

Digital Citizenship as a Requisite competence for Teacher Educators in Malawi

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Abstract

This paper explores digital citizenship, defined as norms of behaviour regarding technology use, as a technology competence for teacher educators in Malawi. Developing teacher educators as digital citizens is essential as teacher education institutions change, such as transitioning to online instruction following the impact of the Covid-19 pandemic. We reviewed the research literature and teacher education policy documents to show how teacher educators can facilitate the development of ethical use of educational technology in Malawi. Theoretically, by foregrounding the ethical use of digital technology in education, we join critical scholarship that reflects on the socio-political implications of digital technology and imagine the future of education through technology. We have proposed professional development activities and content areas for teacher educators. We have also discussed further research that can advance scholarship on the role of teacher educators in facilitating the development of ethical use of educational technology in Malawi.

Keywords

Digital Citizenship,
Malawi,
Teacher Educator,
Technology Competence,
Educational Technology

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Introduction

Globally, the Covid-19 pandemic has exposed opportunities and challenges for technology integration into education. Among other possibilities, it has been learnt that technology can support online and distance learning when schools remain closed. However, technology integration into education also poses ethical

challenges. Zeleza and Okanda (2021) propose digital safety and security as one of the strategic points for promoting technological transformation among education institutions in the post-pandemic period. Yet, even before Covid-19, the literature reported digital safety issues, such as cyberbullying, spreading fake news, plagiarism, and copyright infringement (Nagle, 2018). As educational technology gains attention and investment in the post-pandemic era, these issues warrant the intensification of research efforts on the intersection of ethics and educational technology. The research can help us understand how to address the ethical problems of using technology in education (Mattison, 2018).

According to Spector (2016), investigating ethics in educational technology is significant because ethical practice is a crucial aspect of educational technology as a field of study and practice. Most scholars and practitioners define educational technology as the “...ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources” (AECT, 2008, as cited in Reiser & Dempsey, 2018, p. 5). Yet, scholars in the field tend to use the word ethics without defining it (Spector, 2016). The lack of consensus on the meaning of ethics in educational technology is further complicated by ethical approaches that differ in context. For example, Parsons (2021) sought to understand privacy [emphasis added] in student data analytics and reported that the United States is more utilitarian while the European Union takes a strict deontological approach to privacy matters. These differences in ethical approaches mean that research on ethics and educational technology should pay attention to contextual variations in values, priorities and practices.

Meanwhile, a disparity in the knowledge of ethics and educational technology is evident across continents. There are calls for research efforts to increase Africa’s contribution to the literature on the intersection of ethics and educational technology. Research on factors associated with the implementation of educational technology is abundant in Africa, but ethical issues involved with technology integration into education are not well explored. Kiemde and Kora (2021) note that “the predominance of Western input on AI ethics guidelines” in

Africa “can lead to a dominance of Western values and vision on AI ethics” (p. 35). Because of these concerns, this paper explores digital citizenship as a technology competence for teacher educators in Malawi to contribute insights from a specific African country case.

Exploring digital citizenship exemplifies research on the intersection of ethics and educational technology. In this paper, we follow Spector’s (2016) typology of ethics in the context of educational technology. Spector (2016) starts from three broad categories of ethics: metaethics, which attends to the origins of ethical principles; normative ethics, which aims at establishing standards of wrong or proper conduct; and applied ethics, focusing on complex issues that are difficult to resolve. Since the normative category is “associated with codes of conduct and distinguishing good or acceptable behaviour and practice from unacceptable or harmful behaviour and practice” (p. 1005), it was deemed appropriate for this paper. To illustrate, in this paper, digital citizenship is defined as the norms of behaviour regarding technology use, which must become part of the education system as personal misuse and abuse of technology increase within and outside educational institutions (Ribble & Bailey, 2009).

In exploring digital citizenship as a technology competence for teacher educators, we aim to show how teacher educators can facilitate the development of ethical use of technology in education in Malawi. Specifically, we propose technology professional development activities and content areas to develop digital citizenship as a technology competence for teacher educators. Additionally, we have recommended further research that can advance scholarship on the role of teacher educators in facilitating the development of ethics and educational technology in Malawi.

