

Relationship between nature and extent of social inclusion and academic performance of students with disabilities in six Kenyan Universities

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ABSTRACT

Globally, the academic performance of students with disabilities is affected by lack of social inclusion. Although Kenyan universities have made academic progress in social inclusion policies, the actual adoption and practice of social inclusion are still limited. The objective for the study was to assess the nature and extent of social inclusion of students with disability in six universities in Kenya. The study was anchored on Social Action Systems Theory. The study was conducted in six universities in Kenya, namely, University of Nairobi, Kenya University, Maseno University, Jomo Kenyatta University of Science and Technology, Catholic university of Eastern Africa and United States International University-Africa. The study targeted students with disability, Registrar Academic Affairs, Dean of Student Affairs, Deans of Schools, Director Disability Unit, disability student leaders and Students without disability. Six universities were selected purposively while students with disability were sampled by simple random method. Director disability unit, registrar academics affairs, dean student affairs and disability student leaders were sampled by census method. Deans of schools and students without disability were sample purposive method. For quantitative data, descriptive data and correlation analysis was adopted to analyze the results with the help of SPSS version 27. Qualitative data was analyzed thematically. The sample size for the study was 220 respondents. The findings indicated that 60% of students with disability were satisfied with the library, 60% reported never or rarely accessing assistive devices and 43.8% were dissatisfied with co-curricular activities. The paper underscores the need for social inclusion efforts in higher learning institutions by advocating for holistic student engagement in universities. The study concluded that there are significant gaps in infrastructure and assistive technology in universities in Kenya which limit participation of students with disabilities thus hindering their academic performance. The study recommends enhancing accessibility across physical, academic and digital environments. University policies should mandate accessibility standards in infrastructure development, learning resources and service delivery.

Keywords: Equity and Access in Universities, Kenya, Social Inclusion

I. INTRODUCTION

Social inclusion has become a major concern in higher education because of its relationship with equality, social justice and educational achievement. Globally, frameworks such as the United Nations Convention on the Rights of Persons with Disabilities (United Nations, 2006) and the Sustainable Development Goals (United Nations, 2015) emphasize equitable access to inclusive education. Social inclusion is not only about being admitted to the university, but also about access, involvement in academic and social activities, and positive relationships and access to institutional support. Students with disabilities (SWD) may be affected by these dimensions, and thus their learning experiences and academic performance (Global Education Monitoring Report Team, 2020; Moriña, 2017).

Research worldwide has identified challenges that students with disabilities face when attending higher education institutions, such as inaccessible study environments, poor AT provision, attitudes towards disability and lack of academic support (Sachs & Schreuer, 2011; Moriña, 2017). These barriers can include: difficulty attending lectures, difficulty accessing learning resources, difficulty with interaction with teachers and other students, and difficulty participating in the learning assessment process. However, inclusive institutional practices can offer students greater opportunities to engage in learning. The links between students' experiences of social inclusion and the way they achieve in school, however, need to be investigated in a particular institutional context.

Even in Africa, learners with disabilities are still facing challenges of inaccessible infrastructure, inadequate learning materials, limited institutional support and negative attitudes (Chataika et al., 2012; Tugli et al., 2013). These

difficulties could impact involvement in university activities and access to academic support services, which in turn could impact on the educational outcomes. However, looking at the nature of inclusion (experiences and institutional practices) and extent of inclusion (degree of participation and support) are important prerequisites to understanding students' inclusion.

The inclusive education in Kenya is supported by the legal and policy frame such as Persons with Disabilities Act (2003) and the Constitution of Kenya (2010). Nevertheless, it has been noted that there are enduring challenges that continue to impact students with disabilities in universities such as inaccessible facilities, lack of learning materials and lack of institutional support (Mwangi, 2013; Abuya & Githinji, 2021; Khakali, 2021).

While there is some empirical evidence, there is a need to further investigate the nature and extent of social inclusion and its relationship to the academic performance of students with disabilities in Kenyan universities, given the policy commitments and increased awareness of inclusive education. Thus, the purpose of the present study was to explore the link between nature of social inclusion and academic performance among students with disabilities in six Universities in Kenya.

