

International Journal of African Higher Education

Volume 12 Number 1

2025



PUBLISHED BY

International Network for Higher Education in Africa (INHEA)

University of KwaZulu-Natal, Durban, South Africa

IN COOPERATION WITH

Center for International Higher Education (CIHE)

Boston College, USA

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ISSN. 2313-5069

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The Evolving Higher Education Landscape in Uganda – Issues, Challenges, and Propositions

Enock Kibuuka

Abstract

The higher education (HE) sector in Uganda is in a state of a perfect storm. As Uganda tends towards lower middle-income status and as it envisions upper middle-income status by 2040, it is beyond dispute that HE is a panacea to achieving this ambition. In order to bolster the significance of HE in the country's socio-economic transformation process, higher education institutions (HEIs) in Uganda have attempted to embrace global imperatives within the broader HE discourse namely: internationalization of HE, international collaborations and knowledge transfer partnerships; revitalizing the relationship between the academic oligarchy, industry and the state; as well as strengthening the core function of HE: research, teaching and community engagement. However, an interplay of systemic deficiencies, unclear institutional philosophies, and epistemological tensions have thwarted the full reformation of the country's HE sector. By means of literature search and desk study, this paper sought to highlight the critical issues and challenges facing the country's HE sector upon which the paper draws actionable recommendations. The article reveals that the capacity of HEIs to significantly contribute to the country's development agenda is curtailed by geopolitical dynamics, autocratic rule, acute funding shortages and inadequacy of qualified academic staff. The paper recommends that HEIs should reconstruct internationalization of HE, and explore new and reliable sources of funding. Also, the paper recommends that Government should create a special loan fund for financing doctoral studies and also scale up university funding for research and innovations.

Key words: higher education, perfect storm, socioeconomic transformation, internationalization of higher education.

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Résumé: Le secteur de l'enseignement supérieur (ES) en Ouganda traverse une période particulièrement difficile. Alors que l'Ouganda tend vers le statut de pays à revenu intermédiaire inférieur et envisage d'atteindre le statut de pays à revenu intermédiaire supérieur d'ici 2040, il ne fait aucun doute que l'ES est la solution miracle pour réaliser cette ambition. Afin de renforcer l'importance de l'ES dans le processus de transformation socio-économique du pays, les établissements d'enseignement supérieur (EES) en Ouganda ont tenté d'intégrer les impératifs mondiaux dans le discours plus large sur l'ES, à savoir : l'internationalisation de l'ES, les collaborations internationales et les partenariats de transfert de connaissances ; la revitalisation des relations entre l'oligarchie universitaire, l'industrie et l'État ; ainsi que le renforcement de la fonction essentielle de l'HE : la recherche, l'enseignement et l'engagement communautaire. Cependant, l'interaction entre les déficiences systémiques, les philosophies institutionnelles floues et les tensions épistémologiques a empêché la réforme complète du secteur de l'enseignement supérieur du pays. À l'aide d'une recherche documentaire et d'une étude théorique, cet article vise à mettre en évidence les problèmes et les défis critiques auxquels est confronté le secteur de l'enseignement supérieur en Ouganda; il formule dans la foulée des recommandations concrètes. L'article révèle que la capacité des établissements d'enseignement supérieur à contribuer de manière significative au programme de développement du pays est limitée par la dynamique géopolitique, le régime autocratique, le manque criant de financement et l'insuffisance de personnel universitaire qualifié. L'article recommande aux établissements d'enseignement supérieur de reconstruire l'internationalisation de l'enseignement supérieur et d'explorer de nouvelles sources de financement fiables. Il recommande également au gouvernement de créer un fonds de prêt spécial pour financer les études doctorales et d'augmenter le financement de la recherche et de l'innovation dans les universités.

Mots clés: enseignement supérieur, tempête parfaite, transformation socio-économique, internationalisation de l'enseignement supérieur.

Introduction

The current trends in the global HE community offer optimism yet pose a serious challenge to HEIs particularly in developing countries like Uganda. As the global landscape within which HEIs operate takes a new shape, the construct of internationalization of HE is taking a new paradigm shift from internationalization abroad to localized internationalization, student mobility, marketization of HE, equitable access to HE, integration of emerging technologies in teaching-learning processes in HEIs including

a careful use of artificial intelligence (AI) in research by academics and students (Marinoni and Cardona, 2024). Further, as the global higher education reform agenda gains momentum, HEIs in developing countries like Uganda seem to be left in a state of bewilderment.

The objective of this article is to discuss major critical issues that have generated debates within Uganda's HE reform processes, the challenges that have incapacitated its HE from significantly contributing to national socio-economic transformation and offer practical proposals to offset those challenges. Further, the chapter intends to demonstrate how an interplay of systemic deficiencies, lack of ideological clarity and epistemological tensions have clogged the country's HE sector.

Conceptualizing Higher Education

Philosophically, two critical questions about HE need to be interrogated: 1) What is higher education? and 2) What is higher education for? The misunderstanding about what HE is comes into light when Probert (2016) poses a philosophical question, "what is higher about higher education?" (p.12); and when Parker (2008) semantically posits that "higher education, in truth, is a mix of higher, happier, harder and further education" (p.4). In many cases HE and university are used interchangeably. To Assié-Lumumba (2005), HE refers to "organized tertiary learning and training activities and institutions that include conventional universities such as arts, humanities, and science faculties and more specialized university institutions in agriculture, engineering, science, and technology, and all post-secondary institutions like polytechnics, colleges of education" (p.2). Broadly, HE comprises all post-secondary education, training and research guidance at education institutions such as universities that are authorized as institutions of HE by state authorities (UNESCO, 2004). Contextually HE in this article is conceptualised to mean post-secondary school institutions namely universities and other tertiary institutions (Universities and Other Tertiary Institutions Act, 2001 [As amended, 2006]), though it focuses on the university sub-sector of the broader HE sector.

The second question that needs to be interrogated is, what is HE for? Makoe and Olcott (2021) argue that HE as a system is expected to equip students with the necessary knowledge, skills and attitude "to address social and political ills such as poverty, ill-health, climate change, slow job-creation, slow economic development, threats to peace and fragmenting social cohesion" (p.1). Castells (2008) posits that HEIs exist to fulfil four main obligations: "produce values and social legitimation, select the dominant

elites, train the [country's] labour force, and generate scientific knowledge and support its application in society" (p.3).

Thus, the basic purpose of HE is the "preservation, transmission, and enrichment of the important elements of culture – the product of scholarship, research, creative imagination, and human experience" (American Council on Education Studies [ACES], 1937, p.3; Williamson, et al., 1949, p.2). This implies that HE should enable students to develop a versatile mind that is able to meaningfully and productively adjust to the ever-changing situations, create or identify opportunities, possess the acumen to harness and pursue those opportunities for the benefit of self (private benefits) and the larger community (public or social benefits).

LITERATURE REVIEW

Role of Higher Education in Socio-Economic Transformation

The emergence of knowledge-based economies for sustainable development has implored HEIs across the globe to rethink their role in the socio-economic transformation efforts (Ayisi, 2018), which broadly lends credence to progress in terms of social and economic factors within a given locality (Okoro, 2020). This explains why many countries around the globe have in the recent past undertaken tremendous HE reforms (Volchik, et al., 2018) and increased investments in training highly knowledgeable and skilled workforce (McCowan, et al., 2014).

It is well-established in the literature that HE produces both private and public returns (Dary and James, 2018). For example, HE increases productivity and the well-being of individuals (Chien and Huebler, 2018; Fleming, et al., 2009); it leads to higher salaries, better employment opportunities, and increased savings (Kezar, et al., 2005; Lewis and Hearn, 2003; Tilak, 2016). At the individual level, HE raises earning potential by improving a person's skills and probability of employment. It also offers opportunities for personal development and fulfillment through social networks and allows individuals to exercise a higher level of independence and creativity at work (Oreopoulos and Petronijevic, 2013). This implies that HEIs have to equip students with knowledge, skills, competences, attributes and inculcate attitudes to develop as a whole.

According to Gayardon and Brajkovic (2019), HE creates and bolsters social mobility of individuals which in the end creates new opportunities even for those students from underprivileged socioeconomic backgrounds. Consequently, HE "allows us to access a pool of knowledge and develop skills which, in turn, help us to cultivate the essential qualities that make

us human: our personality, our sociability and our capacity to act as moral agents" (p.1).

Further, HE promotes community engagement, which is fundamental for sustainable socio-economic transformation, and strengthens "a sense of belonging to a community, in promoting and safeguarding a collective identity and culture and in raising shared living standards" (Gayardon and Brajkovic, 2019, p.1). This means that HEIs act as centres for educating, analyzing data, creating information through research, and imparting knowledge for the sustainable development of nations (Alufohai, 2012; Olusola, et al., 2014). Thus, HE is a potential vehicle for communities to thrive and individuals to pursue and achieve seemingly unattainable goals (European Commission/EACEA/Eurydice, 2020). This explains why many countries are embracing the doctrine of universal access to HE because this universalism is configured as one of the fundamentals of ensuring the right to education guaranteed by international law (UNESCO-IESALC, 2020).

Given the vast benefits of HE, interventions such as affirmative financial policies (Gayardon, & Brajkovic, 2019) such as student loan schemes (Dachi, 2021; Prodan, et al, 2015) and quota systems in admitting students in HEIs (Galafa, 2019) are justified. This is also true for Uganda as the government has since the early 1990s undertaken several affirmative action interventions to increase access to HE (Arinaitwe, et. al., 2015; Kaahwa, et. al., 2019; Kagoda, 2011; Kimoga, et. al, 2015; Odaga, 2020; Tibenderana, 2013). These include the 1.5 extra points awarded to all female students who consider joining public universities (Odaga, 2020), the district quota system (Arinaitwe, et al, 2015), the disability scheme (Kagoda, 2011), and the student loan scheme which was introduced in 2012 (Ministry of Education and Sports, 2019), among others.

In interrogating the concept of socio-economic transformation, Brennan and Lebeau (2004) noted:

Social transformation lies at the radical end of conceptions of social change. It implies at the very least some fundamental changes in society's core institution, the polity and the economy, with major implications for relationships between social groups or classes, and for the means of the creation and distribution of wealth, power and status (Brennan and Lebeau, 2004, p.2).

Similarly, Okoro (2020) draws a distinction between social development

and economic development, where economic development focuses on “raising the level of prosperity through increased production, distribution and consumption of goods and services” (p.5). On the other hand, social development concerns itself with the “complexity of social dynamics (the interplay of social structures, processes and relationships) and focuses on (1) the social concerns of the people as objectives of development and (2) people-centred, participatory approaches to development” (Okoro, 2020, p.5). Thus, social transformation focuses on epistemological equity, inclusiveness, social justice and the common good.

As a community of scholars, HE “cannot be separated from a larger society which is its environment or which is its parent” (Widanti et al., 2023, p.3). In the case of Uganda, as the social demographics continue to transform, HEIs need to revitalize their core functions and engage in research and create knowledge that is more responsive to the socioeconomic needs of the country. The call for HEIs to contribute to socio-economic transformation is not a recent phenomenon. As argued by Castells (2001), universities as sub-sectors within the larger HE sector have traditionally played four basic functions namely, the formation of ideologies, generation of knowledge, selection and formation of elites, as well as the training of a skilled labour force. In the case of Uganda, this implies that HEIs should positively respond to the needs of the local, regional, continental and global community.

Higher Education, State and the Market

HEIs in Uganda do not operate in isolation and thus cannot fully contribute to sustainable socio-economic transformation of the country, on their own. This calls for a deliberate, meaningful and focused collaboration among the three stakeholders within the HE ecology namely, the “academic oligarchy, State and market” (Clark, 1983, p.143). In consideration of this position, Ayisi, (2018) argued that there should be a “strong collaboration between the academic core, the government, and other stakeholders” (p.7) for HEIs to design and implement curricula that best serve the social, economic, political, and technological needs of a country. To realize this, the state must adopt a pro-participatory political approach and embrace democratic norms that allow universities to enjoy institutional autonomy and faculty to exercise academic freedom without intimidation by or fear of state or institutional leaders.

Similarly, Government needs to undertake policies and legislations that allow the market to flourish to ensure that the industry survives and thrives and can gainfully utilize the research output from universities, which then

provides impetus for faculty to engage in knowledge production. Therefore, the state needs to formulate and implement fiscal and monetary policies that support and promote the industry, ensure transparency and accountability within its operations, and enact patent and copyright laws that protect academics from unscrupulous players in the market. Atuhaire et al. (2022) argue that apart from responding to local needs and imperatives, HEIs should “develop the capacity to take advantage of the new opportunities that globalization [has] engendered” (p.3). Accordingly, research in HEIs should induce “high order thinking, innovation and open-mindedness” (Atuhaire et al. 2022, p.3) which are fundamental for creating a robust and resilient economy within a free market system.

Thus, in their admission protocols, universities should aim to attract highly talented young people who together with the faculty can engage in research and educational works which directly link with the industry, or private sector in general and promote international cooperation “to introduce innovative ideas and technologies based on innovative SMART technologies in the education process and to improve training in the new environment” (Khodzhaevich, et al. 2019, p.1). However, within the Ugandan context, it is worth noting that the existing political belligerence and governance problems have tempered the potential of HEIs from significantly contributing to the country’s development agenda.

METHODOLOGY

The research methods used in this article included a literature search and desk study. Because the aim was to interrogate the HE sector (issues, challenges, and suggestions) in Uganda, literature review (Synder, 2019) and desk study (Gottfredsen, 2023) were considered appropriate. In this regard, the study systematically searched for, identified, selected, critically reviewed and synthesized previous studies about the HE discourse. Further, credible documents particularly reports by Uganda National Council for Higher Education (NCHE) and Uganda Bureau of Statistics (UBOS) about the state of HE in Uganda were consulted, upon which actionable recommendations were drawn. Specifically, what Chigbu et al. (2023) refer to as “theme-centric literature search” which is a “search based on broad themes instead of specific or narrowed concepts” (p.7) was conducted.

Critical Issues in the Higher Education Sector

The Universities and Other Tertiary Institutions Act, 2001 (UOTIA, 2001) as amended, categorizes HEIs in Uganda into three broad categories. These are Universities, Other Degree Awarding Institutions (ODAs) and Other Tertiary Institutions (OTIs). The ODAs are HEIs that are not universities

but accredited to offer degree programmes in specialized areas as mandated by the Uganda National Council for Higher Education (NCHE). The OTIs are HEIs which largely award diploma mainly in business, management and social development, technical, agriculture, and teacher training, among others (NCHE, 2022). Uganda's HE sector is peculiarly characterized by a multiplicity of features, but this article focuses on a few of these issues regarded as critical and generated debate within the HE discourse.

The Paradox of Higher Education Expansion and Limited Access to HE

Since the mid-1980s, Uganda's HE sector has continued to register considerable growth in terms of institutions (Mukwanason, 2017) distinguished by type and ownership (Bisaso, 2017). Uganda currently has over 227 accredited HEIs which include 54 universities, of which 10 are government owned, 20 ODAIs, and the rest OTIs (NCHE, 2022), though universities account about 72 percent of the entire HEIs enrolment (Uganda Bureau of Statistics [UBOS], 2023). It is generally agreed that widening access to HE is considered a linchpin to ensuring the right to education (UNESCO-IESALC, 2020). Due to this view, the Government of Uganda has embraced democratisation of HE where it adopted a distributive justice approach in the distribution of HEIs.

Distributive justice concerns itself with fairness of the distribution of the conditions, goods, services, resources and opportunities that affect individual, group, or community well-being within society (Deutsch, 1985). Deutsch (1985) identifies three principles that can clarify distributive justice: 1) Need (how the outcome is distributed when one expects or needs something); 2) Equity (how the outcome is distributed according to one's perseverance, contribution, and performance); and 3) Equality (how outcomes among people are equally distributed). Basing on this classification, individuals either perceive the distribution of resources and opportunities as fair or unfair (Jasso et al., 2016).

In rationalisation of HE, the government adopted a sociotropic distributive justice evaluation, which aims to benefit society and societal conditions as a whole (Schnaudt et al., 2021). In this regard, the government of Uganda crafted a policy of rationalizing HE (NCHE, 2022) by establishing new universities and other HEIs in the country on a regional basis (Eton et al., 2020). This is because given its locational merit, the Central region continues to dominate the largest share of HEIs (about 56%) with the "majority of HEIs located in the greater Kampala region and the neighbouring districts of Mukono, Mpigi, Wakiso and Masaka" (NCHE, 2022, p.x). Universities established under this rationalisation policy include; Kabale University

in Kigezi, Mountains of the Moon University in Tooro, Muni University in Arua, Soroti University in Soroti, Lira University in Lira; the on-going transition of Busoga University in Busoga into a public university as well as the establishment of Bunyoro University in Bunyoro (NCHE, 2022). However, this regionalisation and growth have not necessarily translated into equitable access to HE in Uganda. For that matter, Uganda still has one of the lowest Gross Enrolment Ratio (GER) of 5.3%, which is far below the Sub-Saharan Africa average of 9.4% and the global average of 38% (NCHE, 2022). Worse still, the low GER is coupled with a high dropout rate (UBOS, 2023) averaging around 30% (UNESCO-IESALC, 2020) due to inability to raise study funds by majority of students (UBOS, 2023).

These realities pose a major challenge to Uganda's aspiration of increasing stock of human capital needed to facilitate sustainable development and achieve a middle-income status envisioned in the Uganda Vision 2040. The argument is that equitable access to HE in Uganda has to be cherished, promoted, and facilitated if Uganda is to harness a higher demographic dividend of its young population and achieve a fairer society.

The State of Credential Inflation in HE Sector

Traditionally, HE was viewed as a public good that yields outcomes for the benefit of the entire society as a whole (Ehrenberg, 2006). This commodification of HE as a public good for the benefit of all perhaps justifies why for all the years preceding to 1990s, HE in Uganda was free covering tuition fees, functional fees, accommodation and living allowances for students (Ministry of Education and Sports, 2012; Tibenderana, 2013). Globally, as the difference in earnings between highly educated and less educated individuals kept widening, and as the private socio-economic returns to investment in HE have kept growing, many educationists and policymakers arrived at a conclusion that "students and their families should pay a greater share of the cost of higher education" (Ehrenberg, 2006, p.2).

Within the Ugandan context, cost-sharing was introduced particularly at Makerere University in 1992 (Kyaligonza, 2017; Onen et al., 2015) on the recommendation of the Education Policy Review Commission (EPRC) of 1989 (Ministry of Education and Sports, 2012). As a result of this cost-sharing, a slump in demand for HE was predicted. Instead, and with the introduction of free universal primary education (UPE) in 1996 and free universal secondary education (USE) in 2007, an upsurge in student numbers qualifying to join HEIs in Uganda transpired (Ministry of Education and Sports, 2012). This growth in HE has led to what

Collins (2002, p.23) refers to as “credential inflation” to imply an inverse relationship between the number of people with academic degrees and the jobs for which they qualify. He observes that:

as the number of persons with academic degrees goes up, the occupational level for which they have provided qualifications declines. Under these circumstances, the occupational value of the degree declines. Accordingly, higher-level occupations require increasingly higher and more specialized academic credentials (Collins, 2002, pp. 23–24).

HEIs, particularly universities, are producing more graduates with degrees coinciding with a high level of graduate unemployment in the country, what this author refers to as academicflation to describe a situation of co-existence of high university graduation levels and high levels of graduate unemployment. Academicflation is different from credential inflation which refers to a situation where most jobs that graduates trained for and anticipating transition to the labour market have been taken over by robots and GenAI (Chiacchio, et al., 2018; European Union, 2024; Fiesolana, 2024; International Labour Organization [ILO], 2018; The Guild, 2024; Wisskirchen, et al., 2017) necessitating more advanced or specialized academic qualifications to widen their chances of employment.

On the other hand, Uganda, a country with one of the youngest population in the world where 50% is under the age of 18 years, faces serious employment, education or training opportunities for its 42.6% population, aged between 18 and 30 years (UBOS, 2024). Worse still, only a small percentage, 6%, of the total population of 45.9 million possess a tertiary or university degree qualification (UBOS, 2024). Thus, with a large proportion, 33%, of the population engaged in non-commercial production (UBOS, 2024), the size of its economy cannot adequately absorb HE graduates. Therefore, academicflation within the Ugandan context is not necessarily the possession of college degree qualifications by a large number of young people. It is further exacerbated by nascent economic activities to absorb even those few graduates. Already, in 2024, over 500,000 university graduates were riding boda-bodas (taxis) as their source of income, as they failed to secure jobs for which they obtained degree qualifications (New Vision, 2024).

The State of a ‘Perfect Storm’ in the HE Sector

The term ‘perfect storm’ was coined by Ronald G. Ehrenberg in 2006 intrigued by a situation of declining state funding of public HE during

which period private colleges and universities raised “tuition fees at a rate of 3 percent over and above inflation” (Ehrenberg, 2006, p.2). As funding to public HEIs dwindled significantly, they too were compelled to raise tuition fees at the same rate as private HEIs. As enrolment in both private and public HEIs was expected to fall sharply due to tuition fees increases, instead there was an upsurge in demand for HE based on the premise that after graduation, these students would reap the returns to investment in their college education, although this turned out to be the opposite as most of those graduates with bachelor’s degrees found it so hard to secure jobs (Ehrenberg, 2006).

The construct of a perfect storm propagated by Ehrenberg (2006) fits into the Ugandan context. Following the Structural Adjustment Programmes (SAPS) of the World Bank and International Monetary Fund (IMF), the government liberalized the education sector including the HE subsector, which has led to the proliferation of private HEIs (Muganga et al., 2024) and accordingly, the rise in the cost of HE. Despite the high cost of HE (Ministry of Education and Sports, 2020), there has been a significant increase in demand for HE in Uganda (NCHE, 2023) from over 60,000 students qualifying to join universities in 2011 (Ministry of Education and Sports, 2012) to 140,000 students qualifying to join universities in 2023 (Parliament of Uganda, 2024). This upsurge is largely due to UPE and USE programmes which were introduced by the government in 1996 and 2007 respectively (Ministry of Education and Sports, 2012).

With technological developments and the increasing tendency of FDI to target large-scale investments, many of the bachelor’s degree holders find it hard to secure gainful employment in the MNCs due to knowledge and skills deficiency. In this case many bachelor’s degree holders would seek postgraduate education in the hope that higher academic qualifications enhance their employable skills and competences to secure productive and high-paying jobs (Kakooza, et al. 2019). Moreover, with the usually low (Pyne and Grodsky, 2020) and stagnating returns to investment in bachelor’s degrees (Ashworth and Ransom, 2019; Valletta, 2016), graduate and postgraduate studies have become commonplace and a platform for gaining elite status (Posselt and Grodsky, 2017).

Similarly, Pyne and Grodsky (2020) posit that as the payoffs to college credentials are usually higher in most enterprises and MNCs, those with lower academic credentials “become more willing to bear higher costs to earn higher academic credentials” (p.3) including taking more student loans in anticipation of higher returns on investment in graduate and

postgraduate degrees that may enable students to pay off such loans with ease (Woo and Shaw 2015). This optimism is also apparent in Uganda as the economy expands and envisions a knowledge-based economy, “higher degrees are given more preference than other lower qualifications” (NCHE, 2022, p.36) since MNCs and large enterprises “pay higher wages” (Kappel, 2021, p.28) to highly knowledgeable, skilled and specialized workers, which explains why more people in Uganda with lower academic qualifications are enrolling for further studies particularly masters degrees (NCHE, 2022). In agreement, Molokova (2021) argues that as individuals enroll for graduate and postgraduate studies and “master in the academic programme” (p.5) of their specialisation, the quality of such graduates significantly improves which enables them either to secure better employment (Higgs, et al, 2019) or consolidate their current employment (O’Shea, 2019).

However, Gwala, et al. (2023) argue that beyond academic credentials, the problem of graduate unemployment is a reflection of “deep-seated economic challenges in a country” (p.3). In light of this argument, the high rate of graduate unemployment in Uganda can be attributed to a number of factors which include but not limited to: a) a small size of the economy which cannot absorb all the graduates; b) labour market imperfections such as corruption; c) scanty democracy and lack of accountability which inhibit job creation; d) poor policy and ineffective regulatory frameworks that incapacitate young graduates from nurturing and developing their talents and utilizing opportunities, among others. Nevertheless, it is worth noting that amidst the skyrocketing cost of HE, the government introduced the Uganda Students’ Higher Education Financing Policy in 2012, which culminated into the Uganda Students’ Loan scheme with the aim of promoting equitable access to HE by providing loans to financially needy students to access HE (Ministry of Education and Sports, 2012). However, the implementation of the loan scheme has been hampered by budgetary deficits, corruption, tribalism, and nepotism (Kibuuka, 2022) which compelled the government to suspend the scheme for the 2023/2024 academic year and initiated investigations into the mismanagement of the scheme (The Daily Monitor, 2023; The New Vision, 2023). Moreover, all the various government sponsorship schemes for HE put together, including the loan scheme, the government is able to fund only 10,000 students (7%) in the various HEIs out of the 140,000 students that qualify for HE annually (Parliament of Uganda, 2024b). Thus, in this article the construct of a ‘perfect storm’ is construed as a situation in Uganda’s HE system whereby a high cost of HE is coinciding with increasing demand for HE and characterized by high levels of graduate unemployment.

Academic Staff Shortages

The liberalisation of HE in Uganda and its rapid expansion both “horizontally and vertically” (Nawangwe, et al., 2021, p.3) has increasingly set off complex and significant challenges to the sector, including the acute shortage of academic staff (Kabunga, 2020). Although HEIs in the country have significantly grown, the number of qualified faculty has not grown in tandem. For instance, by 2022, there were 1,817 academic staff with PhDs in all the 54 universities in Uganda (NCHE, 2022). Table 1 shows the profile of academic staff in the various HEIs in 2021.

Table 1: Respondents’ Distribution and Sampling Techniques

Category	PhDs			Masters			Others*	Grand
	Male	Fem	Total	Male	Fem	Total	Total	Total
University	1,390	427	1,817	2,880	1,348	4,228	1,709	7,754
ODAs	65	21	86	158	64	222	140	448
Agriculture/ Fisheries/ Forestry	1	0	1	21	6	27	62	90
Health	5	1	6	76	31	107	713	826
Technical Colleges/ Survey & Land Mgt.	1	0	1	20	2	22	406	429
National Teachers’ Colleges	1	1	2	60	28	88	351	441
Theology	23	2	25	110	30	140	114	279
Business/ Management/ Social Dev’t & Co-ops	20	1	21	180	71	251	1,316	1,588
ICT & Media	1	1	2	13	4	17	131	150
Hotel & Tourism	0	0	0	7	2	9	51	60
Art & Design	3	0	3	12	7	19	29	51
Others	0	1	1	7	1	8	39	48
Grand Total	1,510	455	1,965	3,544	1,594	5,138	5,061*	12,164

* includes Postgraduate diplomas, bachelors, diplomas and some unspecified qualifications

Source: National Council for Higher Education (2022).

Over 70 percent of the academic staff holding PhDs are found in the 10 public universities and accordingly “over 80 percent of academic

staff at the ranks of Associate professors and above are found in public universities” (Nawangwe et al., 2021, p.7). The country’s oldest and flagship university, Makerere university alone accounts the highest number of academic staff (about 75%) holding PhDs (MAK-RIF, 2020) and over “80 percent of the country’s full professors and senior researchers” (Nawangwe et al., 2021, p.8). In total, there were 1,965 academic staff holding PhDs and 5,161 holding master’s degree reported in the entire HE sector. Of these, 1,817 representing 92.5% were in the university sub-category while 4.4% were under ODAs while other sub sectors had negligible proportions (NCHE, 2022).

The shortage of academic staff with PhDs explains why at the end of 2021, NCHE had accredited only 361 programmes in the 54 universities. Out of these programmes, while 28 (7.8%) were at the PhD level, the masters, bachelors and diplomas were 18%, 42.7% and 17.2% respectively (NCHE, 2022). Further, the shortage of academic staff holding PhDs creates another alarming situation in the HE sector where “there are 107 students to one PhD holder irrespective of the professional area of specialisation and the overall availability of PhD holders to overall student population in HE is 135 students to one PhD holder” (NCHE, 2022, p.34). Thus given the limited number of professors, associate professors, and senior academic staff at the level of PhDs, mentorship and supervision of students particularly doctoral students remain cumbersome and draining (Edoru and Adebayo, 2022).

