcements should not contain elements of discrimination against or segregation of disabled students, whether overtly or covertly, that can disrupt the establishment of an inclusive environment and the image of the university. In addition, all messages for the benefit of the campus community should also be made accessible to disabled students in a variety of formats and at the same time that the messages are made accessible to non-disabled students.

## 11.0 STUDY ON DISABLED STUDENTS

Researchers who want to conduct research on disabled students or involve them (as respondent or samples for research) should first consult UPSOKU. Researchers must comply with all research ethics in addition to using methods and approaches suggested during the consultation with UPSOKU. Each researcher must also provide a copy of their findings to UPSOKU so that the information will benefit both parties.

## 12.0 AMENDMENTS AND ADDITIONS TO THE POLICY

Amendments to any matter within the policy and /or addition of a matter to the policy can only be made after approval by the members of JPINK. All amendments and / or additions to the policy should be communicated to all parties in UM, whether through the print or electronic medium.

**Appendix G:** Selection of Case Study Locations in Kano, Nigeria
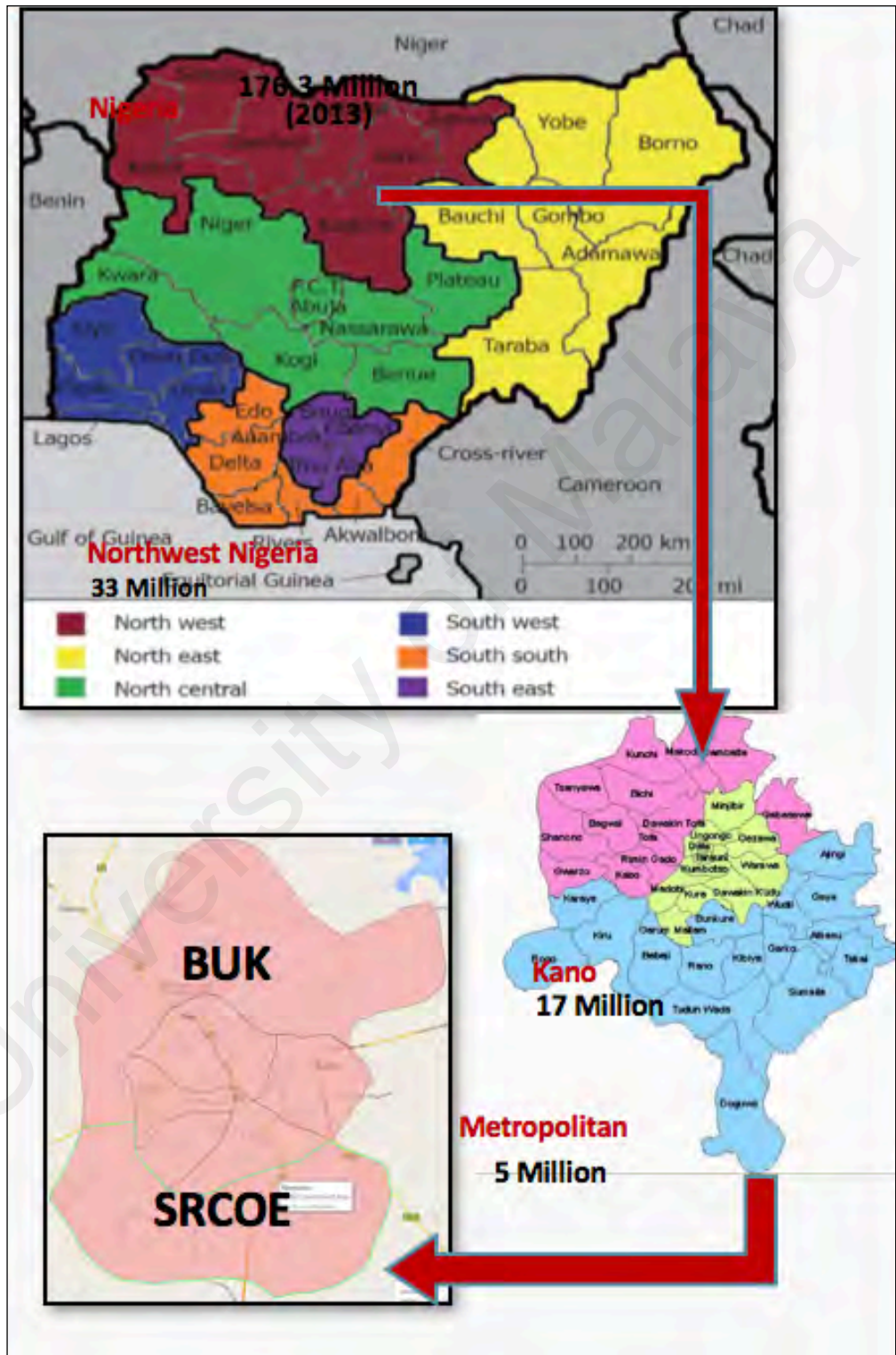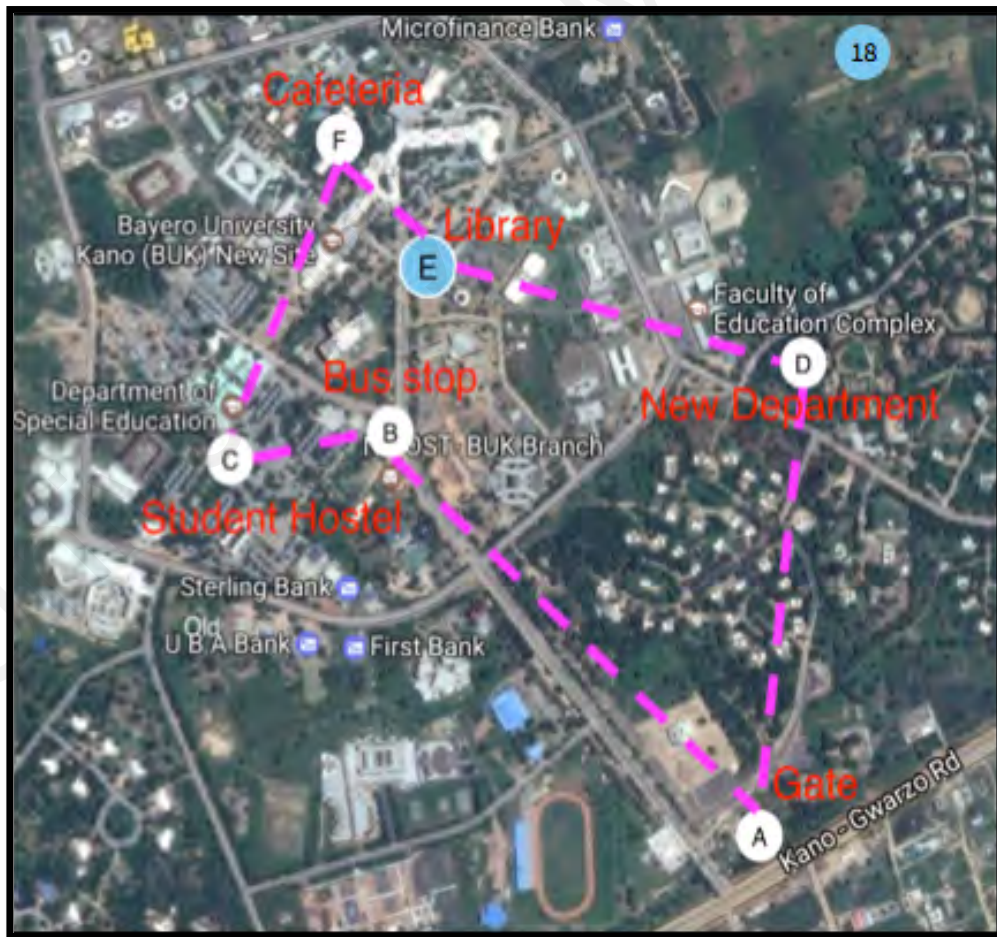
**Appendix I:** Coding Stages following Interpretative Phenomenological Approach