1.1 Statement of the Problem

It is evident that Kenya has done well in advancing inclusive education through frameworks like the Constitution of Kenya (2010), the Persons with Disabilities Act (2003), the Basic Education Act (2013) and disability-inclusive education policies among others. In these frameworks, it is stipulated that the universities offer equal educational opportunities as well as ensure full participation of the students with disabilities (SWDs) in the university environment. Students with disabilities should ideally enjoy similar opportunities for taking part in academic activities, communicating with peers and lecturers, accessing academic services and participating in other social activities in the university.

However, research shows that students with disabilities face barriers that deny them the opportunity of enjoying university life. Barriers such as inaccessible infrastructure, lack of sufficient assistive technology, low participation in co-curricular activities, difficulties in interacting with peers, academic challenges and limitations in offering disability services by the institution have been reported (Odongo, 2018; Abuya & Githinji, 2021). The continued existence of these barriers raises concerns about whether the policy commitment to inclusive education has translated into meaningful social inclusion of students with disabilities within Kenyan universities.

Although previous studies have examined challenges relating to physical accessibility, availability of learning resources, institutional preparedness, and implementation of disability-related policies (Odongo, 2018; Khakali, 2021), these studies have largely focused on specific institutional constraints rather than examining social inclusion as a multidimensional experience. Social inclusion extends beyond physical access to encompass students' participation in academic activities, relationships and interactions with peers, engagement with lecturers, access to institutional support services and participation in co-curricular and social activities.

There is insufficient empirical evidence on the nature and extent of social inclusion of students with disabilities in Kenyan universities. The lack of empirical evidence on the nature and extent of social inclusion limits the ability of universities, policymakers, social workers and disability practitioners to identify the specific areas in which students with disabilities experience inclusion or exclusion. Therefore, there is a need for an empirical investigation into the nature and extent of social inclusion of students with disability in universities in Kenya.

1.2 Research Objective

To assess the relationship between the nature and extent of social inclusion and academic performance of students with disabilities in six Kenyan universities.

II. LITERATURE REVIEW

2.1 Theoretical Review

2.1.1 Social Action Systems Theory

This study was guided by Parsons' Social Action Systems Theory (1951), which explains society as a system of interrelated parts that work together to maintain order, stability and social integration. Parsons argued that social action does not occur in isolation but takes place within organized systems composed of individuals, institutions, norms and values that influence behavior. According to Parsons, society functions effectively when its various institutions perform their designated roles and work together to meet the needs of members of the social system. Parsons conceptualized society as comprising interconnected action systems, including the cultural system, social system, personality system and behavioral organism. These systems interact to regulate behavior and ensure social stability. Within the social system, institutions such as the family, education, religion and government perform important functions that contribute to societal integration and continuity. Universities, therefore, can be understood as social

systems whose policies, structures and practices influence the participation and success of students within the educational environment.

A central contribution of Parsons is the AGIL framework, which identifies four functional prerequisites that every social system must fulfil in order to survive and function effectively. These are, Adaptation (A), Goal Attainment (G), Integration (I), and Latency or Pattern Maintenance (L). Adaptation refers to the ability of institutions to mobilize and allocate resources to meet members' needs. In the context of this study, adaptation is reflected in the provision of accessible infrastructure, assistive technologies, disability support services and inclusive learning environments for students with disabilities. Goal attainment concerns the ability of institutions to achieve their objectives. Universities are expected to facilitate academic success, participation and graduation of all students, including students with disabilities. Integration refers to the coordination of relationships among members of the social system through policies, rules and shared values. Social inclusion initiatives, disability policies and support structures are mechanisms through which universities promote integration of students with disabilities into academic and social life. Pattern maintenance refers to the transmission of values, norms and beliefs that sustain the system over time. Universities contribute to pattern maintenance by promoting values of equality, diversity, respect and inclusion.

Parsons also introduced the concept of pattern variables, which explain how individuals and institutions make choices in social interactions. These include universalism versus particularism, achievement versus ascription, specificity versus diffuseness, affective neutrality versus affectivity and collective orientation versus self-orientation. Within higher education, these pattern variables help explain institutional responses to disability inclusion. On the other hand, universalism holds the view that universities should ensure equal rights and opportunities for all the students whereas, the principle of particularism recognizes the fact that there is a need for making reasonable adjustments as per the needs of students with disabilities. The principle of achievement refers to the fact that assessment should be done on the basis of competence and performance of students and not the disability.