Current Challenges of the Higher Education Sector

Challenges facing Uganda’s HE sector are multidimensional and mutually reinforcing and include low research output and publications, limited lecture room space, small and ill-equipped libraries particularly in private HEIs, inadequate and ill-equipped laboratories with mostly outdated facilities and equipment, few and small office space shared by academic staff (NCHE, 2022). This section delves into these challenges highlighting some promising policy interventions.

The Financial Conundrum

The discussion on financing HE in Uganda is vacillating. On one hand, HEIs, especially public ones, consistently bemoan limited government funding and subsidies, poor staff remuneration (Kibaliwandu and Mwesigye, 2022; Kimoga, 2021; Lam-Lagoro and Okello, 2023; NCHE, 2022; Tibendarana, 2013) and deficient facilities and equipment (Edoru and Adebayo, 2022). On the other hand, government has frequently blamed public HEIs of financial mismanagement, underutilisation

and misappropriation of funds, and lack of transparency (Parliament of Uganda, 2024). This funding scenario have thwarted the ability of universities to effectively execute their mandate, “hardened accessibility to public institutions by many qualifying students” (Kimoga, 2021, p.2) and prompted public HEIs to regularly raise tuition and other fees to fill the diminishing government funding. Consequently, many qualifying students find it difficult to access HE which may also explain the high dropout rates in Ugandan universities (Kasozi, 2020; UNESCO, 2020).

Moreover, the limited funding incapacitates the ability of universities to deliver on their mission as recruitment and retention of qualified staff becomes a big challenge, triggering brain-drain (Nakijoba, and Ayodeji, 2022). It is worth noting that the budgetary deficits put these institutions in a feeble position and thus subservient to major funding agencies and donors who usually dictate the research agenda creating a threat to academic freedom and institutional autonomy. Similarly, HEIs also face challenges of integrating technologies in the teaching and learning processes (Bwire et al. 2020); unclear institutional philosophies, vision and mission (Kaguhangire-Barifaijo et al. 2021; NCHE, 2022); limited interaction between industry and business; and a disconnect with their communities (Mugisha, 2022) thus risking the provision of curricular untailored to societal needs.

Notwithstanding, some promising strides have been made by the government to promote research and innovation mainly in public universities. For instance, in 2019 the government introduced the Research and Innovation Fund (RIF), whose major aim is to advance research and innovations that address key development agenda, particularly those unfunded priorities critical to accelerating development across different sectors of the economy (Adong, et. al, 2023). This fund has seen the establishment of institutionalized research funds in the ten public universities which include the Makerere University Research and Innovation Fund (Mak-RIF), Busitema University Research and Innovation Fund (BU-RIF), Mountains of the Moon University Research and Innovation Fund (MMU-RIF), Kyambogo University Research and Innovation Fund (KyU-RIF), among others. Through the support of RIF, a number of projects and research breakthroughs have been realized in the various public universities particularly in the fields of science, technology, engineering, agriculture, and education. Although funding to RIF remains meagre, the fund creates optimism and indicates the importance and support that government attaches to HE research and innovations to contribute to national transformation.

Resilience Amidst Autocracy

HEIs must operate in an environment that respects academic freedom and institutional autonomy. Following frequent student unrest and staff industrial action, the government established military camps in some public universities, including Kyambogo and Makerere (Uganda Radio Network, 2017), which still exist to date, ostensibly to help support the regular police posts in these institutions. Moreover, overt and covert state intelligence and security operatives masquerading as students attend lectures creating fear and tension on campus which undermines academic dialogues (Makara and Wang, 2023).

It should be noted that in a country like Uganda where the political history has been characterized by military coups, guerrilla warfare and autocratic regimes (Karugire, 1980; Museveni 2016; Mutibwa, 2008; Muwanga, 2005; Nsibambi, 2014; Seftel, 1994), it is not surprising that HEIs remain subservient to their governments. For instance, in 2013 when academics at Makerere University demanded the improvement of their working conditions and salary increases and subsequently went into a strike, the Ministry of Public Service was directed not to pay salaries until they returned to work—a stand-off that lasted close to three months.

Further, both private and public HEIs often find themselves operating in an environment where government and politicians interfere in their decision-making as well as the mandate and decisions of the National Council for Higher Education (Ssentamu, 2018), which makes licensing, and external monitoring and evaluation (M&E) of institutions, and accreditation of programmes challenging. This is partly because some of the HEIs are owned by prominent politicians or those close to the political establishment and thus use their power and influence to dictate the decision-making processes in these HEIs, oftentimes contrary to the established policy and legal frameworks that are meant to regulate and direct these institutions. Thus, it is not surprising that whenever the NCHHE exerts its authority and enforces laws and regulations on non-compliant HEIs or even close them, some of these HEIs involve the political elites or even “Courts of law to stop Council from closing non-compliant HEIs” (Ssentamu, 2018, p.6).

Geopolitical Dynamics

As the new era of geopolitics takes shape (Trilokekar, 2022), HEIs are particularly prone to these geopolitical dynamics (Moscovitz and Sabzalieva, 2023). Whilst geopolitics is often discussed in terms of

nation states, its theatrics are also played by multinational corporations (MNCs); Non-Government Organisations (NGOs); HEIs; international organisations and research funders (Hartmann, 2021).

Marginson (2025) submits that geopolitical relations in HE are often more collaborative than are political, military, and economic relations between states. However, this article argues that given the nature of HE and its cardinal mandate, philosophy and values of academic freedom and institutional autonomy, using outright uncouth geopolitical approaches would certainly not be effective in meeting the intended objectives of the geopolitical players. Thus such cooperative geopolitics is aimed (at least in a subtle manner) to cajole and woo HEIs and probably national governments to the side of the global power where such research funders or organisations originate from, thereby maintaining and consolidating the hegemony of global geopolitical players. This is usually international funders and donors using soft power in form of so-called experts and research-grant organisations to fund certain researches in selected HEIs thereby indirectly setting the research agenda.

In Uganda, the Confucius Institute was established in 2014 at Makerere university and programmes such as Bachelors of Chinese Language and Asian Studies are being offered. Similarly, Russia providing funding to some Ugandan primary, and secondary schools as well as tertiary institutions to teach the Russian language and Russian culture (Kosyanova, et al., 2023).

Following the fallout from the United Nations Security Council (UNSC) sanctions on North Korea, a number of universities, including Kyambogo and Kampala International, lost a significant number of North Korean professors and consultants (New Vision, 2017). As a result, Kyambogo university had to prematurely terminate all the contracts with North Koreans which then prompted the university leadership to seek substitutes from Cuba (Katunguka, 2018).

Conclusion and Propositions

There has been a general apathy for education in general and HE in particular due to leadership and governance deficiency. However, the government attempts to revitalize the sector largely driven by regional, continental and global pressures to put it at the forefront of development agenda. Such regional and continental regimes include African Union’s Agenda 2063; East African Vision 2050; United Nations Sustainable

Development Goals (SDGs) particularly SDG4, which have also been domesticated in the development policy imperatives such as Uganda Vision 2040; the Third National Development Plan (NDP III) and now the Fourth National Development Plan (NDP IV).

Uganda's HE landscape could be described as being affected by internal and external networks. The internal relates to leadership and governance dysfunctionality characterized by corruption; limited state funding; and lacking political ideologies. Within the HEIs themselves, the internal network relates to unclear institutional philosophies, vision and mission; limited interaction between HEIs and industry/labour market, coupled with disengagement with their communities. On the other hand, the external network relates to geopolitical tensions; skewed and hegemonic international dynamics.

It is thus important to call the country's political elites to develop a nuanced understanding with its own noblesse oblige, and an appreciation of HE as both the fulcrum and pivot without which all other sectors cannot stand. More specifically, the government should scale up funding for research and consolidate the training of PhDs to bolster research productivity in HEIs. Further, there is need for HEIs to rethink their construct of internationalisation of HE to establish robust international collaborations and partnerships developed on the basis of reciprocity and mutuality.

The article further recommends that the academic community initiate and become more engaged in the political debate and policy-making processes regarding HE. Therefore, academics in HEIs should increase their visibility not only in academic works in peer-reviewed journals but also in national matters specifically those that relate to education in general and higher education in particular.

Conflict of interest

The author declares no conflict of interest.

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Higher Education Systems and International Student Mobility in East Africa: A Colonial Relic Shaped by Neoliberal Imperatives of Internationalization

Tibelius Amutuhaire

Abstract

The internationalization of higher education (IHE) — especially through international student mobility (ISM) — has been widely studied, but most of this scholarship draws on evidence and perspectives from the global North. As a result, research on IHE often overlooks the specific historical, political, and socioeconomic contexts that shape student mobility within Africa. This paper employs a mixed-methods approach to investigate how students' perceptions of the quality, governance, and reputation of HE systems in both their home and host countries influence patterns of intra-Africa student mobility, drawing on evidence from East Africa. The findings suggest that the movement of students within the region is shaped not only by practical considerations, but also by colonial legacies, each country's history of hosting international students, and the impact of neoliberal reforms in HE. By situating student mobility within these broader structural and historical contexts, this study contributes to a more nuanced understanding of how HE systems shape mobility within Africa and adds to the growing body of critical scholarship on internationalization. Ultimately, this work points to the need for more regionally grounded research on student mobility across the global South.

Key words: student mobility, higher education, neoliberalism, coloniality, East Africa.

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Résumé: L'internationalisation de l'enseignement supérieur (IES), en particulier à travers la mobilité internationale des étudiants (IES), a fait l'objet de nombreuses études, mais la plupart de ces travaux s'appuient sur des données et des perspectives provenant des pays du Nord. En conséquence, les recherches sur l'IES négligent souvent les contextes historiques, politiques et socio-économiques spécifiques qui façonnent la mobilité étudiante en Afrique. Cet article utilise une approche mixte pour explorer comment les perceptions des étudiants quant à la qualité, la gouvernance et la réputation des systèmes d'enseignement supérieur dans leur pays d'origine et dans leur pays d'accueil influencent les schémas de mobilité étudiante intra-africaine, en s'appuyant sur des données provenant d'Afrique de l'Est. Les résultats suggèrent que les mouvements d'étudiants au sein de la région sont influencés non seulement par des considérations pratiques, mais aussi par l'héritage colonial, l'histoire de chaque pays en matière d'accueil d'étudiants internationaux et l'impact des réformes néolibérales dans l'enseignement supérieur. En situant la mobilité étudiante dans ces contextes structurels et historiques plus larges, cette étude contribue à une compréhension plus nuancée de la manière dont les systèmes d'enseignement supérieur façonnent la mobilité en Afrique et s'ajoute au corpus croissant de recherches critiques sur l'internationalisation. En fin de compte, ce travail souligne la nécessité de mener davantage de recherches ancrées dans le contexte régional sur la mobilité étudiante dans les pays du Sud.

Mots clés: Mobilité étudiante, Enseignement supérieur, Néolibéralisme, Colonialité, Afrique de l'Est.

Introduction

Students usually choose higher education (HE) systems and institutions they perceive to be of high quality; that is, the quality of a HE system strongly influences students' decisions about where to study (Mitic and Mojic, 2020). Lo et al. (2022) note that the perceived quality of a HE system is one of the strongest predictors of international student mobility (ISM), as students tend to move from countries with lower-quality systems to those with stronger reputations. As Rodriguez et al. (2011) argue, the presence of highly ranked universities can significantly shape students' choices to continue their studies in a given country. Although Africa has relatively few globally top-ranked universities, these institutions may nonetheless play an important role in driving intra-African student flows.

Yet, defining "quality" in HE is far from straightforward. As Cadena et al. (2018) and Elassy (2015) observe, quality is often subjective and shaped by

context, perspective, and purpose. Students, academics, and policymakers may each define and evaluate quality differently.

The factors shaping the perceived quality of HE systems in Africa are deeply rooted in historical, political, and economic conditions including, colonial legacies, the structural adjustment policies of the 1990s, and Education for All programmes. These influences continue to shape how HE systems in Africa function today. Scholars (Kigotho, 2020; Kupriyanova et al., 2018; Zeleza, 2021) have highlighted persistent concerns about the quality of HE systems in Africa, citing issues such as limited access (Musau, 2018), low research productivity (Zeleza, 2021), and inadequate teaching and learning resources (Musau, 2018). Such disparities across universities and countries can have significant implications for student mobility within the continent. Much of the research on ISM has focused on South-to-North flows, where students primarily seek higher-quality HE services in the global North (Didisse et al., 2019; Hossain et al., 2025). Far less attention has been paid to student mobility within Africa itself. This paper investigates how the perceived quality and governance of East African HE systems shape intra-Africa student mobility. As Van Bouwel and Veugelers (2013) point out, few studies have examined the role of HE quality in driving mobility between countries with comparable levels of development, a gap this study aims to address.

Uganda, for instance, attracts many international students from neighboring East African countries (Kiiza, 2019). In this study, Uganda is treated as a receiving (host) country, while Rwanda and Burundi are considered sending countries (Itaaga et al., 2013). As Lomer (2018) suggests, the absence of high-quality HE institutions in one country often drives students to pursue their studies elsewhere, an idea this paper examines in the East African context.

The study is guided by this question: How do the perceived quality and governance of HE systems in students' home and host countries shape patterns of intra-Africa student mobility within East Africa? and aims to shed light on how colonial legacies and neoliberal reforms continue to influence HE choices and mobility trends within the region.

The paper is structured as follows: the next section reviews relevant literature on HE quality and ISM; this is followed by an explanation of the mixed methods research design. The findings section presents key results from the survey and interviews, which are then discussed in relation to regional HE policy and practice. The paper concludes with recommendations for policymakers and directions for future research.

Literature Review

Recent trends in ISM within Africa show both encouraging growth and enduring structural challenges. According to UNESCO's Global Flow of Tertiary Students database (UIS, 2022), more than 500,000 African students now study in other African countries, an increase of approximately 18% since 2017. This reflects ongoing efforts toward regional integration and growing interest in strengthening HE capacity within Africa (Knight and Woldegiorgis, 2017).

However, as Amutuhaire (2024) argues, these headline figures can mask persistent inequalities in access to mobility opportunities. Students from rural areas, low-income households, or refugee backgrounds remain largely excluded from formal mobility pathways. Building on this emerging conversation, this paper examines how recent mobility trends intersect with the perceived quality and governance of HE systems in East Africa, shaping students' decisions to pursue regional study opportunities.

While student mobility within Africa has traditionally focused on corridors from Francophone West Africa or Southern Africa (Woldegiorgis, 2024), the East African region has seen significant growth in intra-regional student flows in recent years, yet remains underexplored in empirical research. For example, Uganda is a desirable study destination for international students due to its relatively peaceful environment compared to some East African countries, lower education costs, and lower cost of living (Hassan, 2020; Herrmann, 2013; Itaaga et al., 2013; Kanyesigye, 2024), among other factors. However, South Sudan and Somalia, which were previously at war and sent international students to Uganda, are gradually restoring peace. Nonetheless, Uganda continues to receive students from these countries. Thus, national security influences ISM trends in conjunction with other criteria, as this paper investigates.

However, lecture halls and other facilities in some Ugandan institutions do not meet appropriate standards (Ssempebwa et al., 2012), and technology is underutilized (Woldegiorgis and Amutuhaire, 2023). Thus, if institutional services contribute to student flows, as Erdei and Káplár-Kodácsy (2020) claim, it is unclear how Uganda can continue to attract large numbers of international students in the face of problematic institutional services. The preceding notwithstanding, Rwanda's HE system is in its early phases of growth; it offers limited educational programmes, particularly at the PhD level, and does not fully meet the needs of its students (Trines, 2019). Consequently, Rwanda has high outward mobility rates, with students looking for preferred academic programmes and higher-quality teaching elsewhere. However, this scenario does not necessarily justify Uganda as

a destination for Rwandan students. Although the ICEF Monitor (2017) reports that the quality of Uganda's HE system has positively influenced its inbound ISM, Hyuha (2017) argues that the quality of Uganda's HE has deteriorated since 1992, making it impossible to account for the country's reported ISM trends fully.

At the same time, Sangwa et al. (2025) hold that access to Rwanda's HE sector is limited due to, among other things, exorbitant expenses, while Uganda's HE offerings are considered to be cheaper than those in its East African Community partner nations (Herrmann, 2013; Itaaga et al., 2013). The cost issue may also help to explain the type of student exchanges between the two countries. However, according to Murphy et al. (2017), the cost of education (tuition fees) typically increases with the quality of services delivered. This implies that Uganda's education quality is low and insufficient to attract international students, but universities in Uganda continue recruiting many international students.

According to Walker (2022), the HE industry worldwide is underfunded, making students a popular source of institutional revenues (Alstete, 2020). As a result, HEIs in East Africa are progressively admitting high-fee-paying international students to help offset the costs of HE services. As the case elsewhere, these perspectives have accelerated the commercialization of HE, such that it is now a tradable item (Wilkinson and Wilkinson, 2020), and HEIs are investing substantially in advertising and branding to entice more students to choose their institution over others (Münch, 2014). This scenario has bred competition for students (or 'customers') and other resources between HEIs in East Africa (Oanda and Matiang'i, 2018). However, if students are considered customers, economic interests may eventually override the ethical obligation to offer education. The concept that education is a marketable good ignores education's significance as a practice of human freedom (Hooks, 1994) and a vital component of human transformation and growth. Furthermore, highly entrepreneurial and market-oriented HE systems are vulnerable to scams with fraudulent providers exploiting profit-making opportunities.

Tannock (2018) expresses concern about the marketization of HE, claiming that it has weakened social justice and educational equity imperatives. First, treating international students as 'cash cows' or outsiders violates social justice and educational equity (Yang, 2020). HE will undoubtedly remain an item on the global market, but as Mittelmeier and Lomer (2021) point out, the question is whether it should be sold as a commodity. The duo also claim that education is a service, but is now viewed as a good and an export. Educational services are evaluated in terms of their cost-

effectiveness, influenced by functionalist and instrumental approaches that have economized education's historical, social, and cultural contributions to society (Mittelmeier and Lomer, 2021).

The research capacity of a country's HEIs is one component that contributes to the quality of its HE system (Griffioen, 2020). Despite this understanding, research capability in Sub-Saharan African universities, notably East Africa, has remained low, resulting in their exclusion from global university rankings (Waruru, 2017). This is due to inadequate investment in research capacity since no African country invests more than 1% of its GDP in R and D (Kigotho, 2021). That is why Burundi reportedly has limited research capability (Tuyisenge, 2020) while Rwanda has few professors and doctoral researchers to engage in research (Trines, 2019). However, a lack of investment in research decreases the quality of the HE system and influences ISM.

Building on Kiiza's (2019) doctoral thesis and subsequent book chapter (Kiiza, 2022), which examine Uganda's emergence as a regional hub for intra-Africa student mobility, this article extends that foundational work with updated empirical evidence and a decolonial perspective on regional mobility policy frameworks.

Methodology

This study examined the following research question: How does the quality and governance of HE systems in students' home and host countries influence intra-Africa student mobility in East Africa? In so doing it studied the quality of HE systems in international students' home and host countries. Using mixed methods, the researcher collected data from international students, university staff in charge of international students, and national HE councils. The researcher used self-administered email surveys to collect quantitative data from a sample of 208 international students at Kampala International University (KIU) and 229 from Makerere University (MU) in Uganda. The researcher also interviewed 15 informants, including two staff members from HE councils, three from MU, six from KIU, and ten international students. In the quantitative data analysis, descriptive statistics such as percentages were determined using the Statistical Package for Social Sciences (SPSS) which was used to categorize the study variables. Thematic analysis was used to study qualitative data, which included categorizing it into themes, coding it, and tabulating the results. Representative quotes were generated to examine the themes discovered among the respondents, and summary statements were built utilizing the coded data.

Findings

This section presents and discusses findings on the influence of HE systems on ISM by considering the quality of HE in sending and receiving countries in East Africa.

Quality of HE in the Sending Countries

International students were asked to rate eleven aspects of HE quality in their home countries. According to Cadena et al. (2018) and Lourenço and Sá (2019), the quality of a HE system is measured using criteria such as institutional administration, research output, student services, and teaching quality. Furthermore, studies (Bratti and Verzillo, 2019; Kosztyán et al., 2021; Lourenço et al., 2020) indicate that HE systems are distinguished by the language of instruction, university ranking and reputation, facility quality, and educational costs, all of which influence student in-and out-flows in a given country. These variables were considered in this study, and an average index of international students' responses was calculated to provide an overall picture of the quality of the HE system in the sending countries. Table 1 displays the pertinent descriptive statistics.

Table 1: Pertinent Descriptive Statistics of the Self-Administered Survey

Statistic	Value	
Mean	3.39	
95% confidence interval	Upper	3.50
	Lower	3.32
Median	3.34	
Standard deviation	0.48	
Range	2.55	
Skewness	0.70	

International students' perceptions of their home countries' HE systems are slightly greater than three (mean = 3.40) on a Likert scale of five options. A mean value somewhat greater than three suggests uncertainty about the negatively stated items used to assess HE quality in the sending countries. Furthermore, international students' perceptions of HE systems are slightly grouped around the mean, as shown by a low standard deviation of 0.48. Moreover, individuals' perceptions of HE quality in their home country are normally distributed, as shown by a slight positive skew (0.70). Thus, there are approximately similar levels of satisfaction and dissatisfaction with the quality of HE in international students' home countries. While the quantitative data revealed virtually similar levels of satisfaction

and dissatisfaction with the quality of HE in international students' sending countries, the qualitative findings revealed that the sending country's HE system had quality challenges. According to an informant from the National Commission of Burundi:

The quality of education in Burundi is low, mainly due to underfunding. Those who study in other countries do so in search of better quality education. Besides, the language of instruction used in universities in Burundi encourages students to study in other countries. English has been promoted as the lingua franca, yet it is not used for instruction in most HEIs in Burundi. This forces students to study abroad. (Interview with an official from the National Commission for HE in Burundi, December 1st, 2022).

From this response, Burundi's outbound mobility is influenced by a search for higher-quality education, including English language instruction and educational resources. Furthermore, this response reflects English's predominance as HE's most widely used language. As Altbach (2011) notes English as "the language of academic neo-colonialism, ... scholars everywhere are under pressure to conform to the norms and values of the metropolitan academic systems that use English" (p. 18). It is consequently difficult to dismiss the argument of Schinkel (2018) and Zuchowski et al. (2017) that internationalization is related to neocolonialism, particularly in developing nations and intra-African ISM should decrease, not enhance, the relationship between internationalization and neocolonialism.

To a question to international students, "How likely is it that the HE quality in your home country influenced your choice to study in Uganda?" over 75% responded that the quality of their home country's HE system informed their mobility choice. In contrast, almost 12% of respondents reported that the home HE system had little influence on their choice to study abroad. In agreement, the informant from the International Students Office at MU, while remarking on Uganda's inbound ISM, claimed that:

Uganda used to admit many international students from Rwanda, Burundi, Somalia, and South Sudan, which faced instabilities at times. With peace prevailing in these countries, the number of international students from these countries has reduced. These countries built their education systems to attain the desirable qualities. (Interview with the International Students Officer at Makerere University, November 15th, 2022)

This response implies that challenges threatening the quality of a country's HE system promote outward movement. Thus, Uganda's role as a host country for many international students in the East African region is not guaranteed; its position will likely change as neighboring nations create more powerful education systems, hence reducing outbound ISM from such countries.

Considering the aforementioned concerns, this study hypothesized that a student's choice to become internationally mobile is determined by the listed HE quality indicators (e.g., tuition and other education expenditures) in their home country. The null hypothesis was that a student's likelihood of becoming internationally mobile is independent of the identified HE quality indicators in the home country. The research hypothesis was tested on each HE quality parameter using the Chi-Square test for independence, with the findings reported in Table 6.3.

Table 2. Chi-square Tests for the Relationship between HE Quality Indicators and the Likelihood of Mobility.

	Indicator of higher education quality at home	Pearson Chi-Square	df	P Value (2-sided)
1a	The tuition and other education costs in my country are very high	27.251	16	0.039
1b	The quality of teaching in universities at home is low	31.380	16	0.012
1c	I was not admitted to the chosen programme in home universities	24.123	16	0.087**
1d	Universities in my home country do not provide chances to improve competencies in the English language	41.876	16	<0.001
1e	There are a few reputable universities in my country	40.207	16	<0.001
1f	The quality of university programmes in my home country is low	24.518	16	0.079**
1g	Higher education institutions in my country are unattractive	40.963	16	<0.001
1h	Universities in my home country offer fewer academic programmes	29.011	16	0.024
1i	Higher education policies in my home country are poor	16.470	16	0.421**
1j	The higher education system in my home country encourages the development of a few soft skills among students	11.551	16	0.774**
1k	There are few research opportunities in my home country universities	41.762	16	<0.001

Table 2 displays the indicators used to measure the quality of HE in international students' home countries, together with their chi-square values and p-values. Four indicators (1c, 1f, 1i, and 1k) exhibit a significant Chi-Square value (those with a **p-value). The p-values for these indicators are greater than the rejection value of 0.05. Thus, the null hypothesis is upheld on indicators 1c, 1f, 1i, and 1k, i.e., the mobility tendency for a student is independent of the HE quality indicators with a significant value of Chi-Square. For example, we infer that the likelihood of a student becoming mobile is unaffected by the quality of HE policies in their home country (item 1i). Other quality indicators (1a, 1b, 1d, 1e, 1g, 1h, and 1k) have p-values lower than the 0.05 rejection level. The null hypothesis is rejected on these items, whereas the research hypothesis is upheld. On such items, the proclivity for ISM is dependent on the HE quality indicator. For example, the mobility tendency for a student depends on the availability of adequate study programmes in the home country (item 1f).

According to Nyerere (2021), students frequently become mobile in pursuing higher-quality education. Van Bouwel and Veugelers (2013) investigated the quality dimension as a determinant of ISM in Europe and concluded that the overall quality of a country's HE system influences the extent and direction of student mobility. Because their study found no significant association between the quality of the home HE system and students' likelihood to become mobile, they concluded that HE quality influences inbound rather than outbound ISM. On the contrary, the current study demonstrates that low-quality HE in the home nation promotes outbound migration and thus, regardless of the direction, the quality of HE determines ISM trends.

HE System and International Student Mobility in the Receiving Country (Uganda)

This section presents and discusses findings on whether Uganda's HE characteristics, such as university management, teaching quality, student service quality, links between society and universities, university research, and university resources, influence ISM flows.

The findings indicate that most international students in the sample (80.5%) were satisfied with the quality of HE in their host universities in Uganda. This suggests that there is potential for progress beyond the well-known narrative of Africa's weak educational system. Most of the available literature focuses on inadequacies in Africa's HE systems, such as low access rates for students of the relevant age and under-representation of women, particularly in science fields (Mba, 2017), while ignoring self-improvement efforts in Africa's HE and contextual factors. However, this

should not imply complacency; African countries must continue to improve the quality of their HE systems. In analyzing the level of self-improvement to date, the study investigated the quality of HE in the host Ugandan universities. Figure 1 demonstrates international students' satisfaction with Uganda's HE:

Figure 1: Degree of International Students' Satisfaction with Uganda's Higher Education System

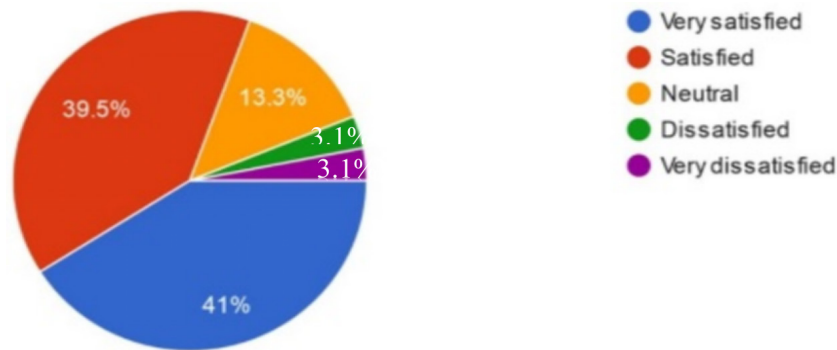


Figure 1 reveals that 80% of respondents were satisfied (sum of Satisfied and Very unsatisfied) with Uganda's HE system, while only 6.2% dissatisfied (sum of dissatisfied and very dissatisfied). As a Kenyan international student at MU explained his satisfaction:

I could study in Kenya, but I wanted to be part of 'the famous MU,' the oldest university in the region. My father studied here and resided in Livingstone Hall; I plan to reside in the same hall next year. (Interview with a Kenyan national studying at MU, November 15th, 2022).