| Open | Axial Coding | Selective Coding | Themes |
|---|---|---|---|
| I am afraid People can be good, but they rarely choose that option. It is really annoying that issues concerning human life are given a secondary priority, what can you do if no one is ready to take care of you? What else can I do if I am not helped and people don't want you? What do you expect a disabled person to do if he is not being helped? I believe there is nothing we can do. The drivers don't want to take us; they said… we waste time. The environment keeps changing, as we need to be informed of such changes. We do not have signs in Braille. A clear pathway is all I need and without obstacles placed in my way. We are not always informed. Yes, some attitude worries me so much that I felt unhappyy. I am afraid I wouldn't be here because I realized most of my colleagues stopped at secondary school level. It is so stressful and it worries me when you know the setting so much… all of a sudden you come by and realized it has been changed completely. I have to wake up very early to get a transport because of congestion; otherwise, I will be late for my lectures. The department organizes an orientation guide to all the students a sort of workshop and it helps a lot, now I can walk anywhere within the faculty without a guide. | Fear of failure and rejection | Psychological Barriers | Barriers to inclusive mobility |
| | Opinion and belief | | |
| | Inadequate support & limited options | Attitudinal Barriers | |
| | Stigma & bad experience | | |
| | Design of products and environment | Physical barriers | |
| | Planning & geographical factors | | |
| | Lack of information & communication | Logistical Barriers | |
| | Lack of policy/ implementation | | |
| | Losing confidence | loss of confidence | Impact of the Barriers |
| | Demotivation | Demotivation | |
| | Stress | Physical stress | |
| | Time constraint | Time constrain | |
| | Academics expenses | Financial burden | |
| | Transportation cost | | |
| | Accommodation cost | | |
| | Self-motivation & Resiliency | Copping Strategy | Overcoming the Barriers |
| | Time Management | | |
| | Role of DPOs | Improving awareness and support | |
| | Role of the Media | | |
| | Inclusive Design | Barrier removal | |
| | Inclusive Planning | | |
| | Access policy | Policy improvement & Implementation | |
| | Disability Policy | | |
| | Institutional Policy | | |
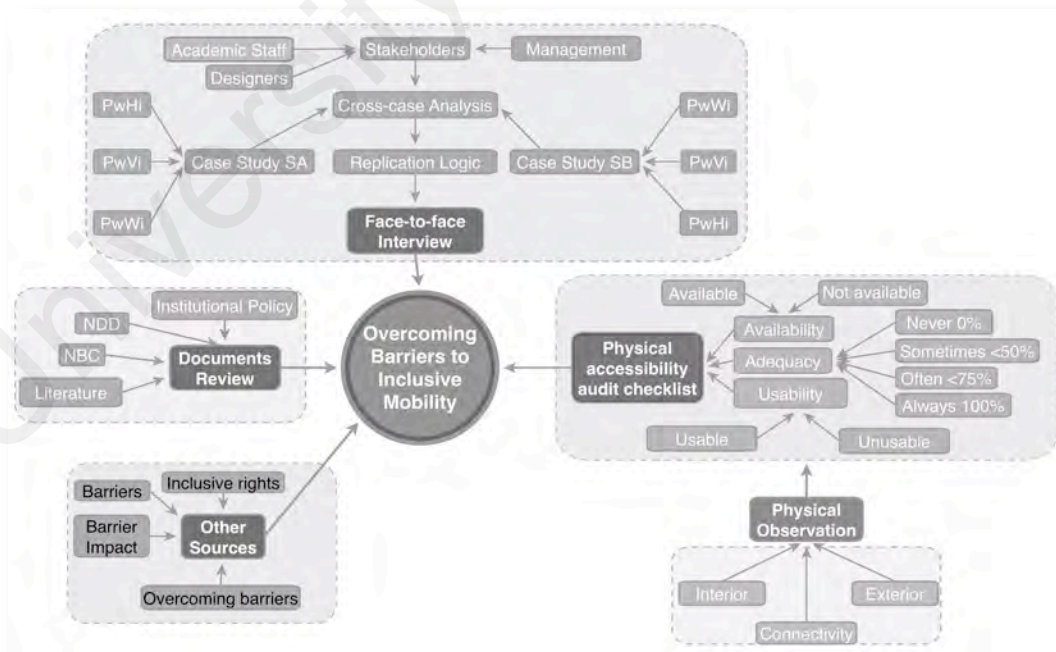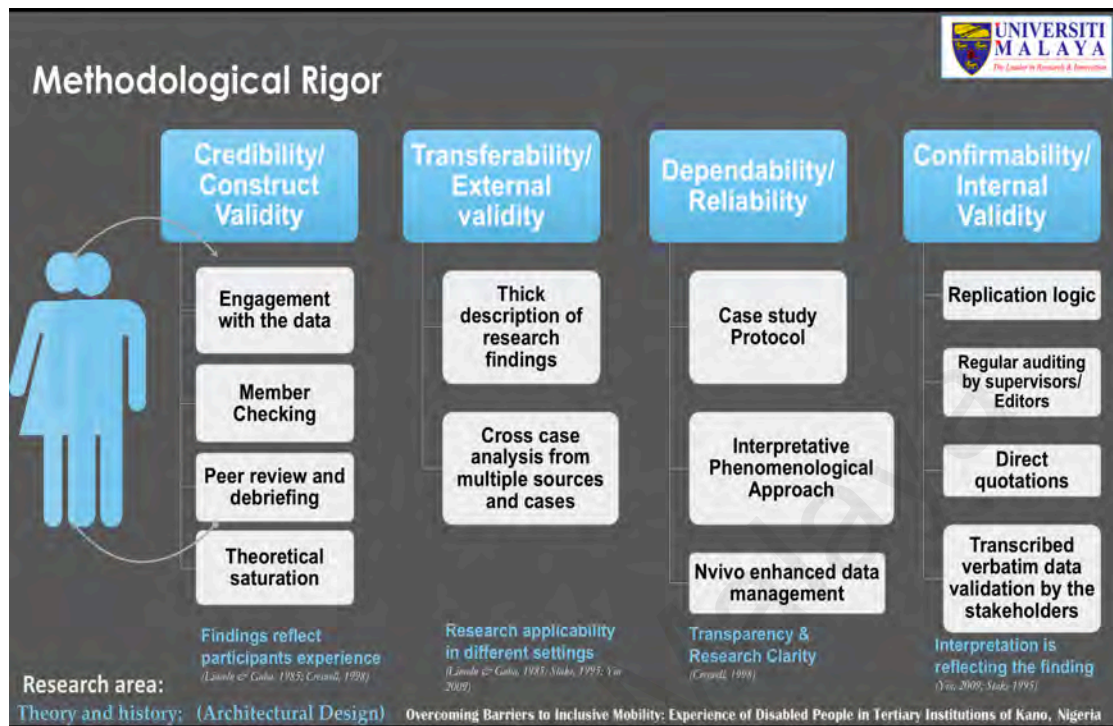
**Appendix L:** Sample Segment of Coded Transcript (Documents)
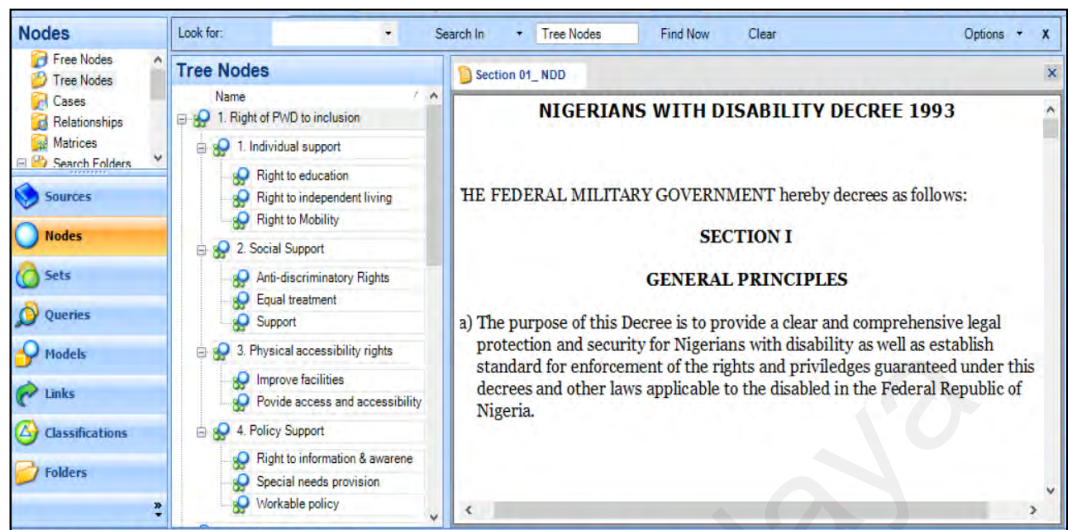