According to Parsons' theory, effective policies, practices and services for students with disabilities result in the integration of such students in the university system. In institutions where such systems are operating effectively, students with disabilities are able to participate in different activities of the university system which include academic, social as well as co-curricular activities. Social work theory emphasizes the role of the institution system in ensuring the integration of the society and equal participation. The role of social workers in the implementation of the theory includes the strengthening of the institutional system by providing advocacy, implementation of policies, case management, psychosocial and coordinating different services for students with disabilities.

2.2 Empirical Review

Social inclusion in higher education is a topic that has gained multi-dimensionality that refers to physical access, participation, belonging, academic engagement and access to suitable institutional support. The social model of disability focuses on the fact that the exclusion is not just due to the individual's impairment, but also is created by environmental, institutional and social barriers. The World Health Organization (WHO, 2011) also views disability as the consequence of the interplay between a person's conditions and environmental barriers. On this view, inclusive higher education means that higher education institutions must break down institutional barriers and make reasonable adjustments, which help students with disabilities to engage on an equal basis.

Various sources in international literature report that, although inclusive education policies have been developed, the learning environment for students with disabilities remains difficult, and the provision of support services is still a challenge. Flanagan et al. (2013) and Parr (2012) emphasize the potential of assistive technologies to increase the learner autonomy and participation and identify cost, availability and institutional support as factors that affect their use. More recently, Khalil, Slade and Prinsloo (2024) report on the effectiveness of assistive technologies (AT) when it is supported by pedagogical practices that are inclusive and by institutional readiness. Social inclusion of students with disabilities in Africa is still limited due to lack of infrastructure, resources and negative attitudes, and the poor enforcement of disability policies. Simui et al. (2019) and Mariga et al. (2014) have concluded that lack of institutional resources and support systems are ongoing obstacles. Likewise, Ackah-Jnr and Danso (2019) attribute this to poorly adapted physical environments which limit the participation of students with physical and sensory disabilities. Current Southern African research also shows that despite the increase in the provision of disability support services, there is continued prejudice against learners with disabilities (Matshediso, 2010; Lourens, 2015; Maguvhe, 2015). These findings suggest a continuing gap between policy commitments and the actual experiences of students with disabilities.

In Kenya, lack of accessible infrastructure and lack of learning materials are recurrent and serious challenges to the inclusion of students with disabilities in Universities, while weak institutional support is also a serious challenge. The problems of physical accessibility, institutional support and social participation are reported by the authors of Abuya and Githinji (2021) and Khakali (2021). Kenya has enacted legislation and policy that supports disability inclusion; however, there is uneven implementation of this across institutions. Existing studies in Kenya, however, have tended to

focus on physical access and institutional factors, and only a few have focused on the link between social inclusion, assistive support and participation and academic performance.

A complex interrelationship between institutional, social and environmental factors all have an impact on academic achievement for students with disabilities. Positive peer relationships, social acceptance and supportive learning environments have been found to have a positive impact on engagement, motivation, and school outcomes (Nind & Wearmouth, 2006). Negative interactions and social isolation can decrease participation and persistence (Pijl et al., 2008). Physical access is also significant as the lack of physical access to the learning environment might have an impact on attendance, participation and independent engagement. Assistive technology and accessible learning materials can also increase autonomy and access to academic content for learners with sensory disabilities (Parr, 2012; Flanagan et al., 2013). However, such technologies will not be available if institutions do not have the resources, policies and implementation capacity.

II. METHODOLOGY

3.1 Research Design

The study adopted a descriptive research design to examine the nature and extent of social inclusion of students with disabilities in six universities in Kenya. A descriptive research design is appropriate when a study seeks to systematically describe the characteristics, experiences, conditions or behaviors of a particular population as they exist in their natural setting, without manipulating the variables under investigation. The design enabled the researcher to obtain a detailed description of the experiences of students with disabilities regarding their participation and interaction within the university environment.

3.2 Study Area

The study was conducted in six universities in Kenya namely, University of Nairobi, Kenya University, Maseno University, Jomo Kenyatta University of Science and Technology, Catholic university of Eastern Africa and United States International University-Africa.

3.3 Target Population

The study population was 10,432, that comprised of students with disabilities, Registrar Academic Affairs, Dean of Student Affairs, Deans of Schools, Director Disability Unit, disability student leaders and Students without disabilities.