This response highlights Uganda's history of providing HE when it was developed as a center of HE in East and Central Africa, during the colonial period. This historical aspect, intrinsically linked to excellent education at MU and Uganda in general, attracts international students. For example, when asked why MU is among the top recruiters of international students in East Africa, the International Students' Officer at MU responded:

Makerere University has a long history; it is the oldest university in Africa, giving it an extra advantage compared to other regional universities. Secondly, the university offers quality education. I do not know whether you have heard about the 'Harvard

of Africa.' This old term was used to describe the quality of education at this university, and the university has continued to work towards maintaining that legacy. Makerere also has memoranda of understanding with several universities within and beyond Africa. Through these understandings, Makerere continues to receive international students on exchange programmes. (Interview with an official from the International Students Officer at MU, November 15th, 2022).

This demonstrates how colonialism continues to shape ISM in East Africa. Furthermore, the Belgian education policy, which constrained education development in Rwanda and Burundi and the political instabilities in these nations following independence (Mugisha, 2010; Nganga, 2014), slowed the growth of their HE systems. The inadequately developed HE systems fail to provide the needed quality services, which justifies outbound ISM. This viewpoint supports Rodriguez et al.'s (2011) contention that the quality of education delivered by an institution impacts its ability to recruit international students. Thus, as seen by their quantitative responses, international students in this survey were content with the quality of education in Uganda, which explains their mobility to the country.

Other elements, such as students' attributes and networks, influence their decision to study abroad. According to an interview with a Kenyan student at KIU:

My elder brother studied in Uganda; he advised me to study here. I am studying for the Diploma in Clinical Medicine, and the 'cut-off' points for this programme in Kenya are very high. My brother advised me that KIU would admit me to this programme, which was impossible in Kenya.... (Interview with a Kenyan national studying at KIU, November 18th, 2022).

According to Beech (2015), ISM occurs and is perpetuated via predetermined 'pathways' suggested by foreign students' social networks. These networks and students' previous mobility experiences increase the likelihood of ISM as the case of the two brothers here indicate.

Mobility networks also suggest that ISM trends typically follow specified streams and established social organizations, which makes it difficult for nations and institutions without a track record of enrolling international students to establish themselves as worthy of consideration (Oleksiyenko and Sa, 2010). Uganda, with a history of accepting international students since colonial times, is better positioned to continue doing so than Rwanda

and Burundi, which established their first universities after gaining independence. Thus, the pattern of ISM in East Africa is designed to perpetuate colonial disparities between partner states, as only dominant institutions and nations remain appealing destinations for students.

One important issue that surfaced through both interviews and document review was the inconsistency in how tuition fees are applied across regional lines. While the East African Community (EAC) framework proposes harmonized tuition structures to support educational integration, this promise has yet to be realized in full. Many universities in Uganda continue to charge EAC students—like those from Rwanda and Burundi—the same fees as students from outside the region. This practice undermines the principles of regional cooperation and disproportionately affects students from lower-income backgrounds who may already struggle to afford HE abroad.

Further, the preceding interview response calls into question the quality of education at Uganda's private HEIs. The student hints that he was admitted to KIU with lower grades than those required in Kenya. Admitting students with lower entrance grades raises the question of whether the goal is to increase student access to HE or to earn a profit by admitting a large number of high-fee international students. Universities in Uganda are said to be aggressive recruiters of international students (ICEF Monitor, 2017) and charge lower fees (Itaaga et al., 2013). As Chemsripong (2019) explains, reducing fees is a strategy established by Ugandan universities to maintain local students while simultaneously attracting international students. This reflects marketization, neoliberalism, and academic capitalism tendencies currently transforming Africa's HE system (Maringe and Chiramba, 2020). HE has become commodified with these tendencies, and the number of private institutions competing with public ones has grown, shifting the responsibility for education provision from the state to the private sector. While this would diminish the government's pressure to offer HE, profit-making ambitions in public and private institutions may limit the equity and quality of service delivery (Johnson and Hirt, 2011), hence challenging the ethics of IHE.

According to Chao (2014), ISM initially meant to enhance cross-cultural understanding, mutual understanding, and friendship, but is now driven by commercialization with profit maximization as the prime interest. This is particularly relevant in Uganda since education is one of the country's exports (Othieno and Nampewo, 2012). Moreover, by offering their services at a lower cost, universities in Uganda are not necessarily meant to promote ISM for its good, but to maximize

profits by attracting a large number of international students. According to Wakeling and Jefferies (2013), some students may sometimes be willing to pay higher tuition prices, mainly if their participation in ISM is motivated by a desire to obtain quality HE. Higher tuition fees are associated with higher-quality education (Wyness et al., 2017), such that one may question the quality of HE services received by international students in Ugandan universities. However, the Dean of Students at KIU, whose office is in charge of international student affairs, clarified on this issue and revealed that students who do not meet the admission requirements must attend the Higher Education Certificate Program (bridging courses) to gain the necessary competencies. The programme allows international students to achieve the minimum entry requirements for a preferred course while preserving high-quality standards.

The quality issue was further addressed by a HE officer at Uganda's National Council for Higher Education (NCHE), who explained that:

The Higher Education Certificate Program enables students without the National Council for Higher Education entry admission requirements to gain admission into a degree programme. This mainly applies to international students whose home country's HE entry qualifications are not equivalent to Uganda's Advanced Certificate of Education. On successful completion of the programme, the student gains admission to the desired course. (Interview with NCHE official, December 15th, 2022).

The Higher Education Certificate Program, according to the Higher Education Officer at Uganda's NCHE, is an alternative entry pathway into HE and not a mechanism for permitting failures into HE and further stated that functional educational systems in the current times must be designed to offer multiple entry routes.

HEIs usually offer international students preparatory programmes (bridging, route, or foundation programmes) to help them acclimate to the sometimes different educational environment in their host country (Faulkner et al., 2017) and strengthen their language abilities in preparation for their studies. According to research, international students frequently suffer linguistic barriers that impede their progress (Terraschke and Wahid, 2011), emphasizing the importance of such preparatory programmes. Furthermore, Floyd (2015) adds that such programmes allow international students to meet the minimum academic entry requirements for the degree programmes they wish to pursue.

With these considerations, while profit-making intentions are associated with ISM in Uganda, provisions for maintaining high standards have also been implemented. That is why an international student from South Sudan at MU stated:

Uganda's education quality is much better than that of South Sudan and other East African countries. Another plus is that Uganda is safe; my parents got me out of South Sudan when war destabilized everything – even our education system was affected. (Interview with an international student from South Sudan studying at MU, November 15th, 2022).

Bisaso (2017) and Bukuluki et al. (2017) concur that education at MU is of excellent quality, as evidenced by the high research output, including international collaboration and the support provided to academic staff pursuing higher degrees. Indeed, MU has a long history of providing high-quality education in East Africa and is known as the 'Harvard of Africa' (Tabaire and Okao, 2010) though, this may not be true for other Ugandan universities. According to Hyuha (2017), only MU engages substantially in research, whereas other institutions primarily focus on teaching. This disparity reflects broader systemic challenges within the HE sector, including underfunding, low research output, limited staff qualifications, inadequate infrastructure, and pervasive corruption within and beyond the sector. However, this study contradicts such views by highlighting a satisfactory quality of HE in the sampled universities.

Furthermore, the study coincides with Lo et al. (2022) that global ISM trends are expanding as international students seek quality HE opportunities elsewhere. As a result, the influx of international students in Uganda reflects a desire for a high-quality education. However, pursuing quality education is not merely an aim but also a hunt for the benefits of quality education, as Raghuram (2013) argues, an individual's studies and qualifications influence their employment possibilities and should not be overlooked. Teichler (2011) also claims that ISM from a nation with a poor HE system to a stronger one or from a less to a more economically developed country results in higher returns for students and their home countries.

The preceding viewpoint emphasizes East Africa's unequal HE environment as the foundation for ISM to Uganda. However, according to Knight (2014), internationalization should be centered on "cooperation, partnership, exchange, mutual benefits, and capacity building instead of competition, commercialization, self-interest, and status building" (p. 76).

Contrary to this view, universities in Kenya and Uganda actively compete for students at the expense of collaboration, partnership, capacity building, and mutual benefit. This has effectively divided ISM in East Africa into senders (e.g., Rwanda and Burundi) and receivers (e.g., Uganda and Kenya) of international students, with winners and losers. An internationalization designed in this way is unsustainable (Ramaswamy and Kumar, 2022) and may not achieve the desired development goals. It should be noted that all East African Community partner nations should equally participate and benefit from its internationalization, as HE is critical to achieving development goals (UNESCO, 2023).

Typically, student mobility decisions are based on a programme's prestige and institution (Waters, 2006). A student may be able to acquire admittance to their home nation, an alternative programme of study, or a lower-class institution. However, students frequently choose high-class international universities to acquire or retain a high social status. This concept was further expressed by a Kenyan international student at MU:

My father wanted me to study law at the University of Dar es Salaam. I applied for this course while completing high school, but was not admitted. Knowing that Makerere is in the same league as the University of Dar es Salaam, I applied for admission here (Makerere University) and was admitted. (Interview with a Kenyan national studying at MU, November 15th, 2022).

This viewpoint explains Brooks and Waters' (2009) argument that students frequently choose to study in foreign institutions after failing to acquire admission to prestigious domestic institutions. In such circumstances, the host university where international students are enrolled is their second-best choice.

According to Morano-Foadi (2005), an international university is the best option for students looking to optimize their symbolic capital. This is because, for such students, a qualification from a foreign university is more likely to deliver exceptional symbolic capital and benefits than a home institution (Vavrus and Pekol, 2015). Nonetheless, this must be considered given the current greater economic challenges. In East Africa, for example, the prices of international education in the global North are prohibitively expensive for most students, forcing them to study in their home countries. With African nations' increasing potential to provide quality HE services, others opt for international education in neighboring African countries (Sehoole and Lee, 2021), ideally at cheaper costs.

Conclusion

The study shows that the quality of HE systems in sending countries falls short of expectations of international students. It found that HE systems in international students' home countries (Rwanda and Burundi) have high tuition fees and other costs, and universities with low international repute. Other attributes include universities with few academic programmes, low teaching quality, few options for improving English language skills, less supportive HE policies, and limited research opportunities. These factors reportedly explained why such countries had pronounced outbound mobility trends, in that the quest for HE systems with desirable features led to students' outbound mobility. In this regard, 75% of respondents claimed that low-quality HE in their home countries motivated their involvement in ISM.

Further, the quality of teaching in Uganda's sampled universities reportedly attracted many international students. This is complemented by universities with a strong international reputation. This finding resonates with Kiiza's (2019, 2022) conclusions that Uganda attracts students from neighboring countries due to its historical reputation and perceived quality advantages. However, this study also indicates that improvements in HE quality in sending countries may gradually reduce Uganda's dominant hub role, signaling a potential shift in regional mobility patterns.

The sampled universities feature a high research output, a high proportion of researchers with doctoral degrees, and a wide range of academic programmes for international students to choose from. A sizable proportion of the student respondents in this study expressed satisfaction with the HE services at their chosen Ugandan universities. Despite such displayed efforts to strengthen Uganda's HE systems, there is always a need for improvement in university services. For example, the study reveals that international students did not accurately assess university resources favourably.

While the stated findings are valuable, they must be evaluated in light of the sociopolitical and historical difficulties confronting the countries that send international students to Uganda, especially the legacy of colonialism, and Uganda's historical positional advantage. Uganda's historical role as a center for HE in East and Central Africa during the colonial period continues to have a favorable impact on incoming ISM. The historical and colonial processes that drive ISM in Africa cannot be fully explained by drawing on the extensive research on south-to-north ISM.

The study also highlights the prominent neoliberal perspectives in intra-African ISM. For example, while the East African Community member states agreed to align tuition fees for mobile students in the region, this initiative has yet to be fully implemented; some universities continue to charge East African students the same fees as other international students from outside the region. Tuition fees are typically expensive, limiting the participation of students from less affluent backgrounds. Thus, profit maximization interests continue to impact regional internationalization and ISM levels in East Africa, such that disadvantaged students, such as refugees, students from low-income families, and those from poorer socioeconomic backgrounds, are denied access to international education. It is therefore vital to have a critical view of internationalization while prioritizing inclusivity as advanced by Stein (2019).

Notably, while the study identifies flaws in East Africa's HE systems, it also recognizes strengths that can be leveraged to advance education and internationalization in the East African region. For example, the study found that international students were satisfied with the quality of HE provided by Uganda's selected universities and the universities' links to society. Such capabilities can be built upon to provide a more efficient approach to IHE in the region.

However, this study's findings should be understood within the context of its limitations. The focus on a small number of universities in Uganda and neighboring countries means that the results may not fully represent the diversity of experiences across East Africa. Furthermore, the reliance on self-reported data may introduce subjective biases. Future research could build on this work by expanding the sample to include more countries and additional types of institutions, including both public and private, and by incorporating longitudinal data to track changes in intra-Africa mobility trends over time. It would also be valuable to examine the impact of evolving regional fee structures and policy reforms on equitable access to education for students.

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Faculty Perceptions of Community Service in Ethiopian Higher Education: A Case Study of Addis Ababa University

Denekew Zewdie Negassa and Abebaw Yirga Adamu

Abstract

This study examined faculty perceptions of community service and identified factors that influence them. The study, conducted at Addis Ababa University, collected data from faculty, associate deans, department heads, community service professionals, and official documents through in-depth interviews and document reviews. The results indicated that faculty perception of community service is mainly associated with whether it is an independent/integrated activity, requires compulsory/voluntary participation, professional/non-professional roles, and is initiated by the university/individuals. The study also revealed that perception of community service significantly impacts faculty’s engagement in community service. The study further demonstrated a lack of clear policy direction, a reduced emphasis on community service within the university, inconsistent academic promotion practices, and a lack of accountability as some of the factors influencing faculty perceptions of community service. The study affirms a dire need to make community service more central to faculty roles and implement more explicit accountability measures to ensure faculty participation in community service activities.

Key words: community service; Ethiopia, faculty perceptions, third university mission

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Résumé: Cette étude vise à examiner la perception qu'ont les enseignants du service communautaire et à identifier les facteurs qui l'influencent. Elle a été menée à l'université d'Addis-Abeba, et les données ont été recueillies auprès des enseignants, des vice-doyens, des chefs de département, des professionnels du service communautaire et à partir de documents officiels, au moyen d'entretiens approfondis et d'analyses de documents. Les résultats ont indiqué que la perception qu'ont les enseignants du service communautaire est principalement liée au fait qu'il s'agisse d'une activité indépendante ou intégrée, qu'elle nécessite une participation obligatoire ou volontaire, qu'elle implique des rôles professionnels ou non professionnels, et qu'elle soit initiée par l'université ou par des individus. L'étude a également révélé que la perception qu'ont les enseignants du service communautaire a un impact significatif sur leur engagement dans ce domaine. L'étude a révélé que l'absence d'orientation politique claire, la diminution de l'importance accordée au service communautaire au sein de l'université, l'incohérence des pratiques de promotion académique et le manque de responsabilité sont parmi les facteurs qui influencent la perception du service communautaire par les enseignants. Il est donc urgent de placer le service communautaire au cœur des rôles des enseignants et de mettre en œuvre des mesures de responsabilité plus explicites afin de garantir la participation des enseignants aux activités de service communautaire.

Mots clés: Service communautaire ; Éthiopie, Perception des enseignants, Université

Introduction

The history of universities spans three generations based on their missions (Schelkunov, 2018). The first-generation universities originated in medieval Europe to teach people about the cultural experiences of the past. At that time, their single mission was to conserve and transmit knowledge through teaching (Nabaho et al., 2022). The second-generation universities emerged in the early nineteenth century, expanding the mission of universities to focus on the production of scientific knowledge. The third-generation universities gained recognition in the West at the end of the twentieth century and represent a new generation of universities that effectively combine teaching and research functions with a third mission of addressing the existing needs of societies and states (Schelkunov, 2018).

The revolution in information and communication technology, globalization, the emergence of the knowledge economy, political turbulence, the worldwide financial crisis, and their impacts on university

funding have all thrown new light and new demands on universities worldwide to revisit their missions (Hadidi and Kirby, 2016). The model of Humboldtian University represented a new momentum within the higher education realm and was an invention of the early 20th century, driven by the growing number of students, the shift to knowledge-based societies, the increasing importance of science within such societies, and other pertinent issues (Paletschek, 2002).

Universities faced growing pressure to contribute to the economic development of their localities due to changes in social and economic outlooks (Pugh et al., 2016). As a result, new ways of thinking have emerged in universities, which allows mutual interaction between universities and societal organizations to eventually lead to the emergence of the third mission of universities—community service. Community service, also referred to as the third core mission of universities, is an emergent and multifaceted phenomenon linked to the universities' social and economic mission (Compagnucci and Spigarelli, 2020). Community service is a broad concept that encompasses various university activities outside academic environments (Karlsen and Larrea, 2019; Molas-Gallart and Castro-Martínez, 2007). In light of these changes, community service has become a focus and topic of discussion within the higher education community. Although teaching and research are still considered the primary tasks of universities, other activities, such as technology transfer and social engagement, have expanded the scope of their responsibilities. These activities, referred to as the third mission/community service, aim to enhance the impact of science in society and reflect the evolving role of universities (Berghaeuser and Hoelscher, 2020).

Universities are expected to contribute to their community through community service missions beyond the traditional academic core functions of teaching and research (Salomaa, 2019). Usually, this third mission is defined as a lingering and blurry concept that covers all the activities distinct from teaching and research outside academic environments (Görason et al., 2009; Vorley and Nelles, 2008). It is often considered a mission implemented as part of university-community cooperation that is intended to produce benefits for the community, and it is primarily characterized by the relationship between universities and society at large or non-academic partners.

Fundamentally, community service enables the use of universities' knowledge, human capital, intellectual property, and infrastructure resources to help meet the needs of government, industry, and society. In many cases, universities do not function only as service providers.

They, too, derive significant benefits from their interactions with the communities they serve (Mugabi, 2014). Both direct and indirect benefits are felt at different levels within the institution, including students, staff, departments, and centers, and beyond. As external communities embrace knowledge, universities can benefit from it as it provides them with opportunities for new insights and knowledge discovery. Stressing the value of a community service mission, Fitzgerald, et al. (2012) affirmed that, in addition to research and teaching, universities must give attention to community service practices to succeed in the twenty-first century.

Community service enhances the core functions of universities by strengthening teaching, research, and learning. Faculty engagement in community service enables academics to connect instruction with real societal challenges, update course content, and deepen classroom experiences. It also opens new opportunities for research by providing access to diverse settings, data, and interdisciplinary collaboration, thereby expanding disciplinary knowledge. For students, participation in community service promotes motivation, self-confidence, career readiness, social awareness, and networking skills. Overall, community service fosters a dynamic partnership between universities and communities, supporting mutual learning and the exchange of valuable resources (Beere et al., 2011). Therefore, community service, as part of a university's mission, offers an ethical, reflexive, and socially responsive approach to university-community relationships, with practices that aspire to understand and respond to community needs, views, and expectations.

In comparative terms, studies on teaching and research missions of universities in Africa abound, but few on the third mission (Nabaho et al., 2022; Preece, 2013). In contrast to Western countries such as the US and Britain, university-community engagement is a relatively new concept in Continental Europe and Africa (Koekkoek et al., 2021). According to Mugabi (2014), other than a few case studies, research at African universities that scrutinize the status and character of the community service mission is lacking.

In Nigeria, studies indicate that university and faculty involvement in community service activities is deficient and formal engagements take little or no acquaintance to immediate local communities (Awwalu and Najeemah, 2014; Ifedili and Ifedili, 2015; Onwuemele, 2018) which are attributed to insufficient access to research grants and funds (Akpan et al., 2016; Egwunyenga, 2008).

With the expectation of improving their economy and engagement with universities, local communities in Ghana willingly provided their land; however, the universities are serving the interests of only the privileged few (Agbodeka, 1998). Although community service and development are embedded in the establishment of universities in Ghana, a notable tension exists between Ghanaian universities and their host communities, as the host communities have accused universities of renegeing on, excluding, and neglecting their social responsibilities (Agyeman et al., 2021). In a study conducted at three universities in South Africa, Mohale (2023) noted considerable resistance to accepting community service as a major role for universities.

The Ethiopian higher education system has undergone significant and multifaceted changes since the establishment of the country's first higher education institution in 1950. Since then, one of the three responsibilities that universities are supposed to fulfill is community service (Sellamna and Gebremedhin, 2015; Tamrat, 2022).

In 1964, Addis Ababa University (AAU), then known as Haileselassie I University, announced the first university national service programme called the Ethiopian University Service (Wole, 1999) which required university students to serve mainly in rural areas of the nation. The Provisional Military Administrative Council (the Dergue), established as a new government after the 1974 revolution, terminated the programme as it asserted that students engaged in political activism contrary to the mission's aim, and instead established a new service called Development through Cooperation Campaign (Tamrat, 2022). During the campaign (between 1974 and 1976), schools from grade eleven and above were closed as students and staff members were deployed throughout the country (Amare, 1988).

Currently, despite their differences, all universities in Ethiopia are required to pursue a community service mission, as one of their core functions. Highlighting the importance of community service in education, the Ministry of Education has stated in its higher education proclamations that community service is one of the core missions of universities. The Ethiopian Higher Education Proclamation (Proclamation No. 1152/2019) declares that every institution shall “undertake and encourage relevant study, research, and community services in national and local priority areas and disseminate the findings as may be appropriate” (Federal Democratic Republic of Ethiopia, 2019, p.11451). This applies to all universities regardless of their differences in ownership (i.e., public and private),

resources, capacities, and types (i.e., comprehensive, research, applied science) (Ministry of Science and Higher Education, 2020).

University faculty have the most significant control and influence in implementing the community service mission; and their perceptions towards the practice, either positive or negative, affect implementation (Nabaho et al., 2022). Bosanac, Milutinović, and Lungulov (2023) stress that universities' community service is becoming more valued as the higher education system transitions towards a more socially responsible entity. Gorski and Mehta (2016) and Kuttner et al. (2019) also affirmed that, as the core of the university's workforce, faculty involvement, dedication, and experience play a crucial role in the success of service missions.

In Ethiopia, higher education research has mainly focused on teaching and research, while the third mission—community service—has been relatively neglected. However, the situation appears to be changing as new insights into its historical development, institutional challenges, and gaps in implementation are emerging. Recent research (Adamu and Balsvik, 2017) suggests that the Ethiopian University Service initiative effectively fostered strong student involvement, leading to important questions about the faculty's lack of similar engagement today. Concurrent historical studies by Abebe (2019) which studied student participation in national service programmes, during the Derg and Haile Selassie governments, consistently indicated a fundamental disconnect between institutional community service goals and actual community needs.

In a comparative institutional study on AAU and Jimma University, Bekele (2020) revealed a systemic weakness which lacked formalized structures to integrate community service as a core university function. The empirical work of Mengist (2020) on Debre Markos University further highlighted operational barriers, including chronic underfunding, weak university-industry partnerships, low faculty motivation, and insufficient institutional oversight, all of which hindered effective community service implementation. Similarly, in examining the dynamics of university-community partnerships at the University of Gondar, Desta and Belay (2018), identified the transformative potential and recurring obstacles in such collaborations.

While prior studies have examined student engagement, institutional policies, and operational challenges, a notable lack of research on faculty perceptions of community service is evident. Since faculty play a crucial role in sustaining community service missions, understanding their perceptions is essential for improving engagement strategies and

implementation. Therefore, this study examines the perceptions of faculty and community service professionals at AAU toward the university's third core function: community service. This is intended to help design evidence-based policies and directives that enable the university to achieve its mission and benefit the broader community.

Study Questions

The following two questions guided the study:

1. In what ways do faculty perceptions of community service shape their understanding and involvement in the university's community service implementation?
2. What factors influence faculty perceptions and involvement in the university's community service implementation?

Methodology

Although community service is a fundamental mission of all public universities in Ethiopia, the community service at AAU was purposefully selected as a case. AAU, the country's first and largest Flagship University, has inspired other public universities; and its lessons and experiences have also influenced the design, development and implementation of academic programmes, institutional policies and strategies. Therefore, the findings of this study are presumed to have significant implications for other public universities, providing them with valuable insights and guidance.

The study employed qualitative research to explore an in-depth understanding of participants' perceptions on community service. Although faculty perception of the community service mission is essential for ensuring its effective implementation, this aspect has received little research attention in Ethiopia; hence qualitative research for understanding a phenomenon about which little is documented (Strauss and Corbin, 1990, cited in Adamu, 2014). Moreover, the qualitative approach enables researchers to gather data first hand from participants in natural settings (i.e., their work environments), fostering more profound and authentic insights into their perspectives (Bogdan and Biklen, 2007). A qualitative case study is suitable for thoroughly understanding a problem (Creswell and Creswell, 2018) and therefore, this study employed an instrumental case study that uses a particular situation to examine a larger problem (Stake, 2003).

Based on the reports drawn from AAU's Community Service Office, five, out of its eight, colleges, where the community service programme is presumed to have better implementation, were purposefully selected. Twenty faculty members (i.e., four from each selected college), five department heads, five research and community service associate college deans (i.e., one

from each selected college), and three university-level community service professionals were selected as data sources. First, information was obtained on the faculty members who often engage in community service at the selected colleges. Then, purposive sampling, mainly snowball sampling, was used to select data sources with better knowledge and experience in community service. Although the study aimed to include a larger number of data sources, data saturation reached following thirty-three interviews, comprising thirty faculty members and three university community service staff members.

Official institutional and national documents were also used as sources of data. These data were used mainly to substantiate data generated from individuals. The first category of official documents was institutional documents (i.e., documents that are internal to the university). These included the senate legislation, the research and community service directive, guidelines for field attachment and guiding community service, community service frameworks, and a fact sheet from the Community Service Office, as well as the Intellectual Property Management Policy and annual reports. The second category of official documents includes government documents (i.e., documents external to the university). It also included the education and training policy, the Higher Education Proclamation, the Education Sector Development Plans, and the Education Development Roadmap. Official documents were used to substantiate data generated from the university community.

Data from study participants (i.e., associate deans, department heads, faculty, and community service experts) was collected through interviews and document review. The interview guide was structured to allow respondents to reflect on their perception of the community service mission based on their experience. The interviews, which lasted thirty to eighty minutes, were fully transcribed, ensuring a comprehensive understanding of the respondents' perspectives and experiences. Document review was employed to collect data from official institutional and national documents.

The accuracy and trustworthiness of the collected data were verified by re-listening to the audio recordings of the interview and comparing them with the transcripts to identify any discrepancies. This process involved emphasizing overlapping or ambiguous words and clarifying them, as well as verifying and cross-checking the data collected through document review and interview. Peer debriefing was employed throughout all research stages to establish validity and trustworthiness.

The study employed a rigorous thematic analysis technique to analyze data, aiming for in-depth and rich descriptions of the case under study (Braun and Clarke, 2006). Following the review of the data and grouping codes, the generated codes were clustered into categories, yielding two major themes and four sub-themes.

Results and Discussion

Community service is recognized as a core mission of universities and is positively emphasized in national and institutional policy documents. The Ethiopian Education and Training Policy states that universities prioritize research, technology transfer, and community service within the development corridors and areas where they are located. Further, the policy mandates that at least 5% of an institution's budget be allocated to support research and community service projects, depending on the mission of institutions, classified as research, comprehensive, applied science, science and technology, and specialized (Ministry of Education, 2023). The Ethiopian Higher Education Proclamation also states that “every institution shall undertake and encourage relevant studies, research, and community service in national and local priority areas, disseminate the findings as appropriate, and, when necessary, engage in joint academic and research projects with national and international institutions or research centers.” (Federal Democratic Republic of Ethiopia, 2019). The AAU Senate Legislation also clearly indicates that as a premier research university in Ethiopia, providing need-based community service is one of its responsibilities.

Brandt et al., (2018) stress the importance of a nuanced understanding of community service, considering the unique contextual elements specific to each university. At AAU, community service is defined as “a service rendered by the university community to communities, government institutions, businesses, non-profit organizations, and society at large, to address challenges through capacity building, awareness creation, and, whenever possible, improving the quality of lives” (AAU, 2023, p. 14). This contextual understanding is crucial for effective and impactful community service.

While including community service as one of the core missions of public universities is crucial, it is not sufficient for achieving this mission. The implementation and success of this mission significantly depend on the perception of faculty who engage in community service activities (Bingle and Hatcher, 2002; O'Meara, 2008). This underscores the influence and responsibility of faculty in the success of community service initiatives.

In this study, research participants perceive community service in various ways, with several factors influencing their perceptions.