Sample Segment of Coded Interview Transcript (Barrier Section)
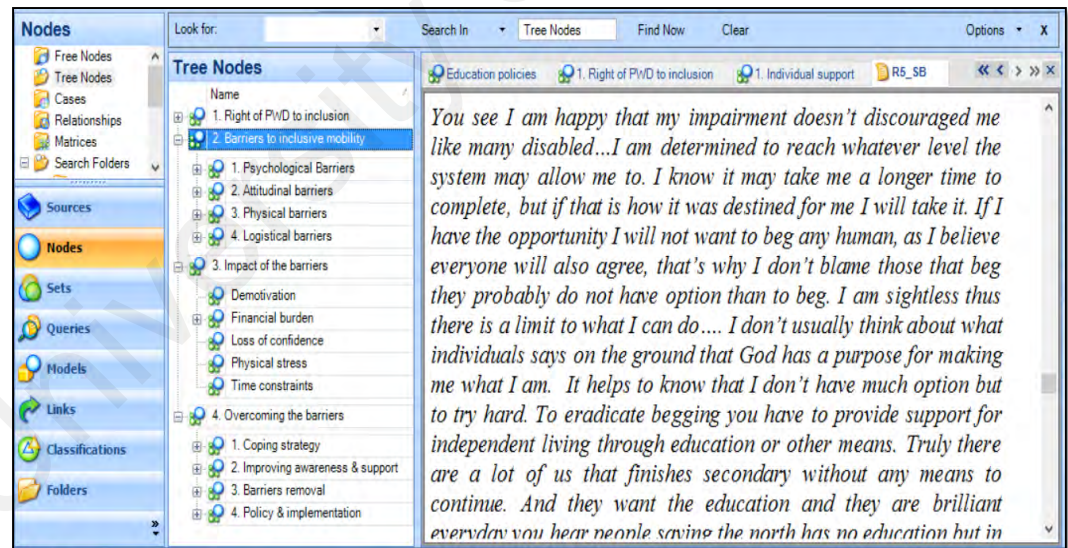
**Appendix L:** Sample Segment of Coded Interview Transcript