3.4 Sampling and Sample Size

Six universities were selected purposively basing on their history of admitting many students with disabilities. students with disability were sampled by simple random method. Director disability unit, registrar academics affairs, dean student affairs and disability student leaders were sampled by census method. Deans of schools and students without disability were sample purposive method. The sample size for the study was 220 respondents.

3.5 Data Collection instruments and Procedures

Data was collected through questionnaires, interview guide, FGDs and an observation check list.

3.6 Data Analysis

Qualitative data was analyzed with the help of SPSS version 27. Descriptive statistics and inferential statistics specifically chi-square and correlation were used. Qualitative data was analyzed thematically.

3.7 Ethical Considerations

Ethical approval was obtained from Masinde Muliro University of Science and Technology, NACOSTI and respective university approvals were also obtained. Respondents were informed the study was for academic purpose and also confidentiality was assured to the respondents.

IV. FINDINGS & DISCUSSION

4.1 Level of Satisfaction with Physical Facilities by Students with Disabilities

The study examined the level of satisfaction with physical facilities among students with disabilities, recognizing physical accessibility as an important dimension of social inclusion in higher education.

Table 1*Level of Satisfaction with Physical Facilities by Students with Disability*

Category	Very dissatisfied (%)	Dissatisfied (%)	Neutral (%)	Satisfied (%)	Very satisfied (%)
Lecture halls	(18)17.1	(34)32.4	(18)17.1	(28)26.7	(7)6.7
Library	(11)10.5	(13)12.4	(18)17.1	(45)42.9	(18)17.1
Administration offices	(17)16.2	(31)29.5	(17)16.2	(20)19	(20)19
Halls of residence	(31)29.5	(20)19	(17)16.2	(19)18.1	(18)17.1

Source: Field Data, 2025

Results showed differences in student satisfaction with lecture halls, libraries, administration offices and halls of residence. The highest level of satisfaction was recorded for the library. Lecture halls and halls of residence were found to have relatively high levels of dissatisfaction. The results show that accessibility within the university environment is inconsistent and that having disability inclusion policies does not mean having an accessible physical environment.

According to Abuya and Githinji (2021) and Khakali (2021), students with disabilities in Kenyan universities face problems such as inaccessible facilities, lack of learning materials and inadequate institutional support. In addition, according to Moriña (2017), physical and institutional barriers may limit access to higher education for students with disabilities. In this regard, the current results confirm the idea that disability-based exclusion is not only associated with students' disabilities but also with the physical and institutional environment in which learning occurs..

4.1.1 Satisfaction with Lecture Halls

The results indicated that 49.5 % of the respondents were not satisfied or very not satisfied with lecture halls while 33.4 % were satisfied or very satisfied. This reflects that lecture rooms were a major issue with regard to accessibility for students with disabilities. Direct observation confirmed the quantitative results and revealed inaccessible entrances and inadequate access pathways and movement restrictions in some lecture halls. The qualitative results also showed that the non-availability of lecture halls may be a factor which can cause people to be late, leave course early, and be less involved. The Dean of School gave the reasons that some students are late arriving as it takes longer to navigate the physical environment, and the Disability Students' Leader noted that inaccessible spaces might make it less likely that some students will attend classes.

The results concur with Hassanain (2008) who point out that poor acoustics and unsuitable learning environments, including an inadequate seating arrangement, have a negative impact on students' learning experiences. They also align with Moriña (2017) who identified that students with disabilities are still experiencing physical barriers to their participation in academic activities. Further support comes from the Kenyan literature. Other barriers to students with disabilities that have been identified by Abuya and Githinji (2021) and Khakali (2021) include inaccessible infrastructure. The present findings thus validate the notion that physical accessibility is still an integral part of meaningful inclusion in Kenyan Universities..

Table 2*Relationship between Type of Disability and Satisfaction Level Lecture Halls*

Physical Facility	Pearson Chi-Square	df	p-value	Likelihood Ratio (p-value)
Lecture halls	15.608	8	0.048*	0.030*

Source: Field Data, 2025

The association between the type of disability and satisfaction with lecture halls ($\chi^2 = 15.608$, $df = 8$, $p = 0.048$) is yet another proof of how students perceive their surroundings differently. Students with physical disabilities were highly dissatisfied with the lecture halls, and students with visual impairments also had difficulties in accessing lecture halls. The findings of the study thus provide support for the social model of disability discussed in the literature review.