A. Faculty Perception of the Implementation of Community Service Mission

Study participants viewed community service as an integral part of the university mission, though divergence and lack of clarity in what a community service mission implementation entails were evident. Competing voices, arguments and interpretations have emanated due to the fluid nature of the concept, particularly concerning which university activities can be categorized within the community service mission (Nabaho et al., 2022; Papadimitriou, 2020).

While discussing the community service mission in universities, Perold and Omar (1997) also delineated the concept of service into three different ways: An activity that is largely unpaid and done voluntarily; actions performed in support of a higher cause or ideal, like national service programmes; and a professional, organized arrangement where specialized services are offered for payment.

Based on the findings of this research, faculty perceptions of community service regarding its implementation could be understood as (i) an independent versus integrated activity, (ii) a compulsory versus voluntary activity, (iii) a professional versus nonprofessional activity, and (iv) a university versus individual-staff initiated activity.

Community Service as an Independent Versus Integrated Activity

Community service can be viewed as an independent mission and an integrated part of other university missions. Study participants hold that, community service can stand alone and function independently, amidst other core functions. However, other respondents noted difficulties in perceiving community service in isolation, highlighting the interrelatedness of the university's missions and functions.

While examining how community service relates to the university's other two core missions respondents connected the essence of community service with teaching and research, comparing the three missions to the three legs of a stool. They contend that as a stool cannot properly function with a leg missing, the university cannot consider to be meeting its goals without the three core missions operating together.

Several respondents emphasized the interconnected nature of the university's core missions. One respondent noted, "The missions cannot

be viewed in isolation. They are deeply intertwined in our daily work and collectively contribute to the university's broader objectives" (R25). Another respondent expanded on this perspective, explaining that faculty members often simultaneously advance all three missions through their work, even when they are primarily focused on one area (R6). The participants noted that activities undertaken as part of the teaching mission can enhance research and community service initiatives. This is also the case in other universities. For example, at the University of Vienna, "the Third Mission is strongly connected with research and teaching, while simultaneously expanding these missions to engagement with society and economy" (Brandt et al., 2018, p.24).

Stressing the relationship between the community service mission and the other two core missions, a respondent claimed, "Community service mission and activities should be conducted based on research work that focuses on the community's interests" (R8). Studies also indicate that community service is a fundamental feature of universities, strongly related to faculty teaching and research responsibilities (Ogunsanya and Govender, 2019; Van der Sijde et al., 2012).

On the other hand, as a fundamental function of a university, the community service mission, at times, stands alone and directly serves the community. One participant noted that community service is essential and sometimes expected to provide an immediate response to community needs, unlike the teaching and research missions, which may have more long-term impacts. (R12)

Participants also perceived community service as an integral part of the university's core function and consider engagement in its service as they teach and also conduct research relevant to the broader community. On the other hand, faculty who perceived community service as an independent function often look for projects and opportunities outside the university. This implies that faculty perceptions of a community service significantly affect the way and condition of engagement.

Community Service as Compulsory versus Voluntary Activity

Some participants perceive community service as a compulsory activity to be engaged in. This is mainly based on the argument that the university has three core missions, and faculty are hired to contribute to achieving these missions. Although the AAU Senate Legislation does not list community engagement under the article on the duties and responsibilities of a faculty, it however states that "every faculty is required to engage in an approved and registered community engagement" while referring to the workload

of faculty (AAU, 2023, p. 59). Participants who considered community service as a compulsory activity noted that they are expected to allocate a certain amount of time to community engagement, although they admit its lack of equal weight to teaching or research and accountability attached to it. These participants do not directly associate community service with payment or compensation, but only do so when the request originates from the university. One participant noted:

By definition, community service is a free service. It must be done freely, and staff should not incur any costs while engaging in it. However, some staff members attempt to link community service with incentives despite the absence of guidelines that connect the service with incentives. (R1)

Another participant considers community service as his duty and prefers to do it for free, but if it requires much of his time, he may ask for compensation. He noted:

For example, a government office in Addis Ababa approached me, asking, 'You are an expert in this area; can you help us?' I agreed but mentioned that it would require a significant amount of my time. Initially, our engagement in community service activities was driven by our expertise. However, due to the extensive nature of the work, the issue of a professional fee would become a point of discussion. Such situations also occur. If I were in a better financial position, I might have done it entirely for free, which would be considered pure community service. (R14)

These responses indicated that faculty who perceive community services as one of their mandatory duties, did not disassociate it from payment, mainly because they consider such engagement as an opportunity for additional income. However, none of the national or institutional policies promote community service as a means of generating income for staff.

Some participants perceive community service as a voluntary activity that they engage in when they choose to. These participants also recognize the importance of community service to the community, the university, and the country as a whole. However, since they consider it as a voluntary service, they often expect monetary rewards. This is often when their community and government offices request them as a way of giving back to their society and country. They indicated cases where they do not expect payment or any financial reward, mainly when the request to engage in community

service activities originates from the university. This contradicts national and institutional policies that consider any community service activity undertaken by faculty as mandatory, performed without monetary compensation. The study also indicated that intrinsic and extrinsic incentives are the primary drivers of university-community engagement, and both can coexist within universities (Koekkoek et al., 2021).

Community Service as a Professional versus Nonprofessional Service

Participants' perceptions of community service varied regarding their engagement in activities that require professional expertise. Some participants argued that what should be counted as community engagement from a university perspective should be those community service activities they provide as university members and require their expertise and experience as a faculty or researcher. A proponent of this perception of community service noted:

All faculty must contribute to community service initiatives aligned with their expertise. This alignment ensures that they can effectively address pertinent issues within their profession. For example, a medical doctor provides community services that require medical expertise. Someone from the agriculture department would provide agriculture-related services, and faculty with law expertise would provide voluntary legal services. (R2)

The advocates of this concept also emphasized the rationale for providing community service within one's specific area of expertise. They argued that faculty are experts in their fields and can effectively address and explain the issues or questions that arise within their area of expertise. Onyx (2008) stated that the academic or research fellow assumes the role of an expert, and in this capacity, they are expected to provide professional advice to the targeted community group. While academics engage in community service, they often perform better or are more productive in their respective fields of study (Ćulum et al., 2015; O'Meara, 2002).

Respondents further noted that although they often provide community service as residents and citizens, those services may not require their academic and research knowledge and more so, they need not be a university member. Therefore, they argued that such services should not be counted as community service from the university's perspective because, first, those activities are not recognized or registered by the university; second, faculty members are engaged in those activities as individuals, not as experts, as they do not require academic expertise.

Contrary to what is stated above, some participants perceive community service as activities that require faculty engagement both in and outside their specific area of expertise. Proponents of this view argue that successfully executing a project outside one's specific area of expertise for the betterment of the community, regardless of the location, exemplifies the essence of community service, even if it is undertaken without formal affiliation with the university. (R15, R21) The main argument raised by these participants is that what makes community service is not the requirement of the expertise but rather the essence of providing the service. As long as the engagement benefits the community, it should be considered a form of community service.

Community Service Initiated by the University versus Individual Staff

University community service activities can be initiated by various parties, including the university's community service office or team, colleges, staff members, government offices, or local communities. Some participants asserted that the university's office for a community service is responsible for undertaking community service activities, and according to one: "Besides supervising and monitoring community service activities at the university, the Office of Community Service is primarily responsible for initiating all activities under the university's community service mission. (R5)

However, due to limited budget the university can only fund a small number of community engagement projects and offices. For example, over the past four years, it has awarded 73 community engagement projects (19 per year on average) through a competitive process (Vice President for Research and Technology Transfer, 2024). The university often expects community service projects to be carried out by a group of faculty; however, due to the limited number of projects, involving all faculty in the activities remains challenging. Participants described community services initiated and funded by the university as fair in terms of staff representation, as all faculty members are eligible to apply and compete. The main limitations of the exercise were described as relating to the lack of strong monitoring and evaluation of project implementation. Concerning this, a respondent said:

...for example, the department closely monitors teaching and learning activities and class schedules through timetables, attendance tracking, feedback systems, and follow-up procedures. However, similar mechanisms are absent for community service activities; there is no monitoring or oversight in place for these activities. (R29)

Along those lines a participant stated: "Let alone follow up, I see nothing more than a yearly report on the issue" (R9). Another one added: "Once the university or the Community Service office provides funding annually to the selected recipients, there is no further engagement. They do not conduct follow-up visits, only requesting a report on the activities". (R4)

Meanwhile, other participants argued that the idea of community service often emanates from individual staff members and felt that the university has not sufficiently focused on community service. One indicated:

Because of the limited attention of the university's, most community service activities are often initiated and implemented by individual staff members. (R11)

Participants also indicated that they use other opportunities, such as professional networks and memberships in different associations, to engage in community service. One observed:

From my observations, individual staff members often initiate community service activities based on their own experiences. These encounters can arise through involvement in professional societies, membership in ethics review committees, or managing various tasks, all of which are recognized as community service. (R16)

These observations indicate that faculty who perceive initiating community service as their main responsibility often expect the university to provide them with opportunities to engage in community service activities. On the other hand, faculty who perceive initiating community service as one of their responsibilities often engage in community service activities by taking advantage of opportunities that arise through various networks.

Staff engagement in community services through their network enhances access to community services in diverse areas where the community requires support from the faculty's experience and expertise. The problem with this type of community service is that, in most cases, it is neither recognized nor is it registered as a service provided by the university. The university also lacks the opportunity to follow up and provide leadership support as may be required. Moreover, in cases where a staff member leaves that position, the tasks may fail to be accomplished. A study by Bidandi et al. (2021) indicated that when community service activities are based on fragile relationships between individuals within universities and

specific communities outside the university or key staff members leave the university, the established trust and rapport with the community might be weakened or lost, affecting ongoing and future engagement efforts. Sometimes, community activities are also initiated directly by the community itself. The community may seek expertise from the university and approach individual staff members who they know in different capacities and engagements. The AAU Senate Legislation also states that “Community Engagement can be initiated at various levels of the AAU or by the community” (AAU, 2023, p. 88).

B. Factors Influencing Faculty Perceptions of Community Service Implementation

Community service is an increasingly prominent concept in higher education, gaining recognition in policies such as the Higher Education Proclamation and the University Senate Legislation. While faculty generally acknowledge community service as a core university mission requiring their active participation, framed as a means to address societal challenges, their perceptions often vary in practice. This study identified key factors shaping faculty perceptions, which in turn influence their interpretation and engagement with the university’s community service mission. These include insufficient institutional emphasis, a lack of guided implementation, weak accountability mechanisms, and a lack of detailed provision of community services, including their nature and requirements.

Institutional and National Policies

National and institutional policies lack sufficient clarity on whether community services are integrated into the other two missions of the university, or provided as a stand-alone service, or both. Those who perceive community services as integral to their research and teaching endeavours often do not engage in other forms of community service, assuming they are fulfilling their expected responsibilities. These participants argue that conducting research addresses a community's problems, though, this is not the sole purpose of all research engagements.

The policies also do not clearly state what counts as community services. For example, participants highlighted that in some colleges, participation in departmental or college-level committee memberships and co-curricular activities is also considered a form of community service. In contrast, in most other colleges, these activities are viewed as participation in university affairs rather than community service. As a result, some participants perceive community service as engagements that require their professional experience and expertise. In contrast, others consider all the services they provide to their community, regardless of the expertise required for each

engagement. Such inconsistencies also influenced the faculty’s perception of community service and engagement. Such lack of awareness could significantly hinder the success of a university's community service efforts and thus a well-developed community engagement policy—coupled with a university population that is both aware of and supportive of these efforts—is crucial to ensuring the successful implementation and sustainability of community service initiatives (Hall, 2022).

A respondent acknowledged these challenges and indicated efforts to address them and noted, “The community service office is organizing awareness sessions for the university community and has also prepared documents such as community service frameworks and factsheets on community service.” (R13). This aligns with the approach taken by other universities in addressing the mixed sentiments surrounding the concept of community service. Mohale (2023) observed that universities are developing policy frameworks to enhance the understanding of internal stakeholders regarding the concept and to establish procedures for managing community engagement activities.

Emphasis on Community Service

Community service is often underprioritized in higher education because it is not seen as equally valuable as teaching and research (O’Meara, 2002), which is why it is sometimes referred to as the third mission of universities. Nevertheless, institutional support and prioritization are crucial in shaping faculty perceptions of community service. When management prioritizes other activities over community service, faculty tend to interpret this as a signal that community service is less important within the institution, potentially impacting their engagement and participation.

At the university level, community service is structured and guided by the Community Service Directorate under the auspices of the Vice President for Research and Technology Transfer. A community service office also coordinates all community service activities within the university. At the college level, the associate deans are responsible for research and technology transfer but not community service per se. No budget is allocated for community service at the college level and the associate deans are unable to guide community service activities. No unit or focal person exists for community service at the department level. A participant indicated, “Community service is not structured at the college and lower levels like other functions such as teaching and research.” (R18). Emphasizing this, another participant remarked that:

The organizational structure looks good at the top management level but narrows at the lower levels, where more community service engagement is expected. This inappropriate imbalance affects staff perception and hinders their participation in community service activities. (R13)

The absence of a dedicated unit or focal person responsible for community service-related activities implies less emphasis on community service, potentially influencing faculty perception and engagement.

As participants noted, community service initiatives lack the necessary management attention, resources, or encouragement. This impacts the allocation of resources, the level of institutional support, and the overall culture surrounding community service within the university. One participant noted:

Lack of resources is a major challenge; even the per diem allocated for community service activities is insufficient. Even if you are interested as a staff member, a lack of resources limits your interest in community service activities. (R18)

AAU allocates less than five percent of its budget to community service and participants indicated that it is insufficient for many impactful community service projects. Participants advised to focus on and fund only a limited number of highly impactful projects, rather than distributing the budget to less impactful but comparatively more community service-oriented projects. As one participant observed:

Some [community service] projects require substantial budgets to be effectively implemented. Instead of allocating minimal funds annually to numerous small projects, allocating larger budgets to selected important activities that provide long-term benefits to the community would be more beneficial. (R26)

Participants indicated that an institutional culture common to all public universities tends to understate community service compared to teaching and research missions, as Weerts and Sandmann (2008, p.82) observed: “institutional cultures may either promote or stand in the way of implementing community engagement”. In the case of AAU, the institutional culture remains unfavourable to promoting community service.

Practices Related to Academic Promotion

The AAU Senate Legislation describes community engagement as

“mutually beneficial scholarly collaborations and partnerships of the university community with local, regional and international communities to address their specific needs centred on social, economic and cultural developments and challenges” (AAU, 2023, p.14). Community engagement accounts for 15% of the total points in the academic promotion criteria.

Yet, participants admitted a lack of consensus, within the same department, on what qualifies as community service in relation to academic promotion criteria. Some faculty members considered activities such as giving public lectures, volunteering, or mentoring outside the university as valid forms of community service (R3). Conversely, others thought that only structured, institutionally approved initiatives by the community service office of the university should be recognized (R7).

In some colleges, only community services provided by faculty related to their expertise count as community engagement. In contrast, in other colleges, faculty community service is counted as qualified community engagement, regardless of whether the service requires faculty expertise or not. As pointed out by participants, some faculty provide letters or certificates from different organizations, associations, or government offices to provide proof of their community service engagement. As one participant noted: “any staff member can obtain a certificate from anywhere showing their participation in community service and be promoted based on that” (R27). Participants argued that this is neither a good practice nor does it relate to an academic promotion that the faculty is seeking.

Moreover, this view meant that faculty counted any service they provide outside the university as community service and this to interpret any external service activity as community service broadly. However, such inconsistent understandings create evaluative challenges, particularly in promotion considerations as disparity emerges when comparable faculty contributions receive markedly different recognition—some formally valued as community service, while others disregarded due to subjective interpretations.

These inconsistencies fundamentally stem from inadequate institutional guidance, necessitating a critical need for universities to establish and disseminate clear operational definitions of community service. The current ambiguity not only creates confusion but may actively deter faculty participation in community service, as many reasonably question whether their efforts will receive proper acknowledgment in career advancement decisions.

Accountability

The AAU Senate Legislation states that, unless otherwise specified in an employment contract, the workload for faculty shall be divided into 62.5% for teaching, 25% for research, and 12.5% for community engagement (AAU, 2023; AAU, 2024). This affirms that community service is a duty of the faculty—and not a voluntary engagement. However, as some participants pointed out, accountability measures for staff members not engaged in community services do not exist. They noted that while faculty cannot disregard their teaching role, they could do so with community service, without consequence.

Participants indicated that, in most cases, faculty members seeking academic promotion often engage in community services for the sake of simply meeting the criteria for promotion. A participant observed:

The university does not enforce engagement in community service, and faculty are not actively participating. It is not considered mandatory work by the faculty and gets attention when it is needed for promotion. During promotions, everyone looks for opportunities to obtain a certificate to be counted as community service. (R30)

The above discussion implies that lack of accountability is attributed to regarding community service as a voluntary activity. Although a study indicated that faculty perceptions of how community service is valued in promotion significantly affect their motivation (O'Meara, 2008), this was not found to be the case in this study.

Conclusion

This study delves into faculty perceptions of community service and factors influencing them at AAU. The importance of community service at national, institutional, and individual levels is collectively acknowledged. The study identified that these perceptions can be understood in terms of varying categories: community service as independent versus integrated activities, compulsory versus voluntary participation, professional versus non-professional roles, and university versus individual-staff initiated activities. The study also reveals a significant gap between the perceived importance of community service and the faculty's perception regarding its implementation. The findings reveal that an institutional policy that recognizes community service as one of the core missions of the university is a necessary but not sufficient condition for achieving the university's overall objectives. This implies the need for a formal institutional policy, such as an operational guideline or framework, to define and standardize

community service implementations explicitly. Such a structured document would enhance clarity and provide actionable direction for effectively implementing community service across the university. The findings of this study show that numerous factors influence faculty perceptions of community service implementation. These include institutional and national policies, diminished emphasis on community service within the university, inconsistent academic promotion practices, and a lack of accountability among faculty. While multiple factors result in diverse conceptualization of community service and shape faculty perceptions, accountability is the most addressable barrier. Contextually addressing these factors should be a priority for the university to ensure harmonized and concerted efforts in meeting the intended objectives of community service.

AAU should consider making community service a more central component of faculty roles, potentially integrating it into research and teaching responsibilities. This shift could enhance engagement by normalizing community service as part of the professional identity of faculty rather than treating it as an optional or secondary task. National and institutional policies related to academic promotion and resource allocation should explicitly value and reward community service to encourage the faculty. AAU must also implement more explicit accountability measures to ensure faculty participation in community service activities. Without ensuring accountability, community service is likely to remain underprioritized and insufficiently integrated into the academic culture.

Built upon preliminary document analysis and contextual understanding, the findings draw attention to an important direction for future research: examining whether the factors influencing faculty perception of community service implementation are influential in other Ethiopian universities and beyond.

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Operational Practices and Related Issues Regarding Intellectual Property Education and Training at Selected Universities in Zimbabwe

Sibongile Ngwenya and Omwoyo Bosire Onyancha

Abstract

The quality of an Intellectual Property (IP) educational programme largely depends on the level of experience and interest of the IP educator. However, in most universities in Zimbabwe there seems to be operational glitches since IP education and training is conducted in different disciplines and mostly by staff without practical skills nor prior technical background in IP. The study sought to investigate the operational practices in relation to IP education and training within the universities. A survey of four universities was carried out with a sample of lecturers (692), research officers (4), IP officer (1), and faculty librarians (4). Questionnaires were administered to the lecturers while interviews were administered to the IP officer, research officers and faculty librarians. The questionnaire response rate was 52.9% (366 lecturers) while all the nine selected participants were interviewed. The results indicated that 147 (40%) lecturers were unaware of departments responsible for IP education and training within their universities. The interview results suggested that the IP office, the library, the research office and teaching departments were responsible for IP education and training in the universities.

Keywords: intellectual property education and training; intellectual property awareness; provision of intellectual property information; intellectual property information dissemination; teaching of intellectual property in universities

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The method most used for providing information on IP was Information Literacy Skills training, with a weighted mean of 4 from all the universities. 345 (94.3%) lecturers and all the faculty librarians did not have qualifications in IP, only one research officer and the IP officer had qualifications in IP. Most of the study participants rated their understanding of IP concepts at 3 out of 5 and there was a lack of formalized collaborative efforts among IP educators within and beyond the universities. The study concluded that universities needed to accentuate the interconnectedness of the various departments and professionals that dealt with IP education and training in the universities. The study would contribute to the knowledge base on IP education and training in universities in Zimbabwe and the information could be helpful for those particular institutions lacking in these measures.

Résumé: La qualité d'un programme d'enseignement sur la propriété intellectuelle (PI) dépend en grande partie du niveau d'expérience et d'intérêt du formateur en PI. Cependant, dans la plupart des universités du Zimbabwe, il semble y avoir des problèmes opérationnels, car l'enseignement et la formation en matière de PI sont dispensés dans différentes disciplines et principalement par du personnel qui ne possède ni compétences pratiques ni connaissances techniques préalables en PI. L'étude visait à examiner les pratiques opérationnelles liées à l'enseignement et à la formation en matière de PI dans les universités. Une enquête a été menée dans quatre universités auprès d'un échantillon de professeurs (692), de chargés de recherche (4), d'un responsable de la PI (1) et de bibliothécaires universitaires (4). Des questionnaires ont été distribués aux professeurs, tandis que des entretiens ont été menés avec le responsable de la PI, les chargés de recherche et les bibliothécaires universitaires. Le taux de réponse au questionnaire était de 52,9 % (366 professeurs), tandis que les neuf participants sélectionnés ont tous été interrogés. Les résultats ont montré que 147 enseignants (40 %) ne savaient pas quels départements étaient responsables de l'éducation et de la formation en matière de propriété intellectuelle au sein de leur université. Les résultats des entretiens ont suggéré que le bureau de la propriété intellectuelle, la bibliothèque, le bureau de la recherche et les départements d'enseignement étaient responsables de l'éducation et de la formation en matière de propriété intellectuelle dans les universités. La méthode la plus utilisée pour fournir des informations sur la propriété intellectuelle était la formation aux compétences en matière d'information, avec une moyenne pondérée de 4 pour toutes les universités. 345 enseignants (94,3 %) et tous les bibliothécaires universitaires n'avaient pas de qualifications en matière de propriété intellectuelle, seuls un chargé de recherche et le responsable de la propriété intellectuelle avaient des qualifications dans ce domaine. La plupart des participants à l'étude ont évalué leur compréhension des concepts de propriété intellectuelle à 3 sur 5 et il y avait un manque

d'efforts de collaboration formalisés entre les enseignants en propriété intellectuelle au sein et en dehors des universités. L'étude a conclu que les universités devaient mettre l'accent sur l'interconnexion entre les différents départements et professionnels chargés de l'éducation et de la formation en matière de propriété intellectuelle dans les universités. Cette étude contribuerait à la base de connaissances sur l'éducation et la formation en matière de propriété intellectuelle dans les universités du Zimbabwe et les informations pourraient être utiles aux établissements qui ne disposent pas de ces mesures.

Mots-clés: Éducation et formation en matière de propriété intellectuelle ; Sensibilisation à la propriété intellectuelle ; Fourniture d'informations sur la propriété intellectuelle ; Diffusion d'informations sur la propriété intellectuelle ; Enseignement de la propriété intellectuelle dans les universités

Introduction

The competitiveness of a nation at the global level and the necessary transformation in all state activities is becoming largely driven by its intellectual capital (Vadym et al., 2021). The World Intellectual Property Organisation (WIPO) stated that intellectual property (IP) plays a major role in the development and advancement of nations in the knowledge economy (WIPO 2011, p. 2). Intellectual property is defined as the creations of the mind, that is, inventions, literary and artistic works, and symbols, names and images used in commerce (WIPO 2011, p. 2). The rights to these creations come in different forms comprising, patents, copyright and related rights, trademarks, geographical indications and trade secrets and these forms of IP are significant contributors to enterprise value (WIPO 2011, p. 2). About 40% of the value of a company is not shown in any way on its balance sheet because it is tied up in its intangible assets, that is, IP, also referred to as 'hidden value' (WIPO 2013, p. 7). IP is also a catalyst for economic development and social and cultural well-being. South African case law (Treatment Action Campaign case) and other documents) reiterate the importance of IP and access to medicines in developing countries (Southern Centre, 2013). This indicates that IP has an economic effect outside of jobs and wages and calls for education and training in IP in order to influence attitudes of universities towards IP.

IP education and training, especially in academic institutions, is very crucial because that is where many of society's brightest students first learn about and begin practicing innovation and entrepreneurship (Barrow et al., 2014). Of particular importance to universities is making informed decisions to protect their IP. While the institution may hold the

legal ownership, there are often mechanisms for sharing the benefits of commercialization with the inventor (student), such as royalties or other incentives (WIPO, 2024). Another factor that has necessitated IP education and training in universities has been the availability of digital information from the internet and the online resources that are provided by digital libraries. A study on the effects of IP education on piracy reported that a lack of IP understanding had resulted in one-fifth of middle-schoolers in the US and China believing that they had a right to obtain illegal software (Barrow et al., 2014).

It is unclear which offices or departments are responsible for IP education and training in most universities. Studies show that the approach to IP education and training that focuses on the establishment of law schools is inappropriate as the students in these schools do not major in IP. According to the International Intellectual Property Alliance (IIPA) (2012) in Lebanon the judges were unaware of and/or unsympathetic to the IP laws creating a weak link in the Lebanese IP system and a need for the continuous training of Lebanese prosecutors and judges in IP laws. Japan and China had a similar problem but in Japan, to alleviate it, the government commissioned universities to conduct research to identify the optimum manner of providing such knowledge (Uchida, 2008; Morgan, 2006). Elsewhere, IP education and training is scarcely found in curricula.

Studies have also been conducted to establish the methods and approaches used by particular departments in IP education and training in the universities. In 2004, the European Union (EU) established Own-it, an initiative aimed at embedding IP in the curriculum to ensure that every arts and design student left university with a basic knowledge of IP and a sense of its value for future career and business (European IPR Helpdesk, 2012). According to WIPO (2013, p. 56), the quality of an IP educational programme largely depends on the level of experience and interest of the IP educator and literature indicated that IP educators in most universities lacked deeper knowledge of IP. In some universities around the world, IP law or some aspects of it was a specialty, while in many other universities there was a lack of IP specialists and some professors viewed IP as subsidiary to their main teaching load (WIPO 2013, p. 56).

Gimenez et al., (2012, p. 185), who carried out a study on the professors' training on IP and how they addressed the subject in their disciplines, discovered that most professors lacked training to teach IP and that they often sought assistance from law specialists. In recent years, a new trend has emerged where many experienced IP practitioners leave their practice of law and join full time teaching.

Adopting a collaborative approach in teaching IP would assist universities as it would ensure that academics with theoretical knowledge work with professionals with practical skills and prior technical background in fields related to IP. “Collaboration provides educators with the opportunity to model different ways of teaching, to respond to student needs, and to provide students with the chance to experience two instructors contributing to the instruction” (Harris and Harvey, 2000).

Contextual Setting

Science education is critical for Zimbabwe to achieve rapid modernization and HEIs are urged to produce graduates capable of developing transformative innovations (MHTESTD, 2020). Developing transformative innovations depends on graduates fully appreciating and properly exploiting IP. Zimbabwe, which hosts the African Regional Intellectual Property Organisation (ARIPO), the regional WIPO office in Africa, is also involved in the promotion and protection of IP.

ARIPO lamented that most of the institutions of higher learning lack IP policies and incentives for academics to put more effort in innovation and registration of their creation, resulting in the shelving of the great ideas following their publication. As a result, Zimbabwe has not been able to fully benefit from the exploitation of its IP assets. According to WIPO (2018, p. 2), Zimbabwe continued to benefit from the WIPO Academy training programmes by offering Masters in Intellectual Property (MIP) programme at a University. This programme has produced a critical mass of IP personnel with required skills in government and other key institutions. WIPO (2019, p. 2) reported that the 11th Cohort of the Masters in Intellectual Property (MIP) programme in Zimbabwe had a total of 38 students including 5 from Zimbabwe mostly coming from the private sector, signaling for more focus in the public sector.

Statement of the Problem

IP education and training in universities remains vague as clarity in terms of responsibilities of departments is lacking as duties lie with multiple entities including the IP officer, teaching departments, faculties of law and technology, patent offices and even international organisations (Albitz, 2013, p. 429; ; Erdenechimeg, 2006; WIPO, 2013, p. 23). Although all these departments deal with IP issues, they do not seem to be working together in the provision of IP education and training in universities in Zimbabwe. There is a need to unravel the operational practices surrounding IP education and training within the departments to demonstrate their linkages and for IP programmes to be effective.