(Barrier Impact and overcoming Barrier Section)



Sample Segment of Coded Interview Transcript (Overcoming the Barrier Section)

**Appendix M:** Evidence suggesting the cost of hearing aids B
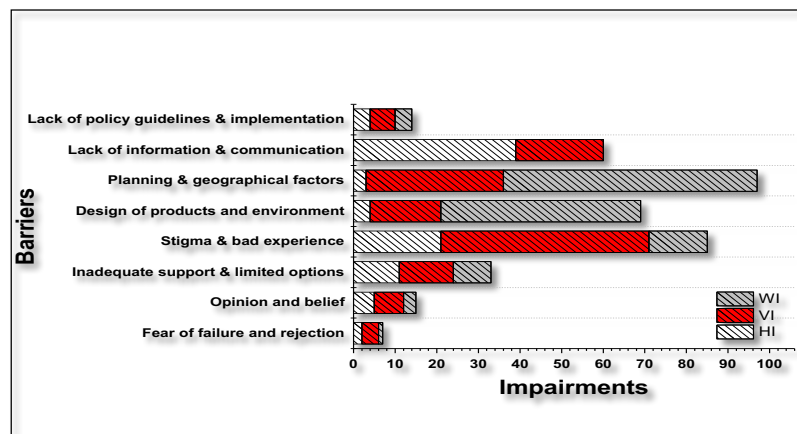
Barrier Across Level of Education in SRCOE
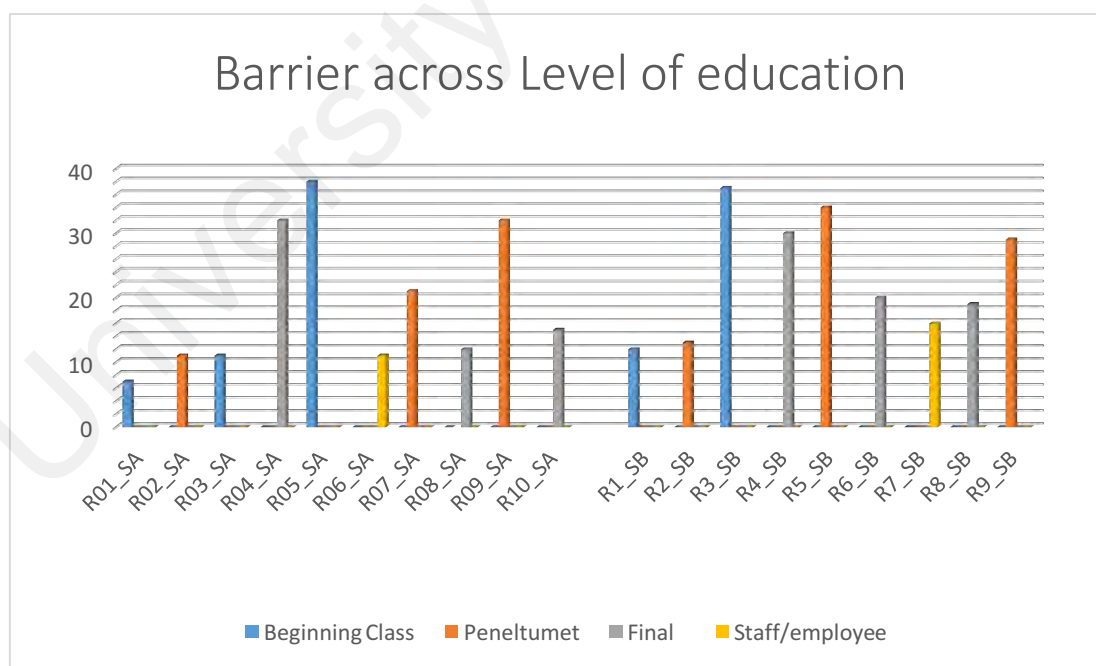
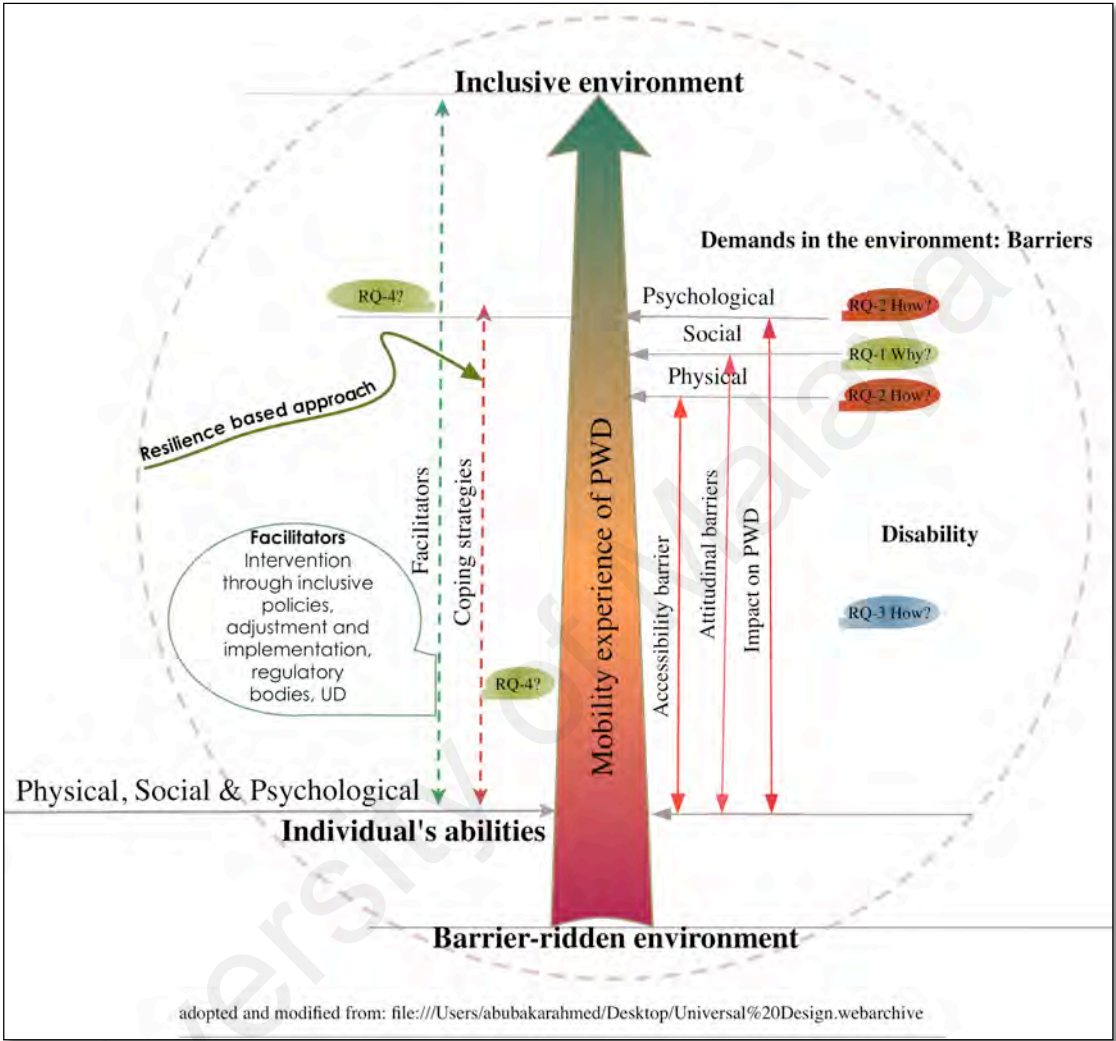**Appendix O:** Barrier by Age and Across Campuses in BUK and SRCOE
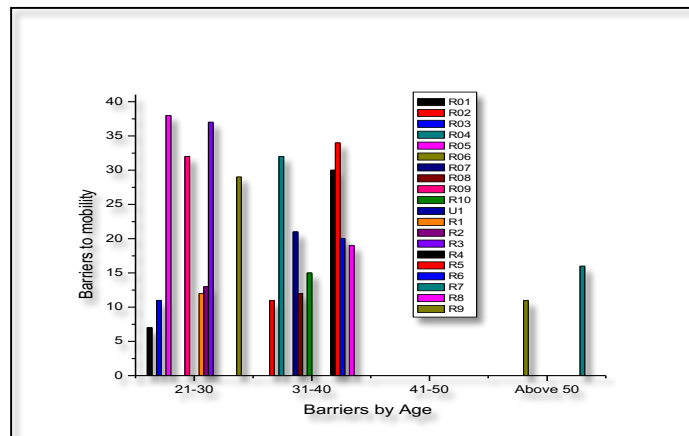