4.1.2 Satisfaction with Library Facilities

The library showed the highest level of satisfaction, where 60% of the respondents were satisfied or very satisfied. The implication is that the library offered an environment that was relatively more conducive for disabled students compared to the other facilities studied. These were further supported by the observation findings, which indicated that the library was equipped with facilities that helped in accessing learning materials. The qualitative findings also suggested that the library was one of the most inclusive facilities in the university.

This finding is consistent with Appleton (2014), who emphasizes the contribution of supportive library environments to students' learning experiences. It also corresponds with the broader argument by Khalil, Slade and Prinsloo (2024) that learning technologies and institutional support can improve access when they are incorporated into



an inclusive institutional environment. However, the findings also demonstrate that higher satisfaction with the library should not be interpreted as evidence of complete institutional accessibility.

Table 3

Relationship between Type of Disability and Satisfaction Level of Library

Physical Facility	Pearson Chi-Square	df	p-value	Likelihood Ratio (p-value)
Library	15.434	8	0.051	0.017*

Source: Field Data, 2025

The near-significant relationship between disability type and library satisfaction ($\chi^2 = 15.434$, $df = 8$, $p = 0.051$) further suggests that students with different disabilities may experience library accessibility differently. Therefore, libraries should provide both physical and technological accessibility to ensure that students with physical, visual and hearing impairments can independently use learning resources.

4.1.3 Satisfaction with Halls of Residence

The findings revealed substantial dissatisfaction with halls of residence, with 48.5% of respondents reporting that they were dissatisfied or very dissatisfied. Observation further identified inadequate accessibility features and physical conditions that could limit the independence and comfort of students with disabilities. The qualitative findings reinforced these results. Participants reported difficulties associated with ramps, pathways, toilets and entrances. The Dean of Students Affairs conceded that improvement of residential facilities is costly, whereas the students observed that lack of access to such facilities at times led to reliance on other students.

This is in agreement with the Kenyan literature where Abuya and Githinji (2021) and Khakali (2021) note that inaccessible institutional settings continue to be an obstacle for disabled students. It also corroborates the broader claim made by Moriña (2017) that institutional settings may hinder participation if they fail to accommodate diverse student needs.

Table 4

Relationship between Type of Disability and Satisfaction level of Hall of Residence

Physical Facility	Pearson Chi-Square	df	p-value	Likelihood Ratio (p-value)
Lecture halls	15.608	8	0.048*	0.030*
Ramps	10.062	8	0.261	0.115
Library	15.434	8	0.051	0.017*
Administration offices	15.263	8	0.054	0.016*
Halls of residence	16.98	8	0.030*	0.003*

Source: Field Data, 2025

The strong connection between disability types and students' satisfaction with halls of residence ($\chi^2=16.980$; $df=8$; $p=0.030$) is especially critical to notice. Students with visual impairment were significantly dissatisfied with their living conditions in the halls of residence, and it can be explained by lack of necessary tactile markers, which help them move easily around the residential building.

4.1.4 Satisfaction with Administration Offices

The results indicated a high level of dissatisfaction with administration offices since 45.7% of the respondents were dissatisfied or very dissatisfied, while 38% were satisfied or very satisfied. From the observations, there were inaccessible entrances and access paths that could prevent students with wheelchairs from accessing administration services independently. The results are in line with the Kenyan literature since the issue of institutional support and accessibility is highlighted as an ongoing challenge for students with disabilities. According to Abuya and Githinji (2021) and Khakali (2021), institutional barriers could affect the experiences of the students at universities.

Table 5

Relationship between Type of Disability and Satisfaction Level with Administration Offices

Physical Facility	Pearson Chi-Square	df	p-value	Likelihood Ratio (p-value)
Administration offices	15.263	8	0.054	0.016*

Source: Field Data, 2025

The important result from the likelihood-ratio for administration offices ($p = 0.016$), in spite of the fact that the value of the Pearson chi-square is slightly above 0.05 ($p = 0.054$). The contrast points to the potential difference depending on the disability type, although the interpretation must rely mostly on the statistical test employed in your research and the assumptions of this particular test. This result proves that the physical access to facilities continues to represent an important aspect of social inclusion. The literature and empirical results coincide when it comes to suggesting that inclusion necessitates that universities do more than policy formulation and pass into practice through accessibility.