Purpose and Objectives of the Study

This study investigates the operational practices of various departments in providing IP education and training within the universities. The objectives include:

- i. to establish the departments that are responsible for IP education and training;
- ii. to identify the methods and approaches used by particular departments in IP education and training;
- iii. to ascertain the competencies of those involved in IP education and training; and,
- iv. to determine the professionals that IP educators collaborate with in providing IP education and training.

Research Methodology

This study was guided by the post-positivist paradigm. Data collected was largely quantitative although qualitative data collection and analysis techniques were also used. The survey research design was applied since the researchers intended to gather data from IP officers, research officers, faculty librarians and lecturers in universities. It also assisted the researchers to identify attributes of many universities in the country yet dealing with a reasonable group of individuals.

The study included four universities, out of 24 in the country, and targeted IP officer (1), lecturers (1,305), research officers (10) and faculty librarians (22). A total of 692 lecturers were sampled using multi-stage cluster sampling and after dividing them according to their institutions, they were then randomly selected. The purposive sampling technique was applied to the IP officer, faculty librarians and research officers, as the researchers presumed that they offer rich information for interviewing. The preferred interviewees were those that were involved in programmes and activities related to IP education and training in the universities. The researchers selected one participant from each group, that is the IP officer, one research officer and one faculty librarian in each university. Questionnaires were administered to the lecturers while interviews were administered to the IP officer, research officers and faculty librarians. Data analysis for quantitative data comprised the use of Google forms and Microsoft Excel software and for qualitative data content analysis was applied.

Ethical Considerations

This study was cleared by the Department of Information Science Ethics Review Committee at the University of South Africa, with an approval number 2019-DIS-0024. Measures taken to maintain the confidentiality

of data included providing the participants with an informed consent form which they signed prior to participating in the study. Research data was retained without identifiers as names were substituted with codes so that the participants remained anonymous and the data collected could not be linked to the participants. Interview scripts were stored in locked cabinets in the researchers' offices and electronic records of data were secured with password.

Results

The researchers received responses from 366 lecturers, giving the questionnaires a response rate of 52.9%. The researchers interviewed all the nine selected participants that included IP officers, faculty librarians (FLs) and research officers (ROs). The results were organised thematically according to the research objectives. The data from the questionnaires were presented in a form of tables and charts; and some narrative extracts were presented from the interviews.

The Departments Responsible for Teaching IP

Lecturers were asked to identify responsible departments for IP education and training within their universities. Results are shown in Figure 1.

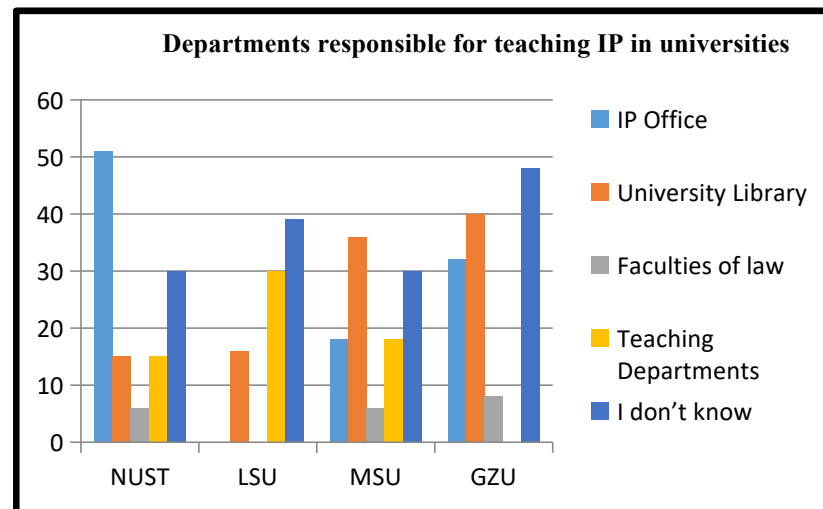


Figure 1: Offices Responsible for Teaching IP in Universities

Source: Field Data, 2021

Figure 1 shows that, across the universities, 147 (40%) lecturers were unaware of the particular departments responsible for IP education and training within their universities. A similar question was posed on the

interviewees where all the faculty librarians (FLs) advocated for the library to be responsible, with a FL at NUST stating that, “the library should be the sole diffuser of IP knowledge to avoid the disintegration and duplication of information if there are many offices involved.” However, the FLs also suggested the Research Office, which has different titles in different universities, including Research and Innovation Office, the Research and Postgraduate Studies Office and the Research and Postgraduate Centre, to be responsible. The research officers (ROs), in their part suggested multiple units including the IP office, faculties or the deans' offices, the Library and the Research and Innovation Office and the Quality Assurance Office. All these suggestions were harmonised by the RO at MSU who stated that, “all departments should be responsible for the provision of IP information in the university and there should be a committee to bring awareness.”

All the FLs bemoaned the absence of a lawyer or IP expert in the libraries. To ensure that departments worked together in IP education and training in the university, the FLs suggested a formalized collaboration among departments. They also advised to hire knowledgeable experts in IP and a policy document that stipulates the roles of each department. They also advocated that departments should carryout regular workshops and seminars on IP for their members. The FL at GZU stated that, “Maybe there is need for training first on what is IP and then a decision is made on who is responsible after everyone has understood what is IP.”

According to the IP officer, universities in Zimbabwe were developing innovation hubs and suggested that these be the responsible units for IP education and training in the universities after capacitated to provide the service. The FLs indicated that university IP offices had to ensure that IP education and training was provided in the universities by populating the university web sites, such as the Innovation Hub section, with IP information. They further indicated that the IP offices in their respective universities worked with the research office to provide IP education and training to lecturers and students.

Approaches and Methods That Are Critical in Teaching IP

Lecturers were asked to measure the extent to which the approaches suggested in teaching IP were critical based on six categories: Not at all (1); To a small extent (2); To some extent (3); To a great extent (4); To a very great extent (5). The responses for all the approaches were calculated from all the universities as shown in Figure 2.

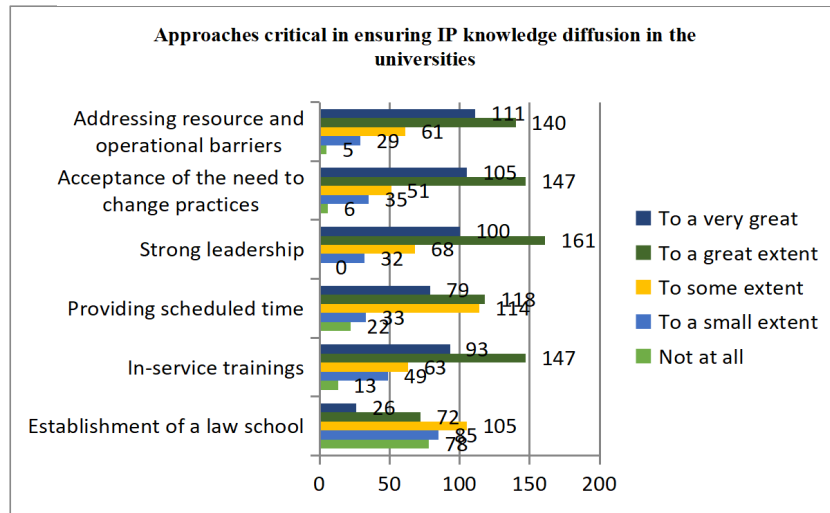


Figure 2: Lecturers' Responses on Approaches That Are Critical in Teaching IP

Source: Field Data, 2021

Data collected showed that lecturers viewed most of the approaches for IP education and training in the universities as critical, i.e., 'To a great extent', except for, 'the establishment of a law school, which was mainly rated at, 'To some extent'.

The researchers also asked lecturers to rate the given methods of providing IP information in the universities, on a scale of 1 to 5. The weighted means of responses were calculated as shown in Table 1.

Table 1: Weighted Mean of Responses from Lecturers on Methods of Providing IP Information

Method	University	1	2	3	4	5	Weighted Mean
Institution Offered	NUST	15	30	33	16	8	3
	LSU	6	9	13	16	25	4
Training	MSU	4	7	43	31	6	3
	GZU	43	31	18	9	3	2

Blended Learning	NUST	13	23	40	17	9	3
	LSU	9	7	11	16	26	4
	MSU	28	13	37	8	5	2
	GZU	22	50	21	6	5	2
Dissertation publication	NUST	11	14	45	25	7	3
	LSU	7	8	26	15	13	3
	MSU	18	19	17	29	8	3
	GZU	30	37	19	11	7	2
Information Publication	NUST	13	27	43	12	7	3
	LSU	10	23	20	11	5	3
	MSU	9	22	27	25	8	3
	GZU	32	37	21	10	4	2
Information literacy programmes	NUST	10	10	13	16	37	4
	LSU	0	2	11	25	31	4
	MSU	5	25	14	18	29	4
	GZU	25	7	21	12	39	3

Source: Field Data, 2021

The findings revealed that information literacy programmes had the highest weighted mean (4) from all the universities. This could imply that these programmes may be the most employed method for providing information on IP in the universities. Responding to the same question during the interviews, the FLs lamented that the libraries were mostly involved only in offering modules in information literacy and providing institutional repository on IP. The FLs further lamented that mainly information on copyright and very little on other types of IP are provided.

The IP officer lamented the lack of involvement of senior managers in IP education and training programmes and indicated that only deans were interested in teaching IP while administrators were largely unaware of it. They also indicated that the university lacked an IP lawyer/attorney among the staff or an IP committee although there was a legal officer who however, was not an IP specialist/ expert. The IP officer also explained that, at national level, IP falls under the Ministry of Justice, and not the Ministry of Higher and Tertiary Education Science and Technology Development (MHTSTD) implying that this was an anomaly from an educational perspective since the Ministry of Justice was not directly involved in academic and research activities in universities.

Responding to the question on how the research office was involved in IP education and training in the universities, the ROs explained that the research offices were at the centre of research in the university and were responsible for creating IP awareness of researchers. They expounded that IP information was provided by the research office through workshops, awareness campaigns and presentations at senate meetings. However, some ROs pointed out that though each research workshop had a section on IP, workshops specifically on IP were lacking. One RO indicated that they were not an IP attorney or IP expert but identified members within the university who were knowledgeable in IP such as the IP educator.

Competencies in IP Education and Training

The researchers requested those involved in IP education and training to disclose their qualifications in IP (formally trained or taught IP to possess certification in IP); the number of IP training sessions, workshops or seminars attended; and the duration of involvement in IP education and training. The data collected showed that 345 (94.3%) lecturers had lacked any qualifications in IP, 199 (54.4%) had only attended 1-5 IP training workshops or seminars and 156 (42.6%) had never attended any IP training workshops or seminars. The responses also indicated that the highest number of lecturers totaling 170 (46.5%) had only been involved in IP for less than 5 years, closely followed by 141 (38.5%) who had never been involved. Only 3 lecturers indicated that they had been involved for more than 15 years.

Data from the FLs showed that none of them had a qualification in IP, and only had attended not more than one IP training events. Some FLs had never been involved in IP education and training; only one indicated five years and another one 9 years, even then not specifically on IP. Findings from the ROs indicated that only one had a qualification in IP, while all others had attended less than 10 training events; only 1 had been involved in IP activities for more than 10 years. Data collected from the IP officers showed that they held a qualification in IP, had attended more than 10 IP training events and had been involved in IP activities for more than 10 years. All the interviews however indicated lack of adequate expertise in IP within the universities.

The survey further requested lecturers to indicate their understanding of the given key concepts or topics in IP, on a scale of 1 to 5, where 1 stood for poor and 5 stood for excellent. These responses are demonstrated in Figure 3.



Figure 3: Lecturers' Understanding of the Given Key Concepts or Topics in IP

Source: Field Data, 2021

Lecturers in all the universities overall rated their understanding of the given concepts as 3 implying that their understanding was limited. Similar observations were evident from the interviews with FLs and ROs. Various definitions were pronounced by the FLs in describing IP, though it was used with copyright interchangeably. On the other hand, all the ROs were able to define the term IP.

The survey also asked lecturers to indicate their familiarity with the given legal requirements of IP. They had to select between extremely familiar, very familiar, somewhat familiar, not so familiar, and not at all familiar. These results are provided in Figure 4.



Figure 4: Lecturers’ Familiarity with the Given Legal Requirements of IP
Source: Field Data, 2021

The dominant response in terms of familiarity with the given legal requirements of IP was “somewhat familiar” while “extremely familiar” was a rare occurrence which may imply that the lecturers had limited exposure to IP legal requirements. To solicit similar information from the FLs, ROs and IP officers, they were asked to suggest the legal requirements related to IP that they are aware, and they mentioned the following:

- i. The library policy;
- ii. National law (Copyright Act, Patents Act);
- iii. Guide lines on Research Projects;
- iv. Institutional Repository policy;
- v. Research and Innovation policy;
- vi. IP Policy;
- vii. International IP Conventions (The Paris protocol, The Madrid protocol);
- and
- viii. Anti-plagiarism- Turnitin

These responses showed that the FLs, ROs and IP Officer were knowledgeable of some legal requirements related to IP.

Collaboration among IP Educators in Providing IP Education and Training
Lecturers were asked to specify the frequency in which they shared IP knowledge and collaborated with the given professionals to provide accurate and reliable information for IP education and training. The findings are shown in Figure 5.

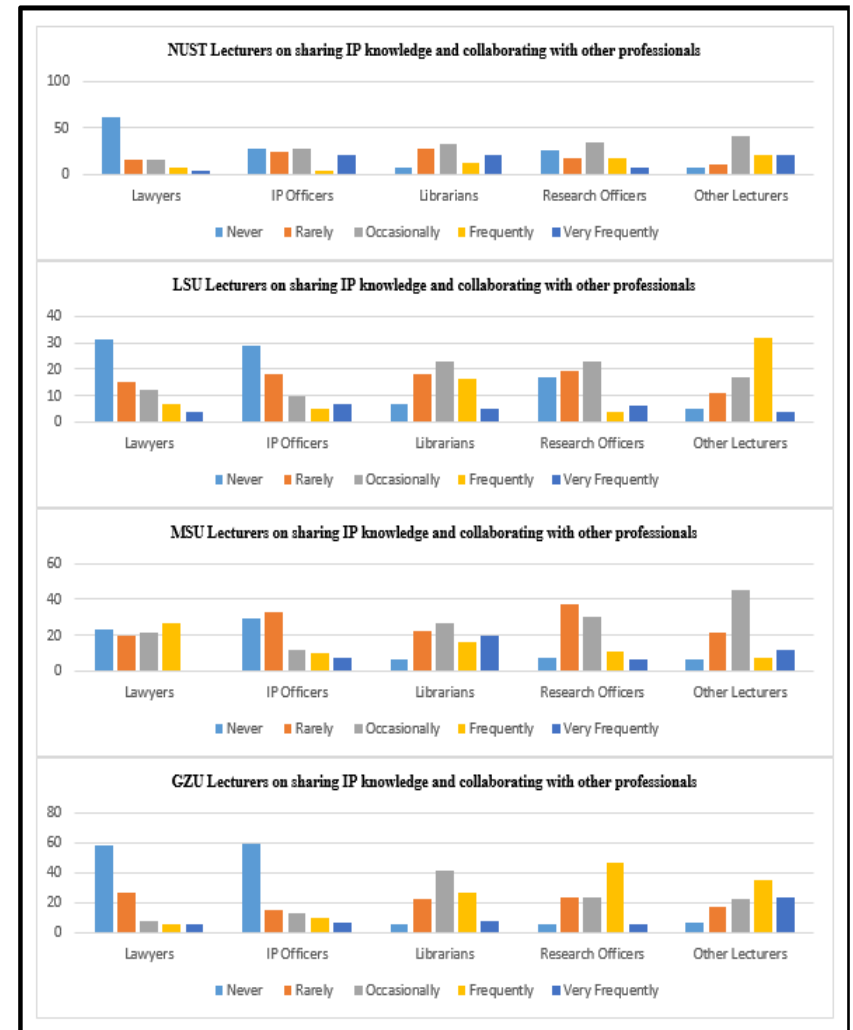


Figure 5: Frequency of Lecturers Sharing IP Knowledge and Collaborating with Other Professionals
Source: Field Data, 2021

The data revealed that the highest number of lecturers in all the universities ‘never’ collaborated with lawyers or IP officers but sometimes worked with librarians and research officers. From the interviews, the lack of formalized collaborative initiative was evident, as one FL lamented that teaching departments and faculties made arrangements with the IP office outside the library. Furthermore, the library did not work directly with

the IP Office with reference to IP queries from staff and students. The IP officer suggested the need for collaboration instead of competition among departments within the universities. Interview data revealed informal collaborations among lecturers, librarians and researchers, IP officers from Zimbabwe Intellectual Property Office (ZIPO), African Regional Intellectual Property Office (ARIPO), World Intellectual Property Office (WIPO), the university Quality Assurance Office and the Higher Degrees Registrar. The interviewees proposed that all departments should work together and all universities should create a post for an IP expert.

Discussion of the Findings

The findings showed that various departments were considered to have a role in IP education and training in universities such as the IP office, the library, research office and teaching departments. The role of the particular departments or units in IP education and training was also cited by the WIPO (2013, p. 23) which revealed many teaching courses in the field of IP established by patent offices in countries in transition, educational institutions and international organisations. Teaching of IP courses by patent offices indicated that so much value was placed on IP information provision for university students across the world although this role seemed to be fulfilled by departments outside universities. The Information Branch of the Canadian Intellectual Property Office (CIPO) indicated that it was responsible for providing information on IP to its clients and to the Canadian public (MacDougall, 2003, p. 11). CIPO further expounded that its approach centered around basic IP information, awareness/promotion, education/training and value-added information.

The findings also revealed that universities lacked IP experts among their staff although they had legal offices. This challenge was also identified by Solleiro and Lopez (2009) who stated that, the ACeITe [Spanish initials for the Department of Knowledge Management and Competitive Intelligence] services could not expand because there were “few personnel for the mass attention of users” (p. 10) However, they and Monotti (2000, p. 23) emphasised the importance of an IP Office within the universities such as a unit responsible for filing applications, advising researchers with respect to writing up applications and, occasionally giving introductory talks on the subject and also disseminate the terms of IP Statutes and Regulations.

The study indicates the library as the most proper department for IP education and training in the universities. This was also suggested by Nilsson (2016, p. 81) who noted that libraries could embed IP information into other training sessions, such as instructions regarding blended learning, dissertation publication and information retrieval. Further, very

few lecturers suggested placing IP education and training within teaching departments. This implied that they did not see it appropriate to assume the responsibility of IP education and training as they lacked the necessary competencies and qualifications.

According to Mawire (2014, p. 6) only two universities in Zimbabwe, University of Zimbabwe and Midlands State University, offered degrees in law but their curriculum lacked adequate courses on IP and none of the two universities had students that specialised in the subject. Similar findings by the International Intellectual Property Alliance (IIPA) (2012), Uchida (2008) and Morgan (2006) showed that judges in Lebanon and Japan were unaware of and/or unsympathetic towards the IP laws creating a weak link in the IP system necessitating continuous training of prosecutors and judges in these laws. To alleviate this problem, the Japanese government commissioned universities, including Tokai University, to conduct research to identify the optimum manner of providing such knowledge.

Establishing a law school, department or faculty within the universities to provide IP education and training was not welcomed by most study participants. However, surveys carried out by WIPO (2004) indicated that teaching IP was still mainly related to law courses, especially Commercial Law, but lacked educators and teaching materials which resulted in very limited discussion and reflection on the subject. In the United States, IP was still studied and researched, most frequently in law schools where the teaching perspective adopted a predominantly legal approach. According to Riccheri (2009), some of the main reasons for the absence of IP teaching included the lack of IP awareness, the challenge of introducing an IP branch into the already intense university curriculum and the lack of preparation to teach IP by academics.

Findings in this study indicated poor methods of providing IP education and training as very little was being done by the various departments. Further, universities were unable to explore other methods, becoming over reliant on Information Literacy Skills programmes. Poor methods of teaching IP were also identified by Hill (2014), who cited that although students studying at the School of Design at Victoria University created new IP, the school did not play an active role in providing IP information to its students. Another successful method was reported by Adedeji (2010) in Nigeria, where the Nigerian Copyright Council set up school and youth projects to engrain the basic tenets of copyright in Nigerian youth. Universities, thus, need to incorporate other vibrant methods of providing information and also create special events to timely present IP issues more exhaustively.

The responses on IP showed a lack of a comprehensive understanding of key concepts or topics of IP. This was also revealed by Sulekha and Singh (2018, p. 197) where 46% of researchers stated IP as a right and 34% expressed it as an ownership. Similarly, the IPAN study by Brachmann (2019, p. 4) revealed that only one-third of the 250 (33%) academic and tutorial staff were confident to handle student questions on IP matters. The findings also showed that most of the participants in this study exhibited low levels of familiarity to IP knowledge. Such low levels of familiarity with IP were also highlighted by WIPO (2013, p. 42) who reported the absence of a “systematic approach and methodological recommendations in providing the IP teaching process with necessary teaching aids and a lack of practical training... and this had an adverse impact on the teaching and formation of professional skills.” Gimenez, et al. (2012, p. 180) in a study on ‘The Challenges of Teaching and Training in Intellectual Property’ reported that some interviewees lamented the lack of more specific or deeper knowledge of and approach to IP in their disciplines. Variances in levels of awareness and familiarity with IP concepts were also found at the University of California, Los Angeles (UCLA) where the failure of faculty members to discuss even the basics of IP resulted in the low levels of its awareness among the students (Brachmann, 2019, p. 7).

Similarly, Sulekha and Singh (2018, p. 197) also reported that out of 50 respondents, 14 (28%) stated that the IP issue was related to the author of the work; 17 (34%) said it was related to both the author of the work and the owner, while 4 (8%) said that they had no idea about the issue of IP. These findings implied that universities needed to address the lack of IP knowledge among their staff, if they were to effectively teach IP.

The findings also revealed a lack of formalized collaboration among the IP educators and that very few of these sought legal advice from IP experts outside the universities. Ronfeldt et al., (2015) expounded that collaboration had positive effects on teachers and their students as their study revealed that the majority of teachers surveyed (84%) indicated that they were a part of a team of colleagues that worked together on instruction, and nearly all (90%) reported collaboration as helpful. According to Baguma et al. (2019), “Collaborative teaching enables teachers to learn from one another, share ideas and resources, and develop their teaching skills.” IP education and training does not solely depend on resources within the institutions; but external support and links could be sought from law firms, pharmaceutical companies, publishers, among others. There are multiple implications for this study and include that IP educators within universities need to identify key departments, obtain wide-ranging knowledge on IP and collaborate in

delivering IP education and training—if universities are to benefit from the IP generated in their institutions.

Conclusions

The study concluded that IP education and training in universities did not belong to a single department but distributed across the library, research office, IP office and teaching departments mentioned. While various methods and approaches viewed as critical for IP education and training exist, universities were too reliant on Information Literacy Skills programmes. The study further concluded that there was a lack of knowledge of IP among the educators who also lacked formalized collaboration among themselves and IP experts outside the universities. The study concludes that universities need to foster collaboration between their various departments that deal with IP matters, if they are to advance IP competence among students and staff.

Recommendations

The study recommends the following:

- i, universities establish an IP office/ unit that integrates and facilitates collaboration on IP education and training;
- ii, universities employ diverse methods and approaches for IP education and training; and
- iii, IP educators acquire adequate IP knowledge and establish formalised collaboration with IP experts outside the universities.

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Evaluating the Influence of Tutors' Digital Assessment-Related Knowledge on Assessment Practices in Higher Education

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Abstract

This research study investigates the influence of tutors' digital assessment pedagogical knowledge on various assessment practices, including automated, continuous, responsible, and authentic assessments. The results indicate that Digital Assessment Pedagogical Knowledge (DA_PK) has a significant influence on Automated Assessment ($R^2 = 0.823$) and Continuous Assessment ($R^2 = 0.753$), highlighting the importance of tutors' proficiency in digital assessment practices for enhancing student learning experiences. Additionally, the findings reveal that Digital Assessment Pedagogical Content Knowledge (DA-PCK) explains 93% of the variation in Continuous Assessment and 34.1% of the variation in Automated Assessment, emphasizing the critical role of integrating technology, pedagogy, and content expertise in shaping effective assessment strategies. Furthermore, Digital Assessment Technological Pedagogical Knowledge (DA-TPK) demonstrates a remarkable influence, accounting for 96.5% of the variation in responsible assessment and 43.4% of the variation in continuous assessment, underscoring the significance of tutors' technological and pedagogical knowledge in fostering ethical, accountable, and continuous assessment practices.

Keywords: digital assessment pedagogical knowledge, assessment practices, higher education, tutors' proficiency, student learning experiences, educational excellence

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promote student engagement, learning outcomes, and educational excellence in the digital age.

Résumé: Cette étude examine l'influence des connaissances pédagogiques des tuteurs en matière d'évaluation numérique sur diverses pratiques d'évaluation, notamment l'évaluation automatisée, l'évaluation continue, l'évaluation responsable et l'évaluation authentique. Les résultats indiquent que les connaissances pédagogiques en matière d'évaluation numérique (DA_PK) influencent significativement l'évaluation automatisée ($R^2 = 0,823$) et l'évaluation continue ($R^2 = 0,753$), soulignant l'importance de la maîtrise des pratiques d'évaluation numérique par les tuteurs pour améliorer les expériences d'apprentissage des étudiants. En outre, les résultats révèlent que les connaissances pédagogiques en matière d'évaluation numérique (DA-PCK) expliquent 93 % de la variation dans l'évaluation continue et 34,1 % de la variation dans l'évaluation automatisée, soulignant le rôle essentiel de l'intégration de la technologie, de la pédagogie et de l'expertise en matière de contenu dans l'élaboration de stratégies d'évaluation efficaces. En outre, les connaissances technologiques et pédagogiques en matière d'évaluation numérique ont une influence remarquable, représentant 96,5 % de la variation dans l'évaluation responsable et 43,4 % de la variation dans l'évaluation continue, soulignant l'importance des connaissances technologiques et pédagogiques des tuteurs dans la promotion de pratiques d'évaluation éthiques, responsables et continues. Les résultats de l'étude révèlent l'interdépendance entre la pédagogie, l'expertise en matière de contenu et la technologie dans l'élaboration de pratiques d'évaluation qui favorisent l'engagement des étudiants, les résultats d'apprentissage et l'excellence éducative à l'ère numérique.

Mots clés: connaissances pédagogiques en matière d'évaluation numérique, pratiques d'évaluation, enseignement supérieur, compétences des tuteurs, expériences d'apprentissage des étudiants, excellence éducative

Introduction

The COVID-19 pandemic has undoubtedly accelerated the integration of digital technologies in education, but the design and implementation of digital assessments have not kept pace with this rapid transformation. Before the pandemic, higher education institutions (HEIs) predominantly relied on traditional assessment methods such as multiple-choice questions, essays, and short-answer tests to evaluate student learning (Dadzie et al., 2024; Swiecki et al., 2022). However, the abrupt transition to remote and online learning during the pandemic exposed significant

limitations in these conventional practices, particularly among contact-based programmes.

In contrast, distance-based higher education institutions (HEIs), which had already developed sophisticated online assessment systems, demonstrated greater resilience and adaptability during the pandemic (Amponsah et al., 2024; Gamage et al., 2022; Rapanta et al., 2021). These institutions leveraged their prior experience with digital platforms to implement assessments that emphasised flexibility, accessibility, and continuous feedback, mitigating many of the challenges faced by contact-based programmes. Recent studies highlight how distance-based HEIs effectively integrated alternative assessments such as project-based evaluations, authentic assessments, and e-portfolios to maintain academic integrity and enhance student engagement (Annan-Brew et al., 2024; Bozkurt & Sharma, 2022; Tonbuloglu, 2023).

Research has shown that the predominant strategy adopted by educators was to simply "translate" their existing on-campus assessments into an online format, rather than exploring the transformative potential of digital technologies to design pedagogically sound and innovative assessment approaches (Kpodoe et al., 2023; Slade et al., 2022). This reluctance to embrace the full capabilities of digital tools in assessment design may indicate a lack of understanding or confidence among educators in leveraging technology to enhance the assessment process. As Bearman et al. (2023) aptly state, "Digital technologies have transformed society but assessment design may not have kept pace with the digital world" (p. 291). Nonetheless, there is promising potential in the use of online assessments to support and improve the overall learning process and outcomes, as highlighted by Heil and Ifenthaler (2023). By harnessing the power of digital technologies, educators can design assessments that are more engaging, personalized, and aligned with the evolving needs of students in the digital age.