Barrier by Number of References and Impairments in BUK and SRCOE
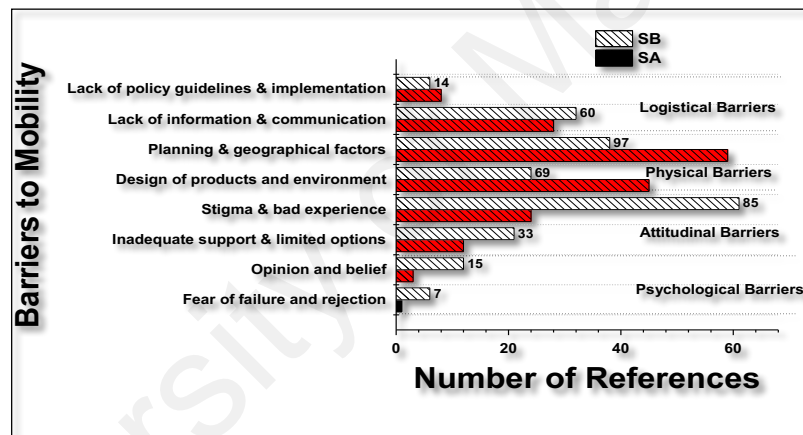


Barrier by Impairment in BUK and SRCOE

**Appendix P:** Alternative Model for Overcoming Barriers Based on the Social Model of Disability



adopted and modified from: file:///Users/abubakarahmed/Desktop/Universal%20Design.webarchive

**Appendix Q:** Appendix Q: Selected List of Publications and Conferences

1. Ahmed, A., Mastura, A. D. A. M., Ghafar, N. A., Muhammad, M., & Ebrahim, N. A. (2016). Impact of Article Page Count and Number of Authors on Citations in Disability Related Fields: A Systematic Review Article. Iranian Journal of Public Health, 45(9), 1118.

2. Adam, M., & Ahmed, A. (2016). Incorporating Walking in Travel to Work: The Meaning of Commuting for Kuala Lumpur Community. Planning Malaysia Journal, 14(5).

3. Ahmed A.[1], Mastura Adam[2], Norafida A.Ghafar[3]. (2016). Response of Universal Design to the Mobility Experience of Disabled People in Tertiary Institutions of North West Nigeria. Journal of Universal Design in the Built Environment. 2(2), 73-82. KAED, (IIUM)

4. Ahmed, A., Mastura Adam, and Norafida A.G. (2017). A Social-ecological Perspective on National Building Codes and the Missing Requirements for Disabled Persons in Nigeria. Habitat International

5. Ahmed, A., Awad, M., Al-Cheikh, Z., & Adam, M. (2014). Disabling Campuses: The Development and Outcomes of Nigerian Disability Policies. OIDA International Journal of Sustainable Development, 7(10), 73-84.

6. Ahmed A.[1], Mastura Adam[2], Norafida A.Ghafar[3]. (2016). Infrastructure accessibility in Nigerian campuses: evidence for policy and practice. University Sains Malaysia. Publication date: 2016/8/20. P. 165-172.