The rest of the paper is organised as follows. The next section highlights the context of the study, including prevailing problems of educational technology abuse and misuse in Malawi. We then frame the concept of digital citizenship within the theoretical literature on critical perspectives of digital educational technology. Next, the section on digital citizenship for teacher educators in Malawi

includes proposals for professional development activities and focal knowledge areas that teacher educators can aim to achieve in their professional development. Finally, in the conclusion section, we reiterate the importance of digital citizenship as a technology competence for teacher educators in Malawi.

Education and Technology in Malawi

In Malawi, although research shows that digital technology can improve the quality of education (Pitchford, 2015; Pitchford *et al.*, 2018), there are concerns about the abuse of educational technology. For example, some teachers have been reluctant to adopt digital technologies for teaching partly because of learners' indiscipline, such as abuse of cell phones during lessons (Nyondo, 2016). Furthermore, some studies also hint at students' irresponsible use of technology. For example, Selemani *et al.* (2018) recommended that university students build capacity by focusing on advanced academic writing. This recommendation was made after noting that postgraduate students at Mzuzu University, one of the public universities in Malawi, reported that they had intentionally and unintentionally committed plagiarism, mainly due to a lack of good academic writing skills. Among others, the post-graduate students' theses contained poor attribution to sources and incomplete lists of references (Selemani *et al.* 2018).

The way technology is introduced in educational institutions further justifies why the ethical use of technology should be of concern in Malawi. Until recently, Computer laboratories and Information Communication Technologies (ICT)/ Open Distance e-Learning (ODEL) centres have been a dominant approach to technology provision for teaching and learning in Malawi. However, the use of institutional computer laboratories is limited in terms of costs for the devices and management of technology infrastructure. Thus, in addition to the existing approaches to technology provision, Bring Your Own Device (BYOD) becomes an alternative to ensure access to reliable technology infrastructure and resources for students and staff members. BYOD is an approach to educational technology provision where students bring their own technology devices to school for

learning (McLean, 2016). According to Disterer and Kleiner (2013), BYOD offers increased comfort, especially where one can access education anytime and anywhere. In addition, when students buy their preferred devices, they save on university budgets (Olalere, Abdullah, Mahmud & Abdullah, 2015).

In Malawi, using personal devices such as laptops, mobile phones, and tablets has become prominent during Covid-19, indicating an entrenching BYOD approach to educational technology provision, especially in higher education institutions. For instance, in response to the Malawi University of Business and Applied Science's (MUBAS) Buy a Gadget Campaign, the National Statistics Office (NSO) donated 200 tablets and 200 power banks for the university's needy students who could not access online learning due to lack of internet accessible gadgets (Mbizi, 2021). However, BYOD presents security risks, such as unauthorised access to organisational information (Disterer & Kleiner, 2013). For example, when a student graduates or loses their device, institutional information is at risk of getting lost.

However, although technology integration is gaining attention and investment in Malawi, little is known about the processes and procedures institutions have implemented to minimise ethical challenges that come with technology use, including BYOD. At a policy level, ethical practice in using digital technology in Malawi is expected to be guided by the Electronic Transactions and Cyber Security Act (2017) which, among others, makes provision for criminalizing offences related to computer systems and information communication technologies. For instance, the Act stipulates procedures for data protection and privacy.

Meanwhile, to achieve the aspirations of the Electronic Transactions and Cyber Security Act through education, we agree with Mattison (2018) that teachers must be conscious of ethical issues that arise from technology use in education. Yet, although teacher preparation calls for teacher educators' engagement in facilitating the development of teachers' digital citizenship (Tondeur *et al.*, 2019), there is limited research on technology competencies related to teacher educators' role in promoting the ethical use of technology (Krukta *et al.*, 2019). In this paper,

we reviewed the literature and teacher education policy documents to show how teacher educators in Malawi can facilitate the development of ethical use of digital educational technology. We define teacher educators as all those training preservice teachers in teacher education institutions.

Digital Citizenship and Critical Perspectives of Digital Educational Technology

A growing body of research recommends critical perspectives beyond the presumption that educational technology should be implemented neutrally (Castañeda & Selwyn, 2018; Selwyn, 2016; Selwyn *et al.*, 2020). Macgilchrist (2021) identifies three approaches to critical educational technology perspectives that have recently dominated the literature. First, some critical scholars have focused on how emerging technologies potentially transform education and society. This involves questioning the hype surrounding emerging technologies and reflecting on their socio-political implications. Macgilchrist (2021) presents examples of studies analysing how digital technology has been shaping education policies, including controlling students' and teachers' behaviour. Castañeda and Selwyn (2018) add that "how digital technologies are used in/for university plays an increasingly key part in the production of student and teacher subjectivities... these technologies mould people's values, beliefs and behaviours" (p. 4). Students and teachers are expected to be responsible as they use technology.