In higher education, educators play a pivotal role in ensuring that teaching methods and assessment strategies are effectively aligned with the curriculum, while also integrating digital technologies in pedagogically sound ways to facilitate student teaching (Alajlani et al., 2023; Dadzie, & Ahorsu-Walker, 2022). The onset of the COVID-19 pandemic resulted in significant disruptions to traditional teaching and assessment practices, leading to a widespread shift towards online assessment methods in higher education settings (Chan & Ahn, 2023; Slade et al., 2022). This transition to online assessment brought about both opportunities and challenges for

educators. On one hand, it offered benefits such as increased efficiency in time management, enhanced flexibility, and the ability to provide immediate feedback to students (Dadzie, & Annan-Brew, 2023; Gorgani & Shabani, 2021). However, on the other hand, it also presented numerous challenges and concerns. Issues surrounding student privacy, trust, fairness, equity, and security emerged as significant considerations for educators and other stakeholders involved in digital assessment processes in higher education (Coghlan et al., 2021; Gorgani & Shabani, 2021; Lee and Fanguy, 2022; Woldeab & Brothen, 2021).

Assessment serves several important purposes in education, including evaluating learner achievement, maintaining academic standards, ensuring accountability, and promoting student learning (Chan, 2023a). Over the past decade, the landscape of assessment in higher education has evolved significantly, particularly with the widespread adoption of digital technologies, accelerated by the COVID-19 pandemic (Chan, 2022; Guangul et al., 2020). This includes the emerging popularity of generative AI (GenAI) technologies in assessment practices (Dontoh et al., 2023; Farazouli et al., 2023; Moorhouse et al., 2023). The shift towards digital assessment practices is expected to have lasting implications beyond the pandemic, fundamentally altering how assessments are conducted in higher education settings (Zhang & Wang, 2021). As such, there is a critical need to support educators in designing effective digital assessments that align with educational objectives and best practices. Scholars emphasize that the integration of digital technologies in assessment has led to significant changes in assessment instruments, criteria, feedback delivery methods, and student involvement in the assessment process, including self- and peer assessment (Panadero et al., 2022; Sandvik et al., 2023).

When exploring the role of digital technologies in assessment, the term "e-assessment" has traditionally been used to encompass all assessment tasks conducted using computers or the web (Guàrdia et al., 2017, p. 38). However, the terminology surrounding digital assessment practices, including online assessment, remote assessment, and digital assessment, is often used interchangeably without clear distinctions (Bearman et al., 2023; Guangul et al., 2020; Heil and Ifenthaler, 2023; Lee et al., 2022). This lack of clarity poses challenges in understanding the nuanced roles and effects of digital technologies in assessment, as different technologies offer diverse user experiences and affordances. The emergence of generative AI technologies presents both opportunities and challenges in transforming assessment practices (Cotton et al., 2023). While GenAI enables the creation of personalized, interactive, and game-based assessments, it also

raises concerns related to academic integrity and equity (Nikolic et al., 2023; Sandvik et al., 2023). To address these issues, it is crucial to establish a clear understanding of digital assessment, encompassing both formative and summative, graded, and non-graded assessment practices that leverage digital technologies (Bearman et al., 2016; Dadzie, 2022; Feyijimi et al., 2025).

In this study, we use continuous assessment to refer to the frequent and ongoing evaluation of student learning throughout the instructional period, which often includes both formative assessments (aimed at improving learning during instruction) and low-stakes summative assessments (used to judge achievement at various stages). While continuous assessment shares characteristics with formative assessment, it more broadly encompasses any regular assessment activity designed to track student progress over time.

The current study seeks to investigate the impact of digital assessment pedagogical knowledge (DA-PK), digital assessment pedagogical content knowledge (DA-PCK), and digital assessment technological pedagogical knowledge (DA-TPK) on various assessment practices. Specifically, we hypothesize that:

- 1, Digital assessment pedagogical knowledge (DA-PK) will significantly influence assessment practices, including authentic assessment, automated assessment, continuous assessment, and responsible assessment.
- 2, Digital assessment pedagogical content knowledge (DA-PCK) will significantly influence assessment practices, including authentic assessment, accessible assessment, automated assessment, and continuous assessment.
- 3, Digital assessment technological pedagogical knowledge (DA-TPK) will significantly influence authentic assessment, continuous assessment, and responsible assessment.

Literature Review

Tutors' Digital Assessment Practices

College tutors play a crucial role in assessment practices, particularly in assessment for learning, where the primary focus is on enhancing students' learning experiences (Gioka, 2007; Zhang, 2022). Assessment for learning encompasses not only the communication and implementation of assessment criteria by tutors but also the necessary adaptations to meet students' diverse needs effectively (Zhang, 2022). Previous research has highlighted the challenges faced by tutors in implementing digital assessment practices for learning, highlighting the need for ongoing

support and solutions (Slade et al., 2022). During the pandemic, tutors encountered various barriers, including pedagogical, technical, administrative, and affective obstacles, in conducting digital assessments (Ghanbari and Nowroozi, 2021; Surman et al., 2024; Surman et al., 2024). Addressing these challenges is essential in the post-COVID era to ensure effective digital assessment practices. Furthermore, concerns regarding privacy, trust, fairness, equity, and security have been raised among stakeholders, including tutors, regarding digital assessment practices (Coghlan et al., 2021; Cotton et al., 2023; Gorgani and Shabani, 2021; Lee and Fanguy, 2022; Woldeab and Brothen, 2021; Ifesinachi et al., 2024). These concerns emphasize the importance of responsible and ethical use of digital technologies in assessment for learning.

Examination of tutors' digital assessment practices in higher education

To date, research on university tutors' digital assessment practices remains limited, with only a few studies exploring this area (Zhang and Wang, 2021). Among these studies, qualitative methods, particularly semi-structured interviews, have been predominantly utilized (Gupta et al., 2023; Moorhouse and Kohnke, 2022; Zhang and Wang, 2021). Additionally, there is a scarcity of studies employing mixed methods approaches (Vellanki et al., 2023). For instance, Gupta et al. (2023) investigated the digital assessment experiences of 31 faculty members in American higher education using semi-structured interviews. Their findings highlighted five key themes related to assessment techniques adopted during the COVID-19 pandemic, including assignments, self-check tests, group discussions, peer-tutorial videos, and case studies. Similarly, Zhang and Wang (2021) examined the digital assessment practices of six tutors in Chinese higher education through interviews. They discovered that tutors, when granted autonomy by the government and university, could make independent assessment decisions and adjustments to align with policies or provide digital assessment training.

Vellanki et al. (2023) explored university tutors' perceptions of digital assessment and academic integrity using interviews and a survey involving 37 tutors. Their findings revealed technical difficulties and other challenges arising from the lack of physical presence, student behaviour, and concerns about assessment design and processes. Furthermore, Farazouli et al. (2023) investigated the impact of AI chatbots on university tutors' assessment practices. In a Turing Test-inspired experiment involving 24 tutors, those who blindly assessed student- and ChatGPT-written responses to home examination questions demonstrated greater criticality when grading student-generated text.

While TPACK by Mishra and Koehler (2006) originally conceptualized "Technology" to include various forms of technology, it did not explicitly account for the rapid expansion of specialized digital assessment technologies that have emerged in contemporary education. The increasing integration of digital platforms for assessment such as learning management systems, online quizzes, automated feedback systems, and AI-based grading tools has created unique pedagogical demands distinct from general technological use in teaching. Therefore, in this study, we adapted TPACK to specify Digital Assessment Pedagogical Knowledge (DA-PK), Digital Assessment Pedagogical Content Knowledge (DA-PCK), and Digital Assessment Technological Pedagogical Knowledge (DA-TPK). This adaptation allows for a more precise examination of educators' ability to apply digital tools specifically for assessment purposes, addressing a critical gap in the traditional TPACK framework, which does not differentiate between technology used for instruction versus technology used for assessment. Despite these efforts, existing studies offer limited insights into tutors' digital assessment practices. The paucity and lack of scalable generalizability of research in this area is exacerbated by the limited number of participants.

Conceptual Framework

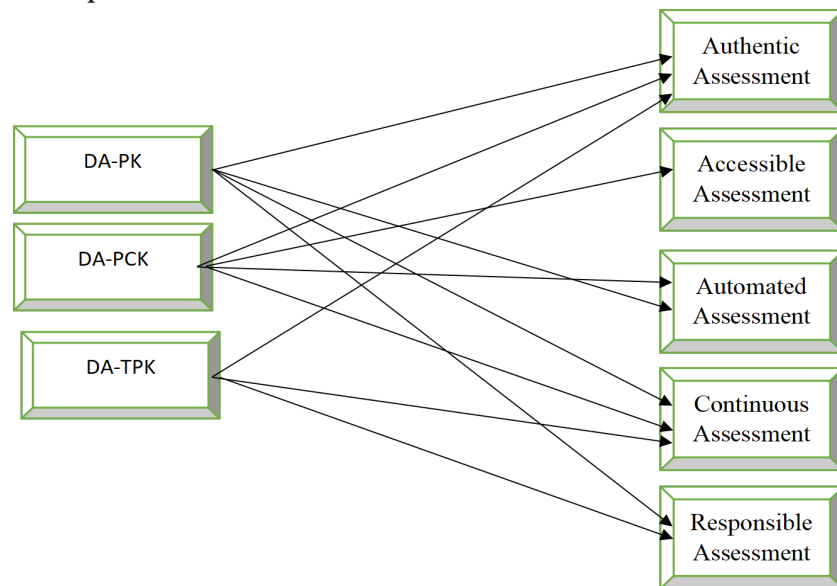


Figure 1

Authors Construct

The conceptual framework delineates the relationships between dependent variables, namely DA-PK, DA-PCK, and DA-TPK, and independent variables, including authentic, accessible, automated, continuous, and responsible assessments. Based on this framework, it can be inferred that DA-PK will exert influence on authentic, automated, continuous, and responsible assessments. This inference stems from the understanding that DA-PK encompasses deep knowledge about pedagogical practices in digital assessment, enabling tutors to implement various assessment methods effectively and adapt them to different student needs and courses (Mishra and Koehler, 2006). Similarly, DA-PCK is expected to influence authentic, accessible, automated, and continuous assessments. DA-PCK involves understanding how digital assessment approaches align with specific content and support student learning (Mishra and Koehler, 2006). This knowledge enables tutors to develop appropriate digital assessment methods that enhance students' critical thinking and consolidate their knowledge across different content areas. In contrast, DA-TPK is anticipated to influence authentic assessment alone. DA-TPK pertains to tutors' knowledge of digital technologies' capabilities and their impact on assessment practices (Mishra and Koehler, 2006). Thus, it directly affects how tutors incorporate digital technologies into authentic assessment tasks, ensuring their alignment with pedagogical goals and educational outcomes. Overall, the conceptual framework underscores the intricate interplay between tutors' digital assessment knowledge and various assessment practices, highlighting the pivotal role of pedagogical knowledge, content knowledge, and technological knowledge in shaping effective digital assessment strategies.

Methods

The study spanned three educational institutions situated in Ghana's Central Region, carefully selected for their congruence in tutor demographics and academic resources. These colleges primarily cater to the training of prospective educators and boast similar academic calendars and amenities. Employing a cross-sectional design, the research aimed to capture a singular moment's overview of college tutors' DA-PK, DA-PCK, and DA-TPK. Within the Central Region, three public colleges collectively host 150 tutors: College A (50 tutors), College B (45 tutors), and College C (55 tutors). The study specifically recruited tutors from these institutions. Data gathering utilized a comprehensive census approach, involving all eligible participants. Out of the initial 150 tutors approached, 120 willingly engaged in the study, demonstrating a robust participation rate. Prior to the main data collection phase, a pilot test was conducted with 45 tutors from

Holy Child College in Sekondi-Takoradi to refine and validate the survey items.

Predicator(s) Variable in the study

In the study, the dependent variable encompasses the constructs of DA-PK, DA-PCK, and DA-TPK. These constructs collectively represent the level of understanding, proficiency, and skills that educators possess in utilizing digital technologies for assessment purposes within the context of teaching and learning.

DA-PK: This aspect focuses on educators' knowledge and skills related to the pedagogical aspects of digital assessment. It includes their understanding of various assessment methods, strategies for providing effective feedback, and the ability to adapt assessment practices to meet diverse student needs using digital tools.

DA-PCK: This dimension pertains to educators' knowledge and expertise in integrating subject matter content with digital assessment practices. It involves their understanding of how to design assessments that effectively measure students' understanding of specific content areas using digital tools and resources.

DA-TPK: This construct focuses on educators' knowledge and proficiency in utilizing digital technologies for assessment purposes. Familiarity with various digital assessment tools, platforms, and technologies, as well as their ability to integrate these tools seamlessly into their teaching practices to enhance assessment processes and outcomes are the tenants-TPK.

Overall, these dependent variables reflect the comprehensive knowledge and skills that educators need to effectively implement digital assessment practices in educational settings, encompassing both pedagogical principles and technological competencies.

Dependent Variable(s)

In the study, the independent variables consist of five constructs related to assessment practices, namely authentic, accessible, automated, continuous, and responsible assessments. These constructs represent different dimensions or aspects of assessment practices that may influence or be influenced by educators' digital assessment knowledge and skills.

Authentic assessment refers to the use of real-world tasks that mirror the complexity of professional activities, requiring students to apply their

knowledge and skills meaningfully. Rather than relying solely on traditional tests, authentic assessments engage learners in projects, case studies, and problem-solving activities that simulate future workplace demands (Gulikers et al., 2023; Wiggins, 2022). These assessments aim to foster deeper learning and transferability of skills across contexts.

Accessible assessment encompasses practices designed to ensure that all students, regardless of ability, background, or learning needs, can participate fully and equitably. According to Burgstahler and Cauce (2020), accessible assessments require flexible delivery formats, accommodations for disabilities, and culturally responsive materials that account for diverse learner profiles. Implementing Universal Design for Learning (UDL) principles has become a key strategy in making assessments more inclusive.

Automated assessment involves leveraging digital technologies such as artificial intelligence (AI), machine learning, and online platforms to streamline grading, provide immediate feedback, and analyse student performance patterns. Research by Spector and Ifenthaler (2023) emphasizes that automated assessments can enhance efficiency and consistency while offering personalized feedback at scale, though, scholars caution that human oversight remains critical to maintaining validity and fairness.

Continuous assessment emphasizes the ongoing monitoring and evaluation of students' progress throughout the instructional period. It replaces the high-stakes, one-time exam model with a series of low-stakes assessments that offer timely feedback and opportunities for improvement (Carless, 2023). Continuous assessment supports formative learning processes by encouraging reflection, self-regulation, and sustained engagement over time.

Responsible assessment refers to ethical, fair, and transparent assessment practices that safeguard student rights, privacy, and data security. Scholars such as Tai et al. (2023) stress that responsible assessment practices require informed consent, secure handling of digital data, and adherence to institutional and legal standards. Responsible assessment also emphasizes fairness and accountability in evaluating diverse learners' performances.

Overall, these independent variables represent various aspects of assessment practices that educators may employ in their teaching contexts, each potentially influencing the implementation and outcomes of digital assessment practices.

Instrument

Our research delved into the digital assessment practices of college tutors, utilizing the TPACK framework developed by Mishra and Koehler (2006). Widely regarded as a foundational concept in educational technology, TPACK captures the essential domains of teacher knowledge for technology integration (Mishra et al., 2023). To align this framework with the specific demands of digital assessment in higher education, we drew on the work of Viberg et al. (2024), who adapted TPACK to focus explicitly on digital competence in assessment contexts. Their study introduced and validated an instrument that measured digital pedagogical knowledge, content-specific knowledge for assessment, and technological application in assessment. We adopted this instrument with minor contextual modifications to reflect the higher education setting in our study. The adapted version retained the core constructs of DA-PK, DA-PCK, and DA-TPK and served as the basis for our data collection.

In higher education, digital assessment hinges on tutors' proficiency in technological, pedagogical, and content domains, coupled with their understanding of the potentials and limitations of such assessment methods (Annan-Brew et al., 2023; Mimirinis, 2019; Slade et al., 2022). Given the intricate and multifaceted nature of teacher knowledge required for effective technology integration, the TPACK framework provides a holistic approach by being rooted in pedagogical content knowledge (PCK) as proposed by Shulman (1986). This knowledge encompasses the skills and understanding that tutors need to effectively teach a particular subject matter. Adaptation of the TPACK framework for various purposes, as highlighted by Celik (2023), underscores its flexibility and applicability across different educational contexts. Our study specifically focused on the pedagogical practice of digital assessment, emphasizing pedagogical knowledge (PK), pedagogical content knowledge (PCK), and technological pedagogical knowledge (TPK) as relevant components within the TPACK framework. As emphasized by Swiecki et al. (2022), there remains limited understanding of the pedagogical role of assessment, underscoring the importance of our investigation into preservice tutors' digital assessment practices within this theoretical framework.

In this study, we operationalized the three pedagogical constructs of the TPACK framework PK, PCK, and TPK to specifically address the pedagogical practice of digital assessment. To ensure alignment with our study's focus, we renamed these constructs as follows: DA-PK, DA-PCK, and DA-TPK. DA-PK encompasses tutors' deep understanding of the processes, practices, and methods of digital assessment, including its educational purposes,

values, and aims (Mishra and Koehler, 2006). This construct evaluates tutors' ability to implement diverse pedagogical approaches to assess students using digital technologies, adapt digital assessment methods to varying student needs and course requirements, and employ a range of digital formative and summative assessment activities in their teaching practices. DA-PCK involves knowing which digital assessment approaches are suitable for specific content areas and understanding how these approaches can be aligned to support student learning effectively (Biggs, 1996; Mishra and Koehler, 2006). Through this construct, we aimed to assess tutors' capacity to develop digital assessment methods that promote complex thinking among students and consolidate their knowledge within the context of different subjects. DA-TPK pertains to tutors' knowledge of the various technologies available for digital assessment, including their components, capabilities, and potential impact on assessment practices (Mishra and Koehler, 2006). This construct evaluates whether tutors can select digital tools that enhance assessment practices and facilitate student learning. Additionally, it assesses tutors' ability to adapt the use of digital technologies to different assessment activities, ensuring alignment with pedagogical goals and student needs. While assessment strategies are traditionally embedded within pedagogical knowledge, the growing complexity and technological integration of assessment in digital learning environments necessitates their explicit treatment as a distinct focus. By adapting and operationalizing assessment-specific constructs within the TPACK framework namely, DA-PK, DA-PCK, and DA-TPK, our study aimed to provide a targeted and comprehensive evaluation of college tutors' competencies in digital assessment. This approach contributes to a more nuanced understanding of pedagogical practice in the digital age.

The second segment of our instrument delves into tutors' perspectives on what we refer to as the 'future' of digital assessment. This section comprises several key constructs: authentic, accessible, automated, continuous, and responsible assessments. We derived and modified the first four constructs from the comprehensive report titled 'The Future of Assessment: Five Principles, Five Targets for 2025' (Pauli and Ferrell, 2020). These constructs have also been informed by additional literature (Farazouli et al., 2023; Swiecki et al., 2022), ensuring a robust foundation for our investigation into the evolving landscape of digital assessment.

The construct of authentic assessment encompasses items designed to gauge whether tutors incorporate digital assessment into real-world scenarios, facilitate peer feedback through digital technologies, or integrate augmented or virtual reality into digital assessment practices. Authentic

assessment is defined as a method of preparing learners for future endeavours by aligning assessments with real-world contexts, meeting employer demands, and evaluating knowledge and skills in a realistic and motivating manner (Pauli and Ferrell, 2020). It emphasizes the application of competencies relevant to professional life, ensuring that learners utilize the same skills, knowledge, and attitudes required in real-world situations (Gulikers et al., 2004). However, Nieminen et al. (2023) highlight that while 'the digital' should play a central role in the design of authentic assessment, their literature review findings, comprising 55 papers, indicate that the digital component has not been adequately addressed in existing research.

The accessible assessment construct encompasses items designed to evaluate the accessibility of digital assessments, both in general and specifically for students facing various challenges such as anxiety, visual impairment, or special needs. Accessible assessment practices aim to ensure that assessments are usable by everyone to the greatest extent possible, including individuals with disabilities or mental health challenges (Pauli and Ferrell, 2020). These practices contribute to assessment for inclusion, fostering the full participation of marginalized students in academic communities and promoting student equity (Nieminen, 2022; Tai et al., 2023). Despite the significance of designing assessments for inclusion and equity, limited research has focused on related assessment practices (Ajjawi et al., 2023; Dadzie et al., 2025).

The automated assessment construct focuses on assessing whether tutors utilize automated assessment mechanisms or digital tools for personalized learning, real-time feedback, or adaptive feedback. Automated assessments aim to alleviate tutors' workload in marking and providing feedback while offering students quicker, more detailed, and actionable feedback (Pauli and Ferrell, 2020). These assessments often leverage AI techniques driven by deep neural networks (Swiecki et al., 2022) and have been implemented in various educational contexts, such as programming education, where they correct coding tasks and offer continuous feedback (Dunder et al., 2024; Pearson and Penna, 2023).

Continuous assessment involves evaluating whether tutors employ digital assessments consistently throughout courses, using those multiple times instead of a final exam, and keeping students informed about their learning progress. Continuous assessment aligns with the notion of lifelong learning and provides ample practice opportunities for students, reducing reliance on high-stakes exams (Pauli and Ferrell, 2020). AI-powered educational tools, including electronic assessment platforms and computerized

adaptive testing systems, support continuous assessment by offering adaptive assessments and facilitating the collection of comprehensive data on students' learning processes (Pardos et al., 2023; Swiecki et al., 2022).

Responsible assessment pertains to tutors' obligations to safeguard student privacy and data by institutional and legal regulations (Terpsta et al., 2023). This construct evaluates whether tutors take appropriate measures to protect student privacy, securely store data, and refrain from sharing student assessment data, ensuring compliance with university data protection regulations.

Table 1: Reliability and Validity Measures for Constructs

	Cronbach's alpha
Authentic Assessment (AA)	0.866
Accessible Assessment (ACA)	0.825
Automated Assessment (AUA)	0.605
Continuous Assessment (CA)	0.894
Responsible Assessment (RA)	0.809
Overall	0.930

Source: Fieldwork (2024)

A Cronbach's alpha values offer insights into the internal consistency reliability of the constructs in the study. With Cronbach's alpha of 0.866, authentic assessment (AA) demonstrates strong internal consistency, indicating that the items measuring this construct are reliable and consistent in capturing the intended characteristic. Accessible assessment (ACA) follows suit with Cronbach's alpha of 0.825, reflecting good internal consistency among its items. In contrast, automated assessment (AUA) shows a lower Cronbach's alpha of 0.605, suggesting some variability or inconsistency in responses across its items. Continuous assessment (CA) exhibits high internal consistency with Cronbach's alpha of 0.894, indicating strong agreement among its items. Responsible assessment (RA) also demonstrates good internal consistency with Cronbach's alpha of 0.809. The overall Cronbach's alpha of 0.930 across all constructs signifies strong internal consistency reliability in the measurement instruments used in the study. These results highlight the reliability of most constructs, with automated assessment (AUA) standing out for its lower internal consistency compared to the other constructs. This pilot phase aimed to enhance the reliability and validity of the research instrument.

Result

Research Hypothesis One: DA-PK will significantly influence assessment practices, including authentic, automated, continuous, and responsible assessments.

While accessible assessment is an important aspect of assessment practice, it was intentionally excluded from Hypothesis One based on theoretical alignment. Recent literature suggests that DA-PK primarily influences pedagogical functions closely tied to instructional design and learner engagement (Spector and Ifenthaler, 2023; Viberg et al., 2024;), whereas accessible assessment is more often driven by institutional policies and infrastructure than by individual pedagogical knowledge. Before the analysis was conducted, the research hypothesis was that DA-PK would influence various assessment practices, including authentic assessment (AA), automated assessment (AUA), continuous assessment (CA), and responsible assessment (RA). This hypothesis was based on the understanding that tutors' pedagogical knowledge and skills related to digital assessment are critical for effectively integrating technology into assessment processes. The literature suggests that tutors' DA-PK can shape how they design, implement, and evaluate different assessment approaches, potentially leading to more authentic, automated, continuous, and responsible assessment practices. The analysis of the R2 and adjusted R2 values was intended to provide empirical evidence to support or refute this hypothesis, by examining the extent to which the independent variable of DA-PK explains the variation in the dependent variables representing the different assessment approaches (see Figure 2 and Table 2).

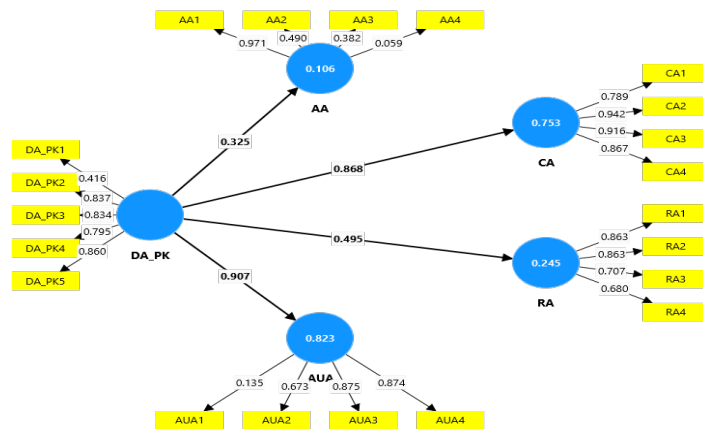


Figure 2

Path analysis

Table 2: Regression Analysis Results for the Influence of Digital Assessment Pedagogical Knowledge on Assessment Approaches

	R-square	R-square adjusted
Authentic Assessment (AA)	0.106	0.098
Automated Assessment (AUA)	0.823	0.822
Continuous Assessment (CA)	0.753	0.751
Responsible Assessment (RA)	0.245	0.239

Source: Fieldwork (2024)

The analysis of the R2 and adjusted R2 values provides valuable insights into the influence of the independent variable, DA-PK, on the dependent variables representing different assessment approaches. The results indicate that DA-PK has the strongest influence on automated assessment (AUA) and continuous assessment (CA). The R2 values of 0.823 and 0.753, respectively, suggest that DA-PK explains a substantial proportion of the variation in these assessment variables, with 82.3% of the variation in AUA and 75.3% of the variation in CA being accounted for by the independent variable. The adjusted R2 values, which are close to the R2 values, further confirm the strong fit of the models, indicating that the inclusion of DA-PK as a predictor significantly enhances the explanatory power of the models for these assessment approaches.

In contrast, the influence of DA-PK on responsible assessment (RA) and authentic assessment (AA) is relatively weaker, with R2 values of 0.245 and 0.106, respectively. This suggests that while DA-PK plays a role in these assessment domains, other factors beyond the tutors' digital assessment pedagogical knowledge may be more influential in shaping these assessment practices. The slightly lower adjusted R2 values compared to the R2 values for RA and AA indicate the possibility of some overfitting in the models, which should be further investigated. These findings underscore the critical importance of developing and strengthening tutors' digital assessment-related pedagogical competencies, as their knowledge and skills in this area have a significant impact on the implementation and effectiveness of automated and continuous assessment approaches. The results highlight the need for targeted professional development and training programmes to equip tutors with the necessary DA-PK to enhance assessment practices and support student learning.

Research Hypothesis Two: DA-PCK will significantly influence assessment practices, including authentic, accessible, automated, and continuous assessments.

While responsible assessment is undoubtedly a critical element of assessment practice, it was deliberately excluded from this hypothesis. Existing research suggests that responsible assessment encompassing ethical concerns, data privacy, and institutional compliance is shaped more by institutional regulations and legal frameworks than by content-specific pedagogical knowledge (Bearman et al., 2023; Lu et al., 2024). DA-PCK focuses on how educators integrate content with pedagogical strategies using technology and thus has stronger theoretical alignment with assessment practices like authentic, automated, accessible, and continuous assessments, where content and learner engagements are central (Viberg et al., 2024). Before conducting the analysis, the research hypothesis posited that DA-PCK would have an influence on various assessment practices, including authentic, accessible, automated, and continuous assessments. This hypothesis was grounded in the belief that tutors' proficiency in digital assessment pedagogy plays a crucial role in shaping assessment practices in higher education. The study aimed to explore how tutors' perceptions of their pedagogical digital assessment knowledge influence the design, implementation, and effectiveness of different assessment approaches. The analysis sought to investigate the influence of tutors' DA-PCK and the application of diverse assessment methods, with a focus on authentic, accessible, automated, and continuous assessment practices during online assessment (see Figure 3 and Table 3).