7. Ahmed, A., A. A, Z., & Mastura Adam (2014). Disabling Campuses: The Development and Outcomes of Nigerian Disability Policies. A paper presented at International conference on Sustainable Development (OIDA 2014), held at Protea Hotel Water Front Richard Bay, South Africa OIDA International Journal of Sustainable Development.

8. Ahmed A.[1], Mastura Adam[2], Norafida A.G[3]. A paper presented at the 9th ASEAN Postgraduate Seminar (2015). Integrating Universal design approach into Nigerian Inclusive Policies: Progress and Potentials. Faculty of Built Environment, University of Malaya 50603 Kuala Lumpur, Malaysia 2015.

9. Ahmed A., Mastura Adam, and Norafida A. G. (2015). A paper presented at the 2015 Regional Architectural Research Colloquium (RARC). Interpretative Study of the Mobility Experience of Persons with Disabilities in Tertiary Institutions of North west Nigeria. Faculty of Built Environment, University of Malaya 50603 Kuala Lumpur, Malaysia, 2015.

10. Ahmed A., Mastura Adam, and Norafida A. G. "Ability in Disability": Resilience Based approach to Disabling Campus Built Environment (2015). Resilient Tropical Built Environment. p.41. University of Malaya- Council of Heads of Architecture Schools (UM-COHAS) International Conference 2015.

11. Ahmed A.[1], Mastura Adam[2], Norafida A.G[3]. (2015). Architecture vs. Architectural Disabilities: Between Practice and Experience for Disability- Friendly Campus Built Environment: (ICDSSI2015) University Sains Malaysia, (19-20 August, 2015) Infrastructure accessibility in Nigerian campuses: evidence for policy and practice. University Sains Malaysia. Publication date: 2016/8/20. P. 165-172. (non ISI/ non Scopus-University based) Published.

12. Ahmed A., Mastura A. (2014). Best paper Awards: Removing Mobility Restriction in Nigerian Campuses: Lesson from Malaysian Built Environment. 8th ASEAN Postgraduate Seminar (2014) Faculty of Built Environment, University of Malaya 50603 Kuala Lumpur, Malaysia.

**Review Article**

# Impact of Article Page Count and Number of Authors on Citations in Disability Related Fields: A Systematic Review Article

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**Abstract**

**Background:** Citation metrics and total publications in a field has become the gold standard for rating researchers and viability of a field. Hence, stimulating demand for citation has led to a search for useful strategies to improve performance metric index. Meanwhile, title, abstract and morphologic qualities of the articles attract researchers to scientific publications. Yet, there is relatively little understanding of the citation trend in disability related fields. We aimed to provide an insight into the factors associated with citation increase in this field. Additionally, we tried to know at what page number an article might appear attractive to disability researchers needs. Thus, our focus is placed on the article page count and the number of authors contributing to the fields per article.

**Methods:** To this end, we evaluated the quantitative characteristics of top cited articles in the fields with a total citation ($\geq$50) in the Web of Science (WoS) database. Using one-way independent ANOVA, data extracted spanning a period of 1980-2015 were analyzed, while the non-parametric data analysis uses Kruskal-Walis test.

**Results:** Articles with 11 to 20 pages attract more citations followed by those within the range of zero to 10. Articles with upward 21 pages are the least cited. Surprisingly, articles with more than two authors are significantly ($P<0.05$) less cited and the citation decreases as the number of authors increased.

**Conclusion:** Collaborative studies enjoy wider utilization and more citation, yet discounted merit of additional pages and limited collaborative research in disability field is revealed in this study.

**Keywords:** Article page count, Bibliometric, Citation counts, Disability, Number of authors

## Introduction

# Appendix Q: Selected List of Publications

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## INCORPORATING WALKING IN TRAVEL TO WORK: THE MEANING OF COMMUTING FOR KUALA LUMPUR COMMUNITY

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**Abstract**
Progressive increase in the influx of privately owned vehicles and a decrease in the modal share of public transport over the years become a city-based phenomenon. Over-dependence on cars encouraged a sedentary lifestyle, an obesity epidemic, social exclusion and increased carbon footprint. Deficiencies in urban planning have created a spatial separation between employment centres and residential areas. The research focused on investigating how people construct the meaning attributed to commuting mode of travel to work. Using multiple embedded case study research approach, this research focuses on 19 semi-structured interviews with employees from two neighbouring but contrasting case study areas of Kuala Lumpur. Synthesis of the employees' experiences on their travel behaviour exposed replication logic on the way they perceived walking as part of the transportation mode of travelling to work. The implicit understanding of the walking to work includes; definition of walking to work by the communities, specific walking stages and its' characteristic during am-pm rush hours, the travel pattern and modes of transportation from the origin point (home) to the office, and the understanding of walking benefits to their economy, environment, health and social. These results provide possibility of understanding the needs of people and to promote walking to work as part of transportation mode for commuting in order to overcome the current urban challenges.