Second, other scholars focus on how educational technologies contribute to the reproduction of inequalities or the worsening of injustice. This critical approach prompts questions about how digital technology can enhance educational empowerment and equality (Selwyn, 2016). Researchers approaching digital education from this perspective seek to understand who benefits most from using educational technology. According to Selwyn *et al.* (2020), decades of research evidence suggest that "individuals who are well-resourced and have strong educational backgrounds are likely to benefit the most from digital education" (p. 2). This observation has shaped education policy options in many countries, including

those focused on increasing access to educational technology by disadvantaged learners (Selwyn *et al.*, 2020). Primarily, this is achieved through online learning.

The third perspective critiques contemporary education and society by imagining ‘other’ futures. The approach involves speculating about possible, potential or preferable futures of education through technology. For example, Selwyn *et al.* (2020) edited a special issue of the Learning, Media and Technology journal that forecasted education and technology into the 2020s. The authors speculated that, in the post-2020s, educators would still be grappling with challenges such as inequalities in how people use technologies and the expansion of commercial interests in educational technology.

In this paper, we utilized the first and third approaches to the critical perspective of educational technology. The first approach is relevant as we critique the social-political implications of the supposed transformative role of digital technology in Malawi’s education system. The critique is critical as it appears that teacher educators’ use of technology in Malawi is framed as a panacea for educational challenges without contemplating its side effects. Gondwe and Mwakilama (2021) studied the intersection of technology and teacher education in Malawi. They reported a lack of critical perspectives that can spearhead balanced debates and discussions on technology integration into teacher education. They argued that “such a balance might help teachers and teacher educators become more autonomous as they engage with technology” (p. 121). According to Castañeda and Selwyn (2018), framing educational technology in celebratory rather than problematic terms obscures how technology affects people in society.

The third approach becomes visible in this article because we are joining Zeleza and Okanda (2021) in suggesting that teacher education institutions in Malawi should consider digital safety and security as a strategic point to manage the future towards digital transformation. In our view, developing teacher educators as digital citizens are essential now as teacher education institutions worldwide change following the impact and lessons from the COVID-19 pandemic. Like Krutka, Heath and Willet (2019), we do not foresee that the effects of technologies

will be more harmful to educators and students; instead, teacher educators should be prepared to aim not to harm student teachers.

Digital Citizenship as a Technology Competence for Teacher Educators in Malawi

In Malawi, awareness of how technology can be used in teacher education is evident in teacher education policies. The National Standards for Teacher Education (NSTE) (Ministry of Education, Science and Technology [MoEST], 2017) and the Continuing Professional Development (CPD) Framework for Teachers and Teacher Educators (MoEST, 2018) present the context of professional development within which teacher educators operate and the national agenda for technology integration as a necessary part of teacher educators' work. The NSTE clarifies the conduct of teacher educators and their professional development. At the same time, the CPD Framework extends the NSTE by focusing on the continuing professional learning of in-service teachers and teacher educators.

In the above-cited policies, educational technology is an alternative mode of delivering teacher educators' professional learning. For example, the Ministry of Education (2018) recommends using technology for teacher educators' professional learning, including activities such as "self-learning, digital learning, peer-to-peer teaching and mentor teaching" (p.6). Educational technology is also presented as a means of delivering teacher education. For instance, the NSTE recommends that teacher educators "link their teaching to what happens in schools, using resources such as film, audio recording and other technology, as appropriate" (p. 24). There is also a special recognition of teacher educators who can effectively integrate technology into their work: they are qualified as having exceeded minimum expectations of quality standards in teacher education (MoEST, 2017).

Building upon the above-highlighted policy context, a starting point for developing digital citizenship as a technology competence for teacher educators in Malawi is to clarify a guiding framework for digital citizenship. Without a universally agreed framework for digital citizenship in teacher education, we adapt

Ribble, and Bailey's (2015) work to illustrate focal areas for digital citizenship in teacher education (see Table 1).