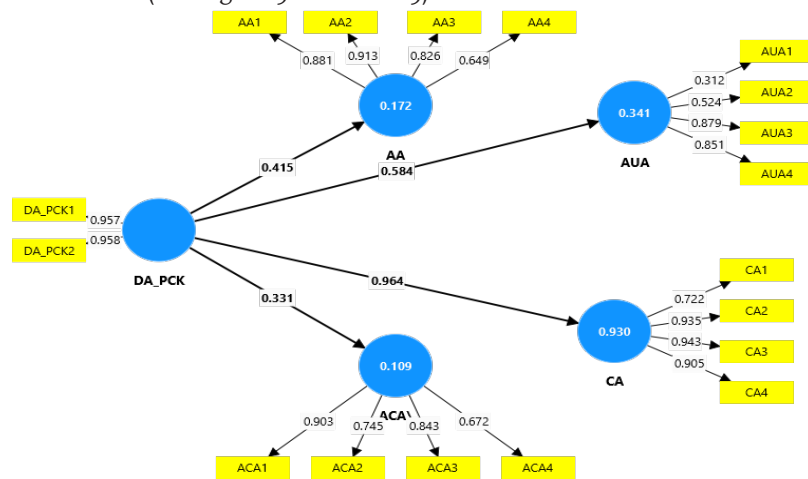


Figure 3

Path analysis

Table 3: Regression Analysis Results for the Influence of Digital Assessment Pedagogical Content Knowledge on Assessment Approaches

	R-square	R-square adjusted
Authentic Assessment (AA)	0.172	0.165
Accessible Assessment (ACA)	0.109	0.102
Automated Assessment (AUA)	0.341	0.336
Continuous Assessment (CA)	0.93	0.93

Source: Fieldwork (2024)

The significant impact of DA-PCK on continuous assessment (CA) and automated assessment (AUA) underscores the pivotal role of educators' proficiency in digital assessment pedagogy in shaping assessment practices. The substantial 93% variation explained by DA-PCK in continuous assessment highlights its direct and robust relationship with this assessment approach, indicating a strong influence on evaluating students' progress and learning outcomes continuously. Moreover, the notable 34.1% variation explained by DA-PCK in automated assessment emphasizes its importance in enhancing automated assessment practices, highlighting its ability to streamline assessment processes and provide efficient feedback mechanisms.

While the influence of DA-PCK on authentic assessment (AA) and accessible assessment (ACA) appears comparatively weaker, explaining 17.2% and 10.9% of the variation, respectively, these results still signify a significant impact on these assessment approaches. The moderate influence on authentic and accessible assessments suggests that DA-PCK fosters authenticity and accessibility in assessment practices, albeit less than continuous and automated.

Overall, these findings provide compelling evidence supporting the critical role of educators' DA-PCK in driving effective assessment strategies. By enhancing tutors' proficiency in digital assessment pedagogy, educational institutions can optimize assessment practices, promote continuous improvement in student learning, and adapt to the evolving landscape of education in the digital age. The emphasis on continuous and automated assessment practices underscores the need for educators to prioritize digital assessment skills to ensure the effectiveness and efficiency of assessment processes, enhancing educational outcomes and student success.

Research Hypothesis Three: DA-TPK will significantly influence authentic assessment, continuous assessment, and responsible assessment.

This hypothesis excludes accessible and automated assessments to maintain theoretical precision. While DA-TPK concerns the integration of technology with pedagogy, recent literature emphasizes its strongest influence on practices that involve direct instructional design using digital tools such as authentic and continuous assessments (Viberg et al., 2024). Accessible assessment, by contrast, is often institutionally or systemically driven, and automated assessment is more aligned with DA-PCK, where technology is mapped onto specific content domains (Spector and Ifenthaler, 2023). Therefore, the selection of constructs in this hypothesis reflects differentiated pathways supported by theoretical models in recent digital assessment literature. Before conducting the analysis, the research hypothesis posited that DA-TPK would have an influence on specific assessment practices, namely authentic, continuous, and responsible assessments. This hypothesis was formulated based on the understanding that educators' proficiency in leveraging technology for pedagogical purposes plays a crucial role in enhancing assessment practices that focus on authenticity, continuity, and responsibility in evaluating student learning outcomes. The study aimed to investigate how tutors' DA-TPK influences the implementation and effectiveness of these specific assessment approaches, with a focus on promoting authentic, continuous, and responsible assessment practices in educational settings (see Figure 4, Table 4).

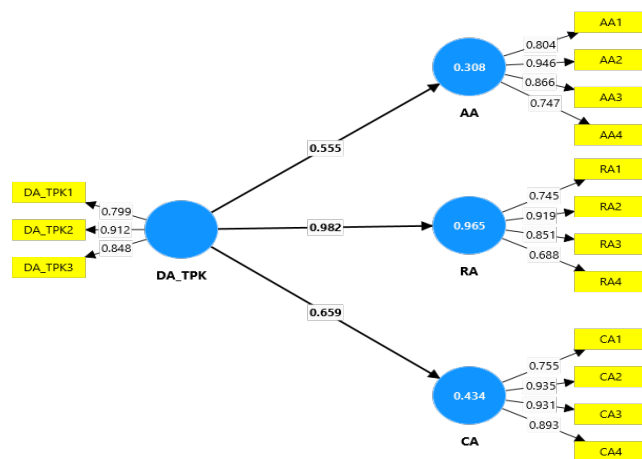


Figure 4 Path analysis

Table 4: Regression Analysis Results for the Influence of Digital Assessment Technological Pedagogical Knowledge on Assessment Approaches

	R-square	R-square adjusted
Authentic Assessment (AA)	0.308	0.302
Continuous Assessment (CA)	0.434	0.429
Responsible Assessment (RA)	0.965	0.965

Source: Fieldwork (2024)

The regression analysis results presented in Table 4 provide compelling evidence for the significant influence of DA-TPK on various assessment approaches. The findings reveal that DA-TPK has the strongest impact on responsible assessment (RA), explaining a remarkable 96.5% of the variation in this assessment practice, as indicated by the exceptionally high R² and adjusted R² values of 0.965. This exceptional result underscores the critical role of tutors' proficiency in integrating technology into their pedagogical practices for fostering responsible assessment strategies that hold students accountable and promote ethical assessment practices. Furthermore, the analysis demonstrates a strong influence of DA-TPK on continuous assessment (CA), accounting for 43.4% of the variation in this assessment approach. The adjusted R² value of 0.429 confirms the significant predictive power of DA-TPK in shaping continuous assessment methods that monitor student progress and provide timely feedback. Additionally, DA-TPK shows a moderate but still substantial influence on authentic assessment (AA), explaining 30.8% of the variation, as reflected in the R² value of 0.308 and the adjusted R² value of 0.302. These findings underscore the critical importance of developing and enhancing tutors' DA-TPK to support the implementation of effective and comprehensive assessment strategies in educational settings. Educators who possess a strong grasp of integrating technology into their pedagogical practices are better equipped to design and implement authentic, continuous, and responsible assessment approaches that align with the evolving digital landscape of education. The emphasis on the significant impact of DA-TPK on these assessment practices highlights the need for targeted professional development and training programmes to equip tutors with the necessary skills and knowledge to optimize assessment processes and enhance student learning outcomes.

Discussion

The current study's findings align with the broader research landscape that emphasizes the pivotal role of educators in shaping assessment practices, particularly in the context of assessment for learning. The study's focus on

DA-PK and its impact on various assessment approaches resonates with the existing literature that underscores the importance of tutors' proficiency in digital analysis of the R2 and adjusted R2 values in the current study provides valuable insights into the influence of DA-PK on different assessment approaches, highlighting its significant impact on automated assessment (AUA) and continuous assessment (CA).

The findings from the current study, where DA-PK explains a substantial proportion of the variation in AUA and CA, aligns with the principles outlined in the literature regarding the integration of technology in assessment practices. The emphasis on the critical role of tutors' digital assessment-related pedagogical competencies in enhancing assessment strategies and supporting student learning outcomes is consistent with the broader narrative that underscores the importance of educators' proficiency in leveraging technology for pedagogical purposes (Farazouli et al., 2023; Zhang and Wang, 2021).

Moreover, the current study's results regarding the influence of DA-PCK on continuous assessment (CA) and automated assessment (AUA) further reinforce the significance of educators' proficiency in digital assessment pedagogy in shaping assessment practices. The substantial variation explained by DA-PCK in continuous assessment and the notable impact on automated assessment underscore the critical role of educators in streamlining assessment processes and enhancing feedback mechanisms through digital technologies.

In comparison, the findings related to DA-TPK align with the broader discourse on the transformative potential of technology in assessment practices. The strong influence of DA-TPK on responsible assessment (RA) and its substantial impact on continuous assessment (CA) resonate with the principles of authentic, accessible, and automated assessments highlighted in the literature (Johnson et al., 2022). The emphasis on enhancing educators' proficiency in DA-TPK to optimize assessment practices and support student learning outcomes is in line with the overarching goal of leveraging technology to enhance educational outcomes in the digital age.

Overall, the current study's findings align with and contribute to the existing body of research that underscores the critical role of educators in leveraging digital assessment practices to enhance student learning experiences and promote effective assessment strategies. The study's emphasis on the importance of developing tutors' digital assessment-related pedagogical competencies aligns with the broader narrative on the

transformative potential of technology in education and underscores the need for ongoing support and solutions to address the challenges faced by educators in implementing digital assessment practices effectively.

Actual Conceptual Framework

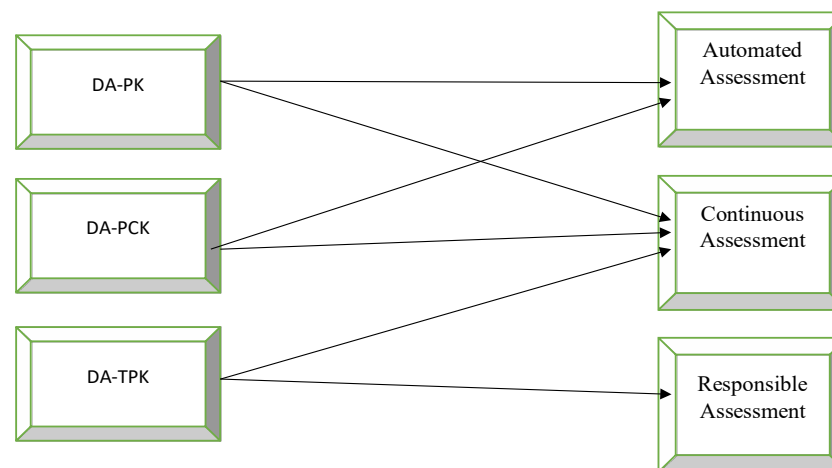


Figure 5

Actual Framework

The final model derived from the comprehensive analysis presents a compelling narrative on the multifaceted influence of tutors' digital assessment-related knowledge on various assessment approaches. The findings reveal a consistent and significant impact of all three independent variables - Digital Assessment Pedagogical Knowledge (DA-PK), Digital Assessment Pedagogical Content Knowledge (DA-PCK), and Digital Assessment Technological Pedagogical Knowledge (DA-TPK) - on Continuous Assessment (CA). This alignment underscores the critical role of educators' diverse competencies in shaping and optimizing Continuous Assessment practices, emphasizing the essential constructive interaction between pedagogical expertise, content knowledge, and technological proficiency in fostering effective assessment strategies that support ongoing student learning and growth. The strong influence of DA-PK on Automated Assessment (AUA) and Continuous Assessment (CA) highlights the pivotal importance of tutors' proficiency in digital assessment pedagogy. Educators who possess a robust understanding of digital assessment pedagogy are better equipped to leverage technology-enabled assessment methods that enhance the efficiency, timeliness, and continuity of the evaluation process, supporting student learning and growth. Similarly, the exceptional impact

of DA-PCK on Continuous Assessment (CA) and Automated Assessment (AUA) emphasizes the significance of integrating technology, pedagogy, and subject matter expertise in designing assessment strategies that effectively evaluate student learning and provide meaningful feedback.

Furthermore, the remarkable influence of DA-TPK on Responsible Assessment (RA) and Continuous Assessment (CA) underscores the critical role of tutors' proficiency in leveraging digital technologies for pedagogical purposes in fostering responsible, ethical, and accountable assessment practices. This finding highlights the importance of educators developing the necessary technological and pedagogical knowledge and skills to optimize assessment processes that promote transparency, fairness, and student-centred learning in the digital age. The final model encapsulates a nuanced understanding of how educators' digital assessment-related knowledge influences various assessment approaches, emphasizing the interconnectedness of pedagogy, content expertise, and technology in shaping assessment practices that promote student engagement, learning outcomes, and educational excellence. This comprehensive framework underscores the imperative for targeted professional development initiatives and training programmes to empower educators with the multifaceted competencies needed to optimize assessment strategies and support student success in the dynamic digital learning environment.

Implication of the Study

The research findings suggest that tutors' proficiency in digital assessment pedagogy, specifically DA-PCK and DA-TPK, play a crucial role in shaping assessment practices. The results indicate that DA-PCK has a strong influence on automated and continuous assessments, explaining a substantial proportion of the variation in these assessment variables. Similarly, DA-TPK shows a significant impact on responsible, continuous, and authentic assessments. These findings have several implications for educational institutions and professional development programmes. First, they highlight the need for targeted professional development and training programmes to equip tutors with the necessary DA-PK. By enhancing tutors' proficiency in digital assessment pedagogy, educational institutions can optimize assessment practices, promote continuous improvement in student learning, and adapt to the evolving landscape of education in the digital age.

Moreover, the emphasis on continuous and automated assessment practices underscores the importance of educators prioritizing digital assessment skills to ensure the effectiveness and efficiency of assessment processes.

By leveraging the power of digital technologies in assessment design, educators can create assessments that are more authentic, accessible, and responsive to student needs. Overall, the research findings underscore the critical role of educators' DA-PCK and TPK in driving effective assessment strategies. By investing in professional development programmes that enhance tutors' digital assessment skills, educational institutions can improve educational outcomes, support student success, and meet the demands of the digital age in education.

Recommendations

Based on the findings of this study, several actionable recommendations are proposed to enhance digital assessment practices in Ghanaian colleges of education. First, educational institutions such as the Ghana Education Service (GES) and the Directorate of Colleges of Education should provide targeted professional development and training programmes. These initiatives should focus on strengthening tutors' DA-PCK and DA-TPK, thereby equipping them with the competencies needed to design and implement effective digital assessments.

Second, college tutors themselves should prioritize the development of digital assessment skills. Embracing digital technologies in assessment design will allow tutors to create more authentic, accessible, and student-responsive assessment strategies that align with 21st-century educational goals. Third, GES should promote the use of continuous and automated assessment practices across institutions. By doing so, educational leaders can foster a culture of ongoing learning and feedback that supports student progress and adapts to the evolving digital landscape.

Finally, teacher education programmes should integrate digital assessment pedagogy into their curricula. Doing so will ensure that pre-service tutors graduate with the requisite knowledge and skills to implement effective digital assessments from the outset of their careers. Collectively, these recommendations aim to support the transformation of assessment practices in Ghana's teacher education sector, ensuring their alignment with contemporary digital learning environments.

Conclusion

The study has provided valuable insights into the influence of tutors' digital assessment technological pedagogical knowledge on the implementation and effectiveness of various assessment approaches in educational settings. The findings indicate that a strong understanding and proficiency in utilizing digital technologies for assessment purposes, as represented

by DA-TPK, significantly impacts responsible assessment practices. This underscores the importance of equipping educators with the necessary digital assessment pedagogical knowledge to enhance assessment practices and support student learning. Moving forward, targeted professional development and training programmes should be considered to further enhance tutors' digital assessment skills and promote authentic, continuous, and responsible assessment practices in educational settings. The study contributes to the existing literature by highlighting the critical role of digital assessment pedagogical knowledge in shaping effective assessment strategies and improving student outcomes.

Data Availability Statements

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

Acknowledgements

We express our heartfelt gratitude to all participants who generously contributed their time and insights to this study. We are immensely grateful to the Institutional Review Board of the University of Cape Coast for its valuable guidance and ethical oversight throughout the research process. Special thanks are extended to the researchers and team members involved in data collection and analysis for their dedication and meticulous efforts. Finally, we acknowledge the support and cooperation of the educational institutions and authorities in the colleges.

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Disability Inclusion in Graduate Competencies in Medical Education: What Competencies Matter?

Sarah Whitehead, Seyi Ladele Amosun, Theresa Lorenzo and Harsha Kathard

Abstract

In South Africa, negative attitudes of medical doctors towards persons with disabilities is evident. A doctoral study was carried out to explore medical doctors' current practices with persons with disabilities to determine their competencies in providing quality inclusive health care, guided through the lens of attitudes to ensure a very close link with knowledge and skills. The participants included persons with disabilities, medical doctors, medical students, and allied health professionals. Using the ICF framework and a mixed-method design that included focus group discussion, in-depth interviews, and a modified Delphi technique, thirteen disability-inclusive competencies and nine sub-competencies were generated. The article describes the process by which the competencies were generated, with three global initiatives providing the background. The proposed competencies can address the issues across the four different mechanisms that could negatively impact the quality of healthcare that persons with disabilities receive.

Keywords: competencies, disability-inclusive, persons with disabilities, South Africa, medical education training, attitudes

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Résumé

En Afrique du Sud, il existe des preuves tangibles que des médecins manifestent des attitudes négatives envers les personnes handicapées. Une étude doctorale a été menée afin d'explorer les pratiques actuelles des médecins envers les personnes handicapées et de déterminer les compétences dont un médecin a besoin pour fournir des soins de santé de qualité inclusifs. Cette étude a été menée sous l'angle de l'analyse des attitudes des médecins, afin d'assurer un lien très étroit avec les connaissances et les compétences. Les participants comprenaient des personnes handicapées, des médecins, des étudiants en médecine et des professionnels de la santé associés. À l'aide du cadre de la CIF et d'une méthodologie mixte comprenant des discussions de groupe, des entretiens approfondis et une technique Delphi modifiée, treize compétences inclusives en matière de handicap et neuf sous-compétences ont été identifiées. Cet article décrit le processus qui a permis d'identifier ces compétences, en s'appuyant sur trois initiatives mondiales. Les compétences proposées peuvent répondre aux problèmes liés aux quatre mécanismes différents susceptibles d'avoir un impact négatif sur la qualité des soins de santé prodigués aux personnes handicapées.

Mots clés: Compétences, inclusion des personnes handicapées, personnes handicapées, Afrique du Sud, formation médicale, attitudes.

Introduction

Disability competencies are the skills and attributes essential to providing quality healthcare to persons with disabilities (Singh et al., 2022). The absence of competencies (knowledge, skills, and attitudes) of medical doctors and other healthcare professionals regarding the needs of persons with disabilities represents one of the most widespread and impactful barriers in the health sector (Keller, 2022; Shumba and Tekian, 2024). The core of the medical profession is to provide care, devoid of bias and judgment toward individuals with whom the profession interacts (Trzeciak et al., 2020). In South Africa (SA), however, evidence indicates negative attitudes of health professionals (including doctors) towards persons with disabilities (Whitehead et al., 2019). Yet, the government, known for its progressive health and social policies that seek to achieve universal healthcare and address past inequalities (Kuperi and Hanass-Hancock, 2020), has been guided by the White Paper on the Rights of Persons with Disabilities (WPRPD) since 2015, to ensure that these individuals were not discriminated against (Department of Social Development [DSD], 2016). A review of the White Paper showed optimistic signals that the rights of persons with disabilities would be protected (Kamga, 2016). Still, the review recommended that stakeholders who contributed to its development

be empowered to monitor its implementation. Such monitoring enhanced the understanding of disability beyond a health and welfare construct to human rights (Department of Women, Youth, and Persons with Disabilities [DWYPD], 2023); Kamga 2016).

As a signatory to the United Nations Convention on the Rights of Persons with Disabilities [UNCRPD] (Africa Union, 2018), SA acknowledges disability as a long-term impairment that can limit a person's ability to participate in society. Adopting this description, this article seeks to reinforce the argument for a focus on disabilities in the medical curriculum by describing the approach used to generate competencies applicable to a medical graduate without critiquing the competencies the participants proposed. The data came from a doctoral study that explored medical doctors' current practices with persons with disabilities to identify requisite competencies to provide quality healthcare to the group. The objectives of the doctoral study were to:

- 1, identify and describe medical doctors' knowledge, skills, and attitudes that contribute to equitable practice in their clinical encounters with persons with disabilities;
- 2, describe the basic competencies, such as knowledge, skills, and attitudes required for equitable disability practices; and
- 3, develop an initial competency framework that could contribute to developing the undergraduate medical curriculum to provide a quality healthcare service to persons with disability.

Addressing Equity Issues of Persons with Disabilities

Over the years, many global initiatives have addressed the issues of persons with disabilities and three of these provide the background for this manuscript and include the first one, the World Report on Disability (World Health Organisation, 2011), and the World Health Organisation (WHO) Global Report on Health Equity for Persons with Disabilities (WHO, 2022), both of which indicate the relevance of the WPRPD meeting the needs of persons with disabilities as it reflects the human rights model of disability (DWYPD, 2023; DSD, 2016). The third one, the Missing Billion Initiative (www.themissingbillion.org/), was selected because of the 'missing billion' which, in the context of SA, signifies the large number of individuals with disabilities who are often excluded from healthcare systems (Carpenter et al., 2021; McKinney et al., 2021; Sherry et al., 2024;). Generally, these three initiatives complement each other: "World Report on Disability" providing foundational understanding of the global disability landscape, including prevalence, barriers to access, and key issues across different aspects of life like health, education, and employment; "Global Report on Health

Equity for Persons with Disability” providing specific, evidence-based recommendations for policymakers and healthcare providers to address the health inequities experienced by People with disabilities, including strategies to improve access to quality healthcare and promote inclusion within health systems; and "Missing Billion Initiative" drawing attention to the large number of persons with disabilities who are not accessing essential healthcare services.

These three initiatives, also, build on earlier initiatives like (a) the International Classification of Functioning, Disability and Health (ICF) launched in 2001 (WHO, 2001), (b) the UNCRPD launched in 2006 (Rasmussen and Lewis, 2007), and (c) the United Nations Sustainable Development Goals (SDGs) launched in 2012 (UN, 2012). Though using the ICF was not mandatory in most countries, its use in African countries provided a biopsychosocial framework for policy development in health, functioning, and disability (Leonardi et al., 2022). Similarly, the protocol to the African Charter on CRPD (African Union, 2018), also known as the African Disability Rights Protocol, is committed to promoting, safeguarding, and ensuring the complete and equal exercise of all human and people’s rights for persons with disabilities in Africa, ensuring their respect and inherent dignity (African Disability Forum, 2023). The protocol also acknowledged that the SDGs mentioned persons with disabilities under five of its seventeen goals: education (4); growth and employment (8); inequality (10); accessibility of human settlements (11); and data collection and monitoring (17) (Chataika, 2019).

World Health Report on Disability

The first-ever World Report on Disability (WHO, 2011) contributed significantly to a better understanding of disability, transitioning from an individual medical perspective to a structural, social perspective of disability as a human rights issue. The report provided the background of the transition from segregation in the 1970s to a gradual progression in inclusion. The report provided “a comprehensive description of the importance of disability” and recommendations, based on the best available scientific information, for action at national and international levels. The recommendations included ways to overcome barriers to healthcare and education, improve human resource capacity through effective education and training by integrating disability education into undergraduate training of healthcare professionals, and create environments that enable persons with disabilities to flourish.

WHO Global Report on Health Equity for Persons with Disabilities

This global report also noted that one in six people experiences significant disability (WHO, 2022), and the number continues to rise due to an ageing population and chronic health conditions, among others. The overarching aim of the report was to bring health equity issues of persons with disabilities to the attention of decision-makers in the health sector; document evidence on health inequities and country experiences on approaches in advancing health equity in the context of disability; and make recommendations that stimulate country-level action. While acknowledging the substantial progress in many countries, the global report portrayed that many persons with disabilities were still ‘being left behind’. The following recommendations were made for the healthcare workforce to advance health equity for persons with disabilities:

1. develop competencies for disability inclusion in the education of all healthcare workers;
2. provide training in disability inclusion for all health service providers;
3. ensure the availability of a skilled healthcare workforce; and
4. include persons with disabilities in the healthcare workforce.

The Missing Billion Initiative

The Missing Billion Initiative (Kuper and Heydt, 2019), a founding partnership between the London School of Hygiene and Tropical Medicine, the Clinton Health Access Initiative, and the McKinsey Health Institute, was launched in 2020. The Initiative is committed to improving access to health for persons with disabilities by 2030, enabling them to live a healthy and independent life. Persons with disabilities generally face poorer access to healthcare in comparison to those without disabilities, contributing to worse health outcomes that include a 10 to 20-year-shorter life expectancy (Kuper and Heydt, 2019). Persons with disabilities in low to middle-income countries had a mean life expectancy of 49.3 years, compared to 68.5 years for the general population, with a median gap of 19.2 years (Rotenberg et al., 2023). The life expectancy gap also varied across countries, ranging from 9.6 years in Bosnia and Herzegovina (an upper middle-income country) to the highest in five African countries: Nigeria, 30.6; Chad, 30.3; Somalia, 30.1; South Sudan, 30.0; and Guinea, 29.1 years. These inequities present a serious threat to upholding the rights of persons with disabilities and achieving the SDGs. In line with the protocol of the African Charter on CRPD that acknowledged persons with disabilities under five of the 17 goals (African Disability Forum, 2023), the Missing Billion Initiative asserted that it is only by prioritising these individuals that the goals of SDG 3 (Good Health and Well-being) can be achieved. For this, the Initiative (Hogan, 2020) supported the recommendation in the Protocol to the African Charter (African Union, 2018) that “the training of healthcare providers

(including medical doctors) takes account of the disability-specific needs and rights of Persons with disabilities” (p. 13).

Developing Competencies for Disability Inclusion

Competencies are the observable abilities of a person, integrating knowledge and skills, as well as core values and beliefs in their performance of tasks (Shumba and Tekian, 2024). These competencies are durable, trainable, and measurable through the expression of behaviours. However, developing competencies for and providing training in disability inclusion has its challenges.

South African Studies

In SA, there is a dearth of research on developing competencies for disability inclusion in the training of medical doctors. Only one study that explored the preparation of undergraduate civil engineering students in a local university to contribute to an inclusive society for persons with disabilities was identified (McKinney, 2016). The approach used to generate the competencies was uniquely referred to as the “production line model”. This approach was intentionally named as it resonated with the key principle of quality assurance in tertiary education, in that the model provided the opportunity to gain insight into what was happening at every stage in the education process. The stakeholders providing the quality assurance oversight include the Engineering Council of South Africa, the higher education institutions, and the engineering industry. The study’s outcome noted overlaps in the competencies proposed in two of the three competency domains (Skills, Resources, and Approaches).

International Studies

A systematic review of definitions of competence cited in the health sciences education literature identified similarities and differences between the definitions from a sample of 14 extracted from 17 selected articles (between 1948 and 2011), excluding articles in languages other than English or French (Fernandez et al., 2012). The definitions indicated a general acceptance that knowledge and skills were not the only components of competence, but there was little agreement on the nature of the other components. While this gives a trajectory of progress, efforts to make competence explicit and measurable still present difficulties, partly due to a tension between the need for standardisation and the acknowledgment that medical professionals should also be valued as unique individuals (Ten Cate et al., 2024).

One example of the tension in developing competencies manifests in the knowledge domain in the attempt to have a clear distinction between

knowledge and awareness (Trevethan, 2017). A partial resolution was that the notion of specific knowledge is at the high end of a continuum based on information specificity and accuracy, while general awareness is at the low end of the same continuum to represent people having little or very little knowledge about a topic at hand. Another source of tension is the possible overlaps in the competencies proposed when the circle of study participants is broadened to include those who conventionally do not take part in the process (Bobat et al., 2020 ; Singh et al., 2020).

Different approaches were also developed to provide training in disability inclusion for healthcare providers, integrating knowledge, skills, and attitudes, but with varying outcomes (Bania et al., 2023; Hay et al., 2024; Lefkowitz, Meitar, and Kuper, 2021; Parnell et al., 2023; Shakespeare and Kleine, 2013). It is perceived that the approaches have given more attention to knowledge and skills to the detriment of attitude, which may suggest that disability being a social issue, not only a medical one, is yet to be embraced by all (Shakespeare and Kleine, 2013). The approaches seem yet centred around conventional lectures by medical educators and persons with disabilities. With the ratification of the UNCRPD (UN, 2006), it makes sense that in developing disability-inclusion competencies and training, disability should be framed within the human rights context (Shakespeare and Kleine, 2013). In terms of attitudes, Bania et al., (2023) and Hay et al., (2024) acknowledged that the attitudes, perceptions, and inherent biases of healthcare professionals can influence and inform the health outcomes of persons with disabilities.