4.2 Access to Assistive Devices by Students with Disabilities

Access to assistive devices was identified as having great limitations as well. Specifically, 64.7% of the participants had never or rarely used transportation assistance, and 68.6% stated that they did not have access to hearing aids or rarely used them. Additionally, 68.6% had never or rarely used Braille gadgets. Thus, it is evident that assistive technology remains an important area where institutions fall short. These results match the African literature that highlights resource and institutional gaps as key obstacles in the field of inclusion. Simui et al. (2019) and Mariga et al. (2014) note that scarce resources and policy implementation remain obstacles for the disabled. Similarly, inconsistent institutional support poses problems for disabled people in African universities as noted by Mutanga (2017). The results presented above also match the results of Khalil, Slade, and Prinsloo (2024) in that assistive technology may contribute to access only when institutions implement readiness practices and inclusive strategies. The current study illustrates this point since the problem was not related to lack of one device, but to lack of institutional support.

4.2.1 Access to Transportation Assistance

Table 6

Level of Satisfaction with Assistive Devices

Category	Never (%)	Rarely (%)	Sometimes (%)	Often (%)	Always (%)
Transportation	(35) 33.3	(33) 31.4	(24) 22.9	(7) 6.7	(6) 5.7

Source: Field Data, 2025

Of the respondents, 33.3% had never accessed any form of transport while 31.4% had rarely accessed it. Only 12.4% had often or always accessed transportation assistance. The qualitative data confirmed these findings. The Director of the Disability Unit explained that there was no well-structured transport system for disabled students in the university, while the Dean of Students' Affairs cited lack of financial and policy mechanisms.

The findings conform to those of Simui et al. (2019) and Mariga et al. (2014) on inadequacy of institutional resources as factors affecting inclusive education. The present findings expand on the above studies by illustrating how lack of resources affects the mobility and access to university activities of disabled students. While the relationship between type of disability and transport assistance was not statistically significant ($\chi^2 = 13.351$, $df = 8$, $p = 0.100$), the high percentage of students who never or rarely accessed transport assistance shows that the challenge is common among all forms of disabilities..

4.2.2 Access to Hearing Gadgets

Hearing devices remained out of reach for many with 50.5% of participants stating that they had never used hearing devices while only 8.6% claimed to use them often. According to the qualitative data, hearing-impaired students relied mostly on reading lips or using the help of their peers since the availability of hearing assistance devices was scarce. This finding aligns with the opinion expressed by Khalil, Slade and Prinsloo (2024) that assistive technologies could help people participate when there are systems developed within institutions to provide these technologies. It can also be supported by the theory developed by Svendby (2024)..

Table 7

Level of Satisfaction with Assistive Devices

Category	Never (%)	Rarely (%)	Sometimes (%)	Often (%)	Always (%)
Hearing gadgets	(53) 50.5	(19) 18.1	(24) 22.9	(5) 4.8	(4) 3.8

Source: Field Data, 2025

The association of disability category with access to hearing aids ($\chi^2=18.206$; $df=8$; $p=.020$) shows that there was a significant difference among different groups of disabled persons in terms of access to hearing devices. This result is especially important since hearing-disabled persons require special communication methods beyond those available due to physical accessibility.

4.2.3 Access to Braille Machines

There was also very limited access to the Braille machine, with 47.6% of respondents indicating they did not use the machines at all, while only 13.4% had regular access. According to the qualitative results, there were occasions where visually impaired learners would rely on other students to assist in reading notes or academic work. The result fits well with the available literature on the use of assistive technology, especially the insights offered by Khalil, Slade and Prinsloo (2024), which underscore the significance of institutional readiness for effective use of technology.

Table 8

Access to Braille Machines

Category	Never (%)	Rarely (%)	Sometimes (%)	Often (%)	Always (%)
Braille machine	(50) 47.6	(22) 21	(9) 18.1	(7) 6.7	(7) 6.7

Source: Field Data, 2025

The strongest association in the assistive-device analysis was observed between disability type and access to Braille machines ($\chi^2 = 22.784$, $df = 8$, $p = 0.004$). This finding demonstrates that assistive technology provision needs to be responsive to the specific requirements of different disability groups. The result is particularly important in interpreting the academic performance findings because access to Braille machines also showed a strong positive relationship with academic performance ($r = 0.50$, $p = 0.001$). This suggests that disability-specific learning resources may have an important role in supporting academic participation.