Table 1: *Focal Areas for Digital Citizenship*

Digital citizenship focal area	Brief description
Access	This concerns teacher education institutions and teacher educators making technology-enhanced learning available to all teacher candidates. Working towards equal digital rights in the process of teaching about teaching and learning to teach
Commerce	The need for teacher educators to understand what goods and services are offered legally on the online platforms
Communication	With the ever-increasing digital platforms for communication, teacher educators need to be aware of which ones to use and how to properly use the media for both formal and informal communication with different stakeholders
Literacy	Teacher educators need to be aware of which technology to use in their quest to perform their professional roles, such as research, teaching or curriculum development
Etiquettes	This is about teacher educators developing student teachers' awareness of standard operating procedures concerning the various technology platforms
Law	This concerns teacher educators' awareness of the consequences of violating the laws governing the use of technology
Rights & responsibilities	This talks about freedoms that are accorded to everyone transacting electronically
Health & wellness	Teacher educators need to be aware of the physical as well as the psychological effects technology has on their lives and that of their students
Security	This describes the level of protection a device or technology offers the student teachers and teacher educators —for example, passwords.

Adapted from Ribble and Bailey (2015)

The above-suggested focal areas align with teacher educators' core competencies according to the literature and the CPD Framework (MoEST, 2018). In addition, the literature presents domains of technology competencies that teacher educators should aim to meet (Uerz *et al.*, 2018; Borthwick & Hansen, 2017). This paper focuses on “the legal, ethical, and socially-responsible use of technology in education” as one of the teacher-educator technology competencies

(Foulger *et al.*, 2017, p. 433). According to Foulger *et al.* (2017), this competence includes the following indicators:

- a) model the legal, ethical, and socially-responsible use of technology for teaching and learning;
- b) guide teacher candidates' (student teachers) use of technology in legal, ethical, and socially-responsible ways; and
- c) provide opportunities for teacher candidates to design curriculum following legal, ethical, and socially-responsible uses of technology (p. 433).

The CPD framework stipulates that teacher educators should demonstrate understanding and application of education policies and practices (MoEST, 2018). Similarly, Foulger *et al.* (2017) include understanding policies related to technology integration into education as a teacher educator technology competence. To achieve this in Malawi, we suggest that teacher educators take deliberate steps to read laws such as the Electronic Transactions and Cyber Security Act (2017) as a policy concerning the ethical use of technology. Teacher educators can then embed this knowledge in their teaching, helping teachers and student teachers respond to the consequences of unethical use of technology, such as spreading fake news or cyberbullying. The ethical use of educational technology in line with the Act must align with the moral values of Africa, in this case, Malawi. According to Kiemde and Kora (2021), African values for consideration can include Ubuntu, which presents lessons such as “Seeing yourself in others” and “Learning to listen allows you to hear better” (p. 38).

The literature also shows that taking responsibility for one's professional development is one of the technology competencies for teacher educators (Uerz *et al.* 2018). Similarly, the CPD framework stipulates that teacher educators in Malawi should take responsibility for their professional development and learning of essential skills. In their development of digital citizenship, we suggest that teacher educators should make deliberate efforts to pursue various technology professional development activities available to them: learning from colleagues, attending online workshops or academic conferences that are likely to be on the rise as education institutions undergo digital transformation (Parish & Sadera, 2019; Lidolf & Pasco,

2020). Additionally, since technology integration is unique to context, conducting research such as self-study can help teacher educators to navigate the ever-changing educational technology landscape. Research as a technology professional development activity for teacher educators is relevant, sustainable, and effective as it is embedded in their practice.

Another action area is integrating digital citizenship as a core competence in teacher education. MoEST (2017) suggests that teacher educators must “support student teachers’ use of learning resources locally made and any available information technology (e.g., mobile phones, tablet computers or smart boards), to aid learning” (p.13). In line with this, we suggest that the teacher education curriculum should be aligned to include contents such as cases of network abuses and misuse while at the same time creating student teachers’ awareness of other possible issues which are likely to happen. This will enhance equal digital rights in teaching about teaching and learning to teach with technology. According to Ribble and Bailey (2015), there are different ways in which digital citizenship can be developed in educational institutions, such as embedding it in daily lessons (syllabus and studies). In addition, teacher educators can include mandatory tests of student teachers’ knowledge of digital safety and security and application and attitude towards digital citizenship.

Research Agenda for Teacher Educators as Digital Citizens in Malawi

Further research is needed that focuses on how teacher educators can support