A systematic review identified interventions to improve healthcare professionals’ attitudes, knowledge, and confidence in caring for persons with intellectual disability (Hay et al., 2024). The review of ten studies, from Canada, USA, and UK, concluded that training is valuable in achieving these competencies, broadening perspectives, and increasing confidence in managing these individuals. Similarly, earlier studies in Greece concluded that most healthcare students sampled yielded least and moderately positive attitudes towards persons with disabilities (Kritsotakis et al., 2017; Matziou et al., 2009). This prompted a more recent study that investigated the attitude of undergraduate healthcare students in various disciplines (Bania et al., 2023). The authors concluded that further actions were required to promote positive attitudes toward disability. Singh et al. (2022) recommended a social model in teaching that increases the contact of healthcare students with persons with disabilities.

Context in South Africa

With overall population increasing from approximately 51 million to 62

million between 2011 and 2022 (Statistics South Africa, 2024), some data relating to persons living with disabilities, aged 5 years and older, are presented in Table 1.

Table 1: Population Aged 5 Years and Older by Types of Impairment (Including Persons Who Were Uncertain), 2011 and 2022 (Source: Statistics South Africa Census 2024)

Disability	2011	2022
Prevalence [%]	7.4	6.0
Approximate number with disabilities and types of impairments (million)		
Sight	4.85	4.73
Hearing	1.56	1.82
Communication	0.57	0.89
Walking	1.53	2.06
Cognitive	1.90	1.76
Self-care	1.49	1.03

The UNCRPD, the first global legally binding instrument to uphold the rights of persons with disabilities, was adopted in 2006 (Rasmussen and Lewis, 2007) and ratified in 2007 by SA, accepting all the legal obligations it imposed (Heap, Lorenzo, and Thomas, 2009; Kamga, 2016). In line with the country’s progressive policies, a National Health Insurance (NHI) scheme aimed to provide “access to quality healthcare services that are delivered equitably, affordably, efficiently, effectively and appropriately” was proposed (Michel et al., 2019). Unfortunately, there is yet little evidence that this has been achieved for persons with disabilities (Whyle and Olivier, 2023). This is different from what is obtained through the National Institutes of Health (NIH) in the USA where the importance and need for research to improve the understanding of the complexities that lead to disparate health outcomes and multilevel interventions are evident (Agurs-Collins et al., 2019).

The South African Medical Research Council (SAMRC), in a press release dated 30 Nov 2023, acknowledged its leadership role in the Sub-Saharan Africa Team of the Disability Data Initiative (SAMRC, 2023). The Council also expressed its determination to contribute towards knowledge generation aimed at improving healthcare access for persons with disabilities to help advance their rights. However, the Council reported widespread gaps in the availability of disability-specific care. For example, more than 70% of South Africans use government healthcare facilities, and records indicate a shortage of medical doctors in the system—which has about three doctors for every 10,000 patients—and inequitably distributed services, with rural areas being the most deprived. These are part of the frustrations captured

in the submissions from persons with disabilities in local communities to the Parliamentary Portfolio on NHI (Parliamentary Communication Services, 2019) and highlighted inaccessibility to healthcare facilities, insufficient aides for persons with disabilities, and poor behaviours of healthcare workers towards them.

Medical doctors are integral to healthcare systems, not only as clinicians and evidence-based practitioners, but also as leaders, advocates, and health system reformists, working to improve healthcare provision and equity to all. Insufficient knowledge and skills, and negative attitudes towards persons with disabilities may adversely affect the services available and the health outcomes for this group (Bania et al., 2023). There is an increasing need to better equip medical students with the proper training to provide holistic care for persons with disabilities with one approach to standardise the undergraduate disability curriculum for medical students.

There is evidence of disability inclusion in the undergraduate curricula of rehabilitation professionals (Ohajunwa et al., 2014; Ohajunwa et al., 2015) and inclusion of persons with disabilities in the training of the healthcare workforce in SA (Ndlovu, 2019; Steyl, 2010; Whitehead et al., 2024). Unfortunately, there is still a dearth of information about medical education, though there have been recommendations on strengthening available learning opportunities for medical students to acquire the knowledge, skills, and attitudes required to provide effective services to persons with disabilities (Amosun and Taukobong, 2010; Amosun, Volmink, and Rosin, 2005; Whitehead et al., 2019).

Therefore, to provide persons with disabilities with the quality of healthcare comparable to the rest of society (able-bodied people), medical doctors need to be equipped with sufficient knowledge and skills related to disability-inclusive practice. However, their training remains aligned mostly with the 20th-century healthcare focus on acute conditions (Frenk et al., 2010). As a result, medical doctors are well-versed in the traditional models of acute care but are not equipped with the knowledge and skills needed to treat and manage the current pressing world health problem of chronic conditions and resultant impairments (Frenk et al., 2010; Horton, 2024; Ljuslinder et al., 2020) and consequential increase in disability prevalence. The prevailing number of persons with disabilities requires that medical students, society’s future medical doctors, understand disability as being wider than just the health conditions that lead to impairments.

Globally, there have been several calls for changes in training healthcare professionals (including medical doctors) to ensure that future healthcare

professionals are 'fit-for-purpose' in providing appropriate care to all, including persons with disabilities.

What Could be Delaying the Transformation of Medical Education in South Africa?

Three of the many possible limitations to the perceived delay in the transformation of medical education in SA are presented. First, while there are efforts to widen access to medical education in SA, there is still persistent under-representation of students with disabilities in the medical programme, and subsequently, in the medical profession (Burch and Reid, 2011; Machado et al., 2022; McKinney et al., 2021; Whitehead et al., 2024). Unfortunately, students with disabilities still make up a tiny percentage of the overall student population in South African universities, including medical schools, and encounter challenges relating to reasonable accommodation (Mutanga, 2017; Whitehead et al., 2019).

While government policies aim to promote the inclusion of all South Africans in the equal exercise of all rights and freedoms provided by the constitution, medical students with disabilities are problematised with uncertainties about their abilities in clinical practice. This suggests a gap between the formulation of progressive policies and implementation, especially in tertiary education (Mayat & Amosun, 2011). While academics and medical students should have the necessary knowledge, skills, and attitudes to interact with persons with disabilities in a sensitive and caring manner, traditional undergraduate medical education is still mostly focused on curative approaches to illnesses and injuries with little urgency for the transformation of the curriculum (Amosun & Taukobong, 2010; Frenk et al., 2010).

A second challenge is the resistance to change within the medical profession (Turner, Wolvaardt, & Ryan, 2023; Varpio, 2023; Wolvaardt & Ryan, 2023). Ankham et al. (2019) asserted that limited advocacy for disability inclusion was the most significant barrier to including disability-specific competencies in medical education. As a qualified and registered medical doctor, the lead author of this article (henceforth referred to as the researcher), acting as a catalyst for change (Whitehead et al., 2019), took an initiative similar to the student-led reforms to advance anti-racism within medical education in Canada (Warnock et al., 2023), intending to improve medical education and practice in SA (Singh and Meeks, 2023). In a doctoral thesis, the researcher set out as an advocate to add to the body of knowledge that would facilitate disability inclusion in the undergraduate medical curriculum in SA, using the ICF framework to develop competencies that would enhance

the understanding of undergraduate medical students about persons with disabilities (Heyman et al., 2020; Volmink, 2018; Whitehead, 2023).

The third limiting factor relates to the concept of ableism in medical practice in SA (Whitehead et al., 2024) and was confirmed recently from the experiences of a medical doctor with disabilities while interacting with an able-bodied doctor (Whitehead et al., 2025). Given this awareness, the researcher was not ignorant of the pending challenges (Etieyibo, 2022; Ndlovu, 2021; Whitehead et al., 2024) despite a global orientation toward supporting qualified medical doctors living with disabilities (Singh and Meeks, 2023). There are four primary mechanisms through which the epistemic schema of ableism distorts communication between nondisabled physicians and disabled patients (Peña-Guzmán and Reynolds, 2019), namely:

1. Testimonial injustice is where the patient's testimony is unfairly downgraded because of the physician's prejudice.
2. Epistemic overconfidence is where there is an excess of self-assurance of the physician's knowledge.
3. Epistemic erasure is where the physician deliberately ignores or discounts the patient's insights and perspectives because they do not fit the physician's dominant way of thinking.
4. Epistemic derailing is when the assumptions or biases about the patient's identity or background prevent the physician from paying attention to the patient's experiences or knowledge.

Measures against epistemic injustices in general and against schema-based medical errors, in particular, are ultimately issues of justice that must be addressed at all levels of health care practice. Sometimes, this bias is unconscious. Based on the study of Groene, Ehrhardt, and Bergelt (2022), the researcher hypothesised that the development of the disability competencies for medical education in SA should give necessary attention to attitudes to ensure a very close link between knowledge, skills, and attitudes (Whitehead, 2023).

Methodology

Research Paradigm

A paradigm is a researcher's unique worldview, made up of a set of basic assumptions (beliefs and ideas) and norms that guide the research actions (Kivunja and Kuyini, 2017). For the doctoral research, the researcher's paradigm informed the methodological aspects which included research design, identification and recruitment of research participants, data collection methods, analyses of the data collected, and ensuring the trustworthiness and rigor of the study.

Many factors informed the researcher's paradigm (Whitehead, 2023; p.73).

Importantly, I am a medical doctor and a person with a disability. I live in SA, a global South country, and I am female and white. I received my undergraduate medical training from a South African university whose Eurocentric medical curriculum was a legacy of colonialism (Louw, 1979) like all medical curricula in the country (Hirsch, 2018).

Rather than seeing myself as the producer of first-hand knowledge in this research, my position is more of an interpreter of the knowledge my participants have shared. My role was to interpret and shape the participants' knowledge contributions into an acceptable and formal academic format. My decision to select the participants in Phase One of this study aligns with the conceptual position I have taken in this study. I consciously chose to give value to and elevate the voices of those who have typically had less influence/power in medicine and medical education, which aligned with the views expressed by Singh et al. (2020).

Research Design

To address the objectives of the doctoral research (Human Research Ethics Committee approval 043/2019), an exploratory descriptive study that used a mixed-method design of data collection (Berman, 2017) was implemented. The study used focus group discussions (FGDs), in-depth interviews, and a modified Delphi technique. To ensure the rigour of the qualitative component of the mixed method, careful consideration was given to all variables that could influence the internal validity or induce a bias while utilising the FGDs or the Delphi technique (Ahmed, 2024; Nyumba et al., 2018; Toma and Picioreanu, 2016).

Sample

Following the guidelines of Palinkas et al. (2015) purposive sampling was used to select the participants for the FGD who were recruited through personalised emails. This involved identifying and selecting individuals or groups of individuals who were knowledgeable about or experienced the phenomenon of interest. Following the examples of Singh et al. (2020) and Bobat et al., (2020), the profile of study participants was broadened to include those who conventionally do not take part in the process (Bobat et al., 2020; Singh et al., 2020). Consideration was also given to the participants' availability and willingness to participate, and their ability to communicate experiences and opinions in an articulate, expressive,

and reflective manner. All the participants selected for the different study phases gave their consent.

Twenty-one participants selected for the FGDs were organized in four groups (Table 2).

Table 2: Participants in the FGDs

Groups	Participants
Persons with disabilities (n=5)	-Three females and two males, aged 38-55 years. -Two were active board members of well-known disability related groups; one was a trauma counsellor at a private physical rehabilitation unit, and the remaining two were self-described as "a successful business person" and "independently mobile on a good day". -Three tetraplegics secondary to spinal cord injury, one visually impaired, and one with fibromyalgia.
Medical doctors (n=3)	Two males and one female, aged 51-71 years; registered with HPCSA; with 35-52 years' experience in Physical Rehabilitation Medicine.
Therapists and nurses (n=8)	-All females, aged 25-65 years; registered with HPCSA/ SANC; with 6-45 years' experience in physical rehabilitation, working with persons with disabilities in consultation with medical doctors. -They were divided into 2 groups of four participants as of the time of availability: 1) two physiotherapists; one speech therapist; one registered nurse; 2) two occupational therapists; one speech therapist; one registered nurse.
Medical students (n=5)	Three females and two males, aged 22-24 years, were in the clinical years of training; three got relatives with disabilities; one involved in disability rights advocacy; and one engaged in a curriculum-change working group.

Data Collection

The data were collected in two phases. In the first phase, two trained research assistants facilitated the FGDs, guided by the guidelines of Guest et al. (2017) to curtail biased responses, given the researcher's profile. The FGD sessions were conducted in English, audio-recorded, and transcribed, each lasting between 1 and 1.5 hours.

FGDs

The questions to prompt discussion in each FGD are presented in Table 3.

Table 3: Questions to Prompt Discussions

Groups	Questions to prompt discussion
Persons with disabilities (n=5)	<ol style="list-style-type: none"> 1) Based on personal experiences, what positive or negative things do most doctors do when treating patients with disabilities? 2) What makes treatment by a doctor a positive experience for you? 3) What makes treatment by a doctor a negative experience for you? 4) What basic knowledge, skills, and attitudes should a doctor have to adequately treat patients with disabilities?
Medical doctors (n=3)	<ol style="list-style-type: none"> 1) What is your thinking about disability? 2) How do you know a person has a disability? 3) How do you approach the consultation and treatment? 4) Give examples of your practice with specific cases without mentioning the patient's name. 5) What basic knowledge, skills, and attitudes should a doctor have to adequately treat patients with disabilities?
Allied Health Professionals (n=8)	<ol style="list-style-type: none"> 1) What have you observed in how doctors manage/treat persons with disability? 2) What are the strengths and challenges? How can the practice be developed further? 3) What have been your observations/experiences of doctors managing/treating persons with disability? 4) How do doctors approach their medical treatment with persons with disability? 5) What basic knowledge, skills, and attitudes should a doctor have to adequately treat patients with disabilities?
Medical students (n=5)	<ol style="list-style-type: none"> 1) Have you been exposed to disability issues in your undergraduate medical curriculum? If so, what, when, and how? 2) Do you think it's important to include disability issues in the undergraduate medical curriculum? Why? 3) Do you feel adequately equipped/prepared by your undergraduate medical curriculum to treat and manage persons with disability appropriately? 4) What basic knowledge, skills, and attitudes should a doctor have to adequately treat patients with disabilities?

After an initial review of the FGD data, six participants were selected and invited to an in-depth interview which was also audio recorded (Eppich, Gormley & Teunissen, 2019). These included three from the group of persons with disabilities and three from the allied health profession group.

Delphi Study

In phase two of data collection, a modified Delphi technique combining closed- and open-ended designs (Torres-Alzate et al., 2020) was utilised.

An expert panel (n=12) was constituted (Table 4) to develop a competency framework that could enrich the undergraduate medical curriculum in providing quality healthcare services to persons with disabilities.

Table 4: Members of the Expert Panel

Profile of members	Participants
Persons with disabilities who are academics in Disability Studies	4
Able-bodied persons who are academics in Disability Studies	1
Medical doctors (excluded participants in phase one)	2
Medical Educationists	3
Disability Rights Activists with health professional backgrounds	2

For the first part, the experts were asked to rate the initial list of competencies generated in phase one according to their importance and language clarity, using a closed-ended design. A Likert scale ([1] Strongly disagree; [2] Disagree; [3] Neither agree nor disagree; [4] Agree; [5] Strongly agree) was utilised to reflect the level of agreement with the competencies generated. For the second part, as information about the competencies was now readily available, open-ended questions (Table 5) were posed to the expert panel.

Table 5: Questions for Expert Panel

Closed-ended	<ol style="list-style-type: none"> 1) Is this competency important for undergraduate medical students? 2) Is the language of each competency, clear and easy to understand?
Open-ended	<ol style="list-style-type: none"> 1) Do you feel that any of the competencies don't need to be included in the list? 2) Do you feel that any of the competencies overlap and could be combined? 3) Do you have any other comments?

Data Analysis

The transcripts of the FGDs and in-depth interview data were given to an external person for proofreading and verification to ensure accuracy. Using an inductive content analysis approach, the researcher selected the six stages of Braun and Clarke (2006), namely familiarisation, code formulation, generation of themes, themes review, defining and naming themes, and report formation, in identifying the themes. In this process, the researcher focused mainly on the knowledge, attitude, and skills generated from the data on what doctors should be competent in.

In the first part of the Delphi study, the process was iteratively extended to two rounds when Bowen et al.'s (2020) framework was used to select competencies with 75% or more scores to presume a consensus was reached. In the second part of the Delphi study, responses to the open-ended questions were analysed qualitatively to identify patterns or themes in the dataset.

Results

In addressing the first two objectives of the doctoral research, four themes (namely experience of disability; attitudes towards disability; knowledge about disability; and what medical students must know) and preliminary competencies were generated from the data gathered from the FGDs and in-depth interviews. These preliminary competencies, other literature, and discussions with the thesis' supervisors assisted the researcher in compiling a list of initial competencies that was later presented to the expert panel of the modified Delphi technique in addressing the third objective.

After two iterations, a final competency set (13 competencies and 9 sub-competencies) was generated. The proposed competencies and sub-competencies, 1-6, are clustered as knowledge competencies (Table 6), 7-10 as attitudes (Table 7), and 11-13 as skills (Table 8).

Table 6: Knowledge Cluster of Competencies and Sub-Competencies for Doctors

	Competencies	Rationales
1	Must demonstrate an awareness of how the United Nations (UNCRPD 2006) defines persons with disability as well as an understanding that the many definitions of the types of disabilities (e.g., mental health issues, physical and intellectual) are not finite, often changing, are extensive and should be interpreted differently for each presentation of disability	The knowledge of these definitions will assist medical graduates in practicing medicine inclusive of all disabilities, whether visible or invisible.
2	Must demonstrate knowledge of the resource constraints and context for persons with disability and understand that the person with a disability or the parents/guardians of children with disabilities, must be included in a participatory dialogue about these resources.	Doctors must be aware of the available resources/options that could greatly enhance their patient's quality of life.

3	Must demonstrate an awareness that persons with disability are susceptible to the same medical conditions as their able-bodied peers, in addition to those medical conditions that might be associated with their disability (e.g., pneumonia is not associated with a particular disability, whereas autonomic hypertension is directly associated with a physical disability caused by a spinal cord injury).	This knowledge is important for doctors so that the risk of medical harm (e.g., misdiagnosis or mismanagement) can be avoided as much as possible.
4	Must demonstrate knowledge about the occurrence and treatment of the common secondary complications of various impairments that have led to disabilities (e.g., renal stones commonly occur in spinal cord injury patients or complications of cigarette smoking, which is common in people living with cognitive or psychosocial disabilities).	This knowledge will ensure that doctors can give their patients with disabilities quality, inclusive healthcare.
5	Must be able to work in a multidisciplinary team and the context of disability; Must also be knowledgeable about how other members of the multidisciplinary team contribute to comprehensive person-centred care.	Often, persons with disability need the services of different healthcare professionals. These professionals must work together as a team, contributing to the outcome of the person's treatment plan and ultimately the quality of all aspects of their lives.
5.1	Must be aware of the roles, skills, and competencies of the healthcare professionals in a multidisciplinary team who work with persons with disability.	Knowledge about the multidisciplinary team will help doctors work effectively and efficiently in the team.
5.2	Must demonstrate the ability to appropriately refer to the different multidisciplinary team members, showing an awareness of the potential contribution of each member, during clinical care.	Inappropriate referrals can waste the time of the healthcare professional receiving the referral and of the persons with disabilities.
5.3	Must demonstrate an awareness and understanding that a medical doctor is not necessarily the leader of a multidisciplinary team.	This will assist with the facilitation of effective teamwork because the outcome being sought is not necessarily biomedical. It could be psychosocial.

6	Must understand how persons living with disability form part of families and communities, have equal human rights, and participate in society in diverse ways (exactly like able-bodied people) including educationally, economically, and politically.	In the context of SA, doctors must understand and accept disability as a form of diversity within a diverse society. Intercultural perspectives on health and disability and intervention choices should be considered as they can influence the treatment and management outcome of persons with disability.
6.1	Must display knowledge, awareness, and understanding about the intersection of culture, medicine, gender, sexuality, and disability in a South African context.	

Table 7: Attitude Cluster of Competencies and Sub-Competencies for Doctors

	Competencies	Rationales
7	Must be reflexive and demonstrate that they understand and value the humanity and individuality of persons with disability, bearing in mind the South African context in which they live (i.e., develop an empathic, person-centred approach towards persons with disability).	An empathic approach facilitates rapport building and positive clinical interaction between doctor and patient.
8	Must demonstrate an awareness of how understanding the lived experience of persons with disability is key to both the assessment and management approach to persons with disability (i.e., during any clinical interaction, medical graduates must regard persons with disability as sources of knowledge and treat them as equal partners in the healing/rehabilitation process).	Disability is multifaceted and affects a multitude of aspects of the life of a person with a disability (medically, psychosocially, and spiritually). Theoretical knowledge must be supplemented by the lived experience of persons with disability. This combination of knowledge will strengthen and deepen medical graduates' understanding of disability.
8.1	Must be able to compile contextually relevant treatment and management plans using a holistic approach for persons with disability (i.e., the focus must be on the individual's physiological, psychological, social, and occupational needs and inclusive of the support network of each person with a disability, to promote community integration.)	This increases the likelihood of adherence.

9	Must demonstrate the awareness that a meaningful clinical engagement with persons with disability is more likely to take place when the doctor acts and behaves as an equal partner (i.e., does not take an authoritarian view).	This contributes to the overall enhancement of mutual respect during consultation.
10	Must demonstrate a good understanding of why empowerment through knowledge is necessary and important for persons with disability and their families. They must also demonstrate the skill to doing so.	As doctors are not necessarily always accessible, if persons with disability are not empowered with the knowledge to manage their disability, they could potentially face many struggles negotiating everyday life.
10.1	Must be advocates for the rights of persons with disability in any society, particularly in the South African context.	How doctors treat persons with disability can have a major influence on how society at large treats persons with disability.

Table 8: Skill Cluster of Competencies and Sub-Competencies for Doctors

	Competencies	Rationales
11	Must be able to set clear professional boundaries and create an environment of trust, where the person with a disability feels comfortable sharing personal information.	Creating an environment where rapport grows between the doctor and the person with a disability is critically important for individuals to feel comfortable sharing personal information.
11.1	Must demonstrate good skills, encompassing the skill of active listening, as well as positive non-verbal communication (such as eye contact, nodding, giving the person time and space to talk) in interacting (history taking, examination, and treatment/management) with persons with disability in a clinical consultation setting.	If doctors are unsure of how to interact with their patients with disabilities in a clinical setting, then there is the potential for miscommunication between the doctor and the patient which increases the patient's risk for medical harm.

11.2	Must demonstrate an awareness of the need to assign adequate time where necessary to ensure that all the needs of persons with disability are met in their clinical encounters.	Persons with disability may be slower than able-bodied patients, in either movement or speech. If a doctor were to rush them due to time constraints, this could lead to miscommunication and poorer healthcare quality.
12	Given the multifaceted and evolving concept of disability, medical graduates must adopt an attitude of reflexivity to create self-awareness of their knowledge limitations. A commitment to lifelong learning assists them in providing good care to persons with disability.	Disability is an extensive subject with evolving information. A doctor can't know everything about every possible impairment and resultant disability. By being aware through reflection of their own knowledge limitations and then adding to their knowledge base, doctors will enhance the standard of healthcare services that they give patients.
12.1	Must demonstrate a willingness to critically evaluate any of their assumptions, as well as any feelings of discomfort about persons with disability, how these relate to more broadly held societal attitudes, and how they might impact upon their assessment and management of persons with disability.	If such biases are left unchecked, they can contribute greatly to the issue of ableism in medicine.
13	Must demonstrate a willingness to adapt assessment, examination, and treatment/management techniques to meet the needs of persons with disability.	The ability to think about and implement creative assessment, examination, and management techniques will contribute to decreasing the risk of misdiagnosis or mismanagement.

Overlap of Competencies

In determining whether each competency could be labelled as knowledge, attitude, or skills, it quickly became clear to the researcher that separating many of the competencies into one of the three clusters (knowledge, attitudes, skills) was difficult. This resulted in a perceived overlap in participants' accounts of the competencies they deemed essential for a doctor to effectively treat persons with disabilities.

Discussion and Conclusion

While definitions of competence still abound, mostly referring to the adequacy of qualification, ability, skill, and knowledge, a multilayered conceptualisation of competence has been proposed to address the discrepancies (Ten Cate et al, 2024; Fernandez et al., 2012). However, acknowledging that disability is no longer simply a medical issue but a human rights one, the researcher presumed that the development of disability-inclusive competencies in SA should be guided through the lens of attitudes to ensure a very close link between knowledge, skills, and attitudes.

However, is the environment in SA supportive of such noble goals? The government's commitment to international policies to enhance the inclusion of persons with disabilities, and efforts to introduce the NHI to eliminate a healthcare system where those with the greatest needs have the least access should be applauded (Heap et al., 2009; Michel et al., 2019; Whyte and Olivier, 2023). Through this, SA made clear its intention to improve the inclusion of persons with disabilities in the health system through its legislation and policy. However, inappropriately trained human resources, among many factors, still fuel the policy-practice gap, leaving persons with disabilities among those still experiencing health disparities.

The description of the overall approach used in generating the competencies indirectly proposes an approach to teaching and learning about disability inclusion for medical students. A key feature of this study was the inclusion of persons with disabilities in the FGDs, in-depth interviews, and the panel of experts. Singh et al. (2020) argued that disability-specific competencies should not be generated without the input of persons with a lived experience of disability. First invoked by the South African Disability Rights Movement in the 1990s, "Nothing About Us Without Us" became the clarion call of activists to overcome systemic oppression and empower persons with disabilities to take control over decisions affecting their lives (<https://www.ndi.org/our-stories/nothing-about-us-without-us-nothing-without-us>). Since then, the concept has anchored the work of the global disability rights movement and its demand for the full and equal inclusion of persons with disabilities.

Acknowledging that the valuable lived experiences of persons with disabilities cannot be taught, though vital to their access to quality healthcare (Parnell et al., 2023), their willingness to share their unique experiences in the doctoral study should be commended. This is similar to the appreciation expressed in the continuing efforts of the NIH to designate persons with disabilities as a population with health disparities

(Agurs-Collins et al., 2017), using the phrase “To the disability community, we hear you and thank you for sharing your lived experiences with NIH” (NIH, 2024).

Given the concept of ableism in medical practice in SA (Etieyibo, 2022; Ndlovu, 2021; Whitehead et al., 2024; Whitehead et al., 2025), the negative attitudes towards persons with disabilities endanger their inclusion (Bania et al., 2023; Peña-Guzmán and Reynolds, 2019). The researcher intended to ensure that the final competencies that the panel of experts developed would address the four mechanisms by which ableism leads to medical error (Peña-Guzmán and Reynolds, 2019) as expressed earlier.

A perusal of the proposed set of disability competencies and sub-competencies in Tables 6, 7, and 8 reveals that they are well distributed to address the issues across the four different mechanisms that could negatively impact the quality of healthcare that persons with disabilities receive. These competencies would be valuable in the training to improve knowledge, broaden perspectives, and increase confidence in caring for persons with disabilities (Hay et al., 2024).

Although all the study participants were united by common interests and goals—through disability experience (personal, professional, or academic) and/or the transformation of medical education—neither phase was without tension or challenges in thoughts and ideas. In the effort to merge the responses of participants from the four FGDs to the common question “What basic knowledge, skills, and attitudes should a doctor have to adequately treat patients with disabilities?”, the researcher noted the similarities and differences in the development of the preliminary competencies. This tension was higher among the panel of experts, which stemmed from differences of opinion that attitudes are too difficult to teach and assess and should therefore be excluded from the competency set. Lefkowitz et al., (2021) argue that teaching attitudes—such as professionalism and empathy—are as important as the hard sciences being taught already in medical schools. The decision to broaden the profile of study participants could have contributed to the perceived tension. However, an absence of the focus on teaching attitudes can have a major impact on the quality of care by doctors. The insufficient knowledge among medical doctors about the experience and needs of persons with disabilities contributes to healthcare disparities (Ankam et al., 2019). Coupling this with limited skills in providing ongoing care for persons with disabilities perpetuates the healthcare disparities further.

Finally, these proposed competencies open other parts of the curriculum relating to how the proposed disability competencies should be refined, taught, and assessed. This should be interrogated and addressed through further research.

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