4.3 Social Inclusion and Academic Participation

The findings on social inclusion demonstrated variation across group discussions, class participation, co-curricular activities, access to class notes and Continuous Assessment Tests. Students reported relatively high satisfaction with group discussions and class participation, while co-curricular activities recorded comparatively higher dissatisfaction.

Table 9

Level of Satisfaction with social inclusion in Academic Activities of SWDs

Category	Very dissatisfied (1) (%)	Dissatisfied (2) (%)	Neither dissatisfied nor satisfied (3) (%)	Satisfied (4) (%)	Very satisfied (5) (%)
Group discussion	(6) 5.7	(25) 23.8	(12) 11.4	(33) 31.4	(29) 27.6
Participation in class	(9) 8.6	(17) 16.2	(11) 10.5	(43) 41	(25) 23.8
Co-curricular activities	(16) 15.2	(30) 28.6	(25) 23.8	(22) 21	(12) 11.4
Access to class notes	(3) 2.9	(19) 18.1	(19) 18.1	(36) 34.3	(28) 26.7
Continuous Assessment Tests (CAT)	(6) 5.7	(7) 6.7	(19) 18.1	(43) 41	(30) 28.6

Source: Field Data, 2025

4.3.1 Participation in Group Discussions

The findings showed that 59% of respondents were satisfied or very satisfied with participation in group discussions, while 29.5% were dissatisfied or very dissatisfied. The qualitative findings explained this variation by identifying lecturer facilitation, group formation and peer attitudes as important factors. The Disability Unit Director reported that inclusive participation depended partly on how lecturers organized group activities, while the Disability Students' Leader explained that students with disabilities could be excluded when peers formed groups according to friendship rather than inclusion. These findings are consistent with Pijl et al. (2008), who identify social isolation and negative peer interactions as barriers to participation and persistence. The findings therefore suggest that the availability of group activities alone does not guarantee social inclusion. The way groups are formed and facilitated is equally important.

4.3.2 Class Participation

The class participation data was fairly positive, since 64.8% of the students were satisfied or highly satisfied. On the other hand, 24.8% of the students were dissatisfied or highly dissatisfied. From the qualitative findings, it is clear that poor communication, lecturer attitude and teaching style were the key determinants of participation. Hearing-impaired students found it difficult to participate when there were no good communication skills by the lecturers and fellow students. According to Svendby (2024), the key determinant of an inclusive experience is lecturer attitudes and readiness.

4.3.3 Participation in Co-curricular Activities

The highest rate of dissatisfaction was recorded for co-curricular activities, with 43.8% of the respondents being dissatisfied or very dissatisfied while only 32.4% of the respondents were satisfied or very satisfied. The qualitative findings showed that students with disabilities were not always well informed about the activities and that the venues for the activities were not always accessible. Consultation of students with disabilities in the process of planning the activities was also noted to be low. This finding contributes to the literature on social inclusion in showing that social inclusion is not just about classroom activities. As pointed out by Pijl et al. (2008), social relations and participation are important while the Kenyan literature shows that there are institutional barriers faced by students with disabilities. The findings show that students can be socially included in academic activities while being excluded from co-curricular and social activities..

4.3.4 Access to Class Notes

Access to class notes recorded relatively high satisfaction, with 61% of respondents reporting satisfaction or high satisfaction. Qualitative findings indicated that lecturers were generally willing to provide notes and that the Disability Unit followed up were students experienced difficulties. Khalil, Slade and Prinsloo (2024) argue that learning resources contribute to inclusion when supported by institutional structures. Similarly, the literature on policy implementation suggests that inclusion is more effective where institutional procedures clearly define responsibilities. The relatively high satisfaction with class notes therefore suggests that formalized support procedures can contribute to more consistent academic inclusion.