**Keyword**: Travel to work, walking experience, pedestrian environment, resilience, transformation, sustainable transportation

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## RESPONSE OF UNIVERSAL DESIGN TO THE MOBILITY EXPERIENCE OF DISABLED PEOPLE IN TERTIARY INSTITUTIONS OF NORTH-WEST, NIGERIA

Ahmed Abubakar[1], Mastura Adam[2], and Norafida A. Ghafar[2]

**ABSTRACT**
The challenge is to provide information where the policy framework is deficient with which architects could utilize to go beyond the minimum standards. The study takes a resilience approach using the principles of Universal Design (UD) to practically respond to the mobility struggles of people with disabilities (PWD) in North West (NW), Nigeria. Data are generated from in-depth interviews with 19-students and staff with hearing, walking and visual impairment. The interpretative approach to the mobility experience of PWD from two selected tertiary institutions in NW Nigeria is meant to reveal disabling experiences that need to be overcome. Synthesis of universal design principles is made to practically respond to the mobility struggle of PWD using content analysis. Findings indicated that physical, attitudinal and logistical barriers could be overcome with a bottom up approach to Universal Design (UD). PWD dreams of inclusive education environment can be realized architecturally through the application of the 7-Principles of UD. Thus, the study is expected to increase awareness among designers of public built environment of higher learning for the inclusion of PWD in tertiary institutions in Nigeria and elsewhere.

# Appendix Q: Selected List of Publications

## INFRASTRUCTURE ACCESSIBILITY IN NIGERIAN CAMPUSES: EVIDENCE FOR POLICY AND PRACTICE

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**ABSTRACT:** Mobility barriers in Nigerian campuses are unmistakable and continued to affect the accessibility experience of persons with disabilities (PWD). Yet, an examination of disabling barriers for inclusive mobility of (PWD) has been largely absent. Previous studies of disablement processes have been infused with diverse socio-spatial overtones and undertones, but focused on medical rehabilitation rather than environmental modifications. This study sought to identify and examine the adequacy and usability of accessibility infrastructure in tertiary institutions offering special education in North West Nigeria, with a view to making recommendations to reduce if not overcome the identified problems at the policy and implementation levels. Participatory physical accessibility auditing conducted revealed a number of disabling barriers to PWD inclusive mobility. Findings highlight areas of concentrated disadvantages to include lack of adequate, accessible and usable infrastructure as guaranteed by the laws. Suggestions were drawn from the best practices for improving access and accessibility. Thus, the recommendations made have the potential of mitigating problems associated with inequality and disability in developing countries and widening participation in the global drive to achieve "*education for all*".
*Keywords*: accessibility, infrastructure, disability, inclusive mobility, widening participation

### INTRODUCTION

In an effort to make education accessible to all, there is a rising concern that disability is ignored in the United Nations Millennium Development Goal (Albert et al., 2005; Croft, 2010). Many disabled persons are excluded from the mainstream educational opportunities, or segregated even in the 21st century (Garuba, 2003). This trend is required to be reversed (Shakespeare & Officer, 2011; UN CRPD, 2006; UN Enable, 2011). Persons with disabilities (PWD) are facing multiple disadvantages, particularly with regards to mobility as a result of architectural neglect (Goldsmith, 2000; Imrie, 1997, 2000; Waller, Bradley, Hosking, & Clarkson, 2015). In a word, public buildings are so often conceived without the provisions for disabled people in the building (Imrie, 2003). When public buildings are conceived without PWD accessibility requirements, mobility restriction results and modification cost arises, but not otherwise (Holmes-Siedle, 1996). Architectural disability in architectural scholastic term is the lack of access to the built environment as orchestrated by the designers (Goldsmith, 2000) and is tantamount to access restriction and exclusion in higher educational settings (Barnes, 2007).

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## DISABLING CAMPUSES: THE DEVELOPMENT AND OUTCOMES OF NIGERIAN DISABILITY POLICIES

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**Abstract :** The focus of this paper/study is to assess the accessibility of learning infrastructures and facilities of public educational institutions to students (living) with disabilities (SWD) in Nigeria. The objectives include examining the relevant policies on inclusive education system or program, identification of relevant buildings and infrastructures, determining the accessibility provisions in the buildings and the built environment and comparison of accessibility characteristics against the conventional standard. The study made on the basis of a case study approach and survey access audit checklist covers walking, visual and hearing impaired. The study found that accessibility to buildings and infrastructure in Nigerian Universities is poor and is worsening. Only the health buildings/centres/infrastructures are provided with ramps, definitely not because of the disabled but because of hospital stretchers. In this era of social integration, efforts should be made by policy makers and building and urban designers to incorporate all inclusive accessibility modes into planning and design of educational institutions to accommodate both able and the disabled for national development.

**Keywords:** Accessibility; Assessment; Built-environment; Policies; SWD

### INTRODUCTION

Physical disability is not a self-willing for the victim. It comes in two broader ways; while some are born with physical disability, others are victims of disability by accident. The fact that any one today is able bodied does not mean he/she or our love ones cannot become disabled in one form or the other tomorrow. Behold the trauma of a friend, who had an accident and as a result became paralysed, or lost a part of the functional body, need not to be compounded by making it difficult to be productive and live an unfulfilled life. Or perhaps an innocent