4.3.5 Continuous Assessment Tests

The findings indicated that 69.6% of the participants were satisfied or very satisfied with their experience in Continuous Assessment Tests. The qualitative findings explained that this relatively good experience was due to the availability of clear assessment procedures and accommodation. This is in line with Nieminen, Moriña, and Biagiotti (2024), who state that the assessment procedure is one of the dimensions of inclusion. Their study shows that rigid assessment arrangements can lead to exclusion, whereas flexible assessment arrangements can enable participation. According to the current findings, when the process of accommodation is predictable, persons with disabilities can have a more inclusive assessment experience.

4.4 Relationship between Social Inclusion and Academic Performance

Table 10

Relationships between Social Inclusion and Academic Performance

Variable Pair	Correlation Coefficient (r/p)	p-value	Interpretation
Social Inclusion vs. Academic Performance	0.45	0.003	Moderate positive correlation
Satisfaction with Lecture Halls vs. Academic Performance	0.32	0.021	Weak positive correlation
Access to Transportation Services vs. Academic Performance	0.28	0.042	Weak positive correlation
Satisfaction with Ramps vs. Academic Performance	0.15	0.210	Negligible correlation
Access to Braille Machines vs. Academic Performance	0.50	0.001	Strong positive correlation

Source: Field data, 2025

There was an existence of a moderate positive correlation between social inclusion and academic performance ($r = 0.45$, $p = 0.003$). This means that students who reported having more positive experiences of social inclusion were also found to have more positive academic performance. This finding is in line with that of Pijl et al. (2008) who focus on the relationship between social participation and educational persistence. The findings are also in line with the overall discussion of Moriña (2017) regarding the role of institutional support in fostering positive experiences in education

among disabled students. It shows that there was a correlation between the two variables, although it does not mean causation.

4.4.1 Physical Accessibility and Academic Performance

A weak but statistically significant relationship between the satisfaction from the lecture halls and academic performance emerged ($r = 0.32$, $p = 0.021$). Such a finding adds to the existing research that highlights physical accessibility as one of the key factors that facilitate participation in academic activity. However, satisfaction from ramps did not correlate significantly with academic performance ($r = 0.15$, $p = 0.210$). Hence, it appears that a certain factor by itself cannot have an impact on students' participation in academic activities, while a combined approach seems to matter..

4.4.2 Transportation and Academic Performance

Access to transportation services showed a weak but statistically significant positive relationship with academic performance ($r = 0.28$, $p = 0.042$). This finding indicates that mobility and access to university facilities may have implications for students' academic experiences. The finding complements the qualitative evidence showing that students without reliable transportation assistance may depend on peers or personal arrangements to move around campus. It also reinforces the broader literature's emphasis on environmental and institutional barriers as contributors to educational exclusion.

4.4.3 Assistive Technology and Academic Performance

Access to Braille machines showed the strongest relationship with academic performance among the variables examined ($r = 0.50$, $p = 0.001$). This finding is particularly important because the descriptive results had already demonstrated substantial limitations in access to Braille machines. The result supports Khalil, Slade and Prinsloo (2024), who argue that assistive technologies can improve educational access when they are embedded within supportive institutional systems. It also reinforces the findings of the present study that students with disabilities require disability-specific resources rather than generalized accessibility measures alone.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

From the study objective, it can be concluded that the physical accessibility of universities is still not sufficient. The prevalence of inaccessible facilities for students with disabilities was observed, with halls of residence, administration offices and lecture halls being particularly inaccessible, and the library, on the other hand, being the most accessible building, indicating differential accessibility standards across campus buildings.

For the assistive devices, the study findings are that access to basic devices like transportation services, Braille machine, and hearing equipment is limited which in turn restricts the learning and mobility for students with sensory and physical impairments.

As for social inclusion and academic engagement, the study finds that group talk, class participation, class notes and Continuous Assessment Tests (CATs) are relatively inclusive for SWDs. At the same time the co-curricular activities were lacking in inclusiveness and were not embracing the expectations and participation needs of students with disability. This suggests that the focus on inclusion is primarily formal and academic, and not geared towards a more holistic approach to student inclusion.

5.2 Recommendations

The study recommends enhancing accessibility across physical, academic and digital environments. University policies should mandate accessibility standards in infrastructure development, learning resources and service delivery. In practice, universities should provide accessible classrooms, learning materials, online platforms, transportation services and assessment procedures to ensure that students with disabilities can participate fully and independently in academic and social activities.

Declaration of Interest

The authors declare that they do not have any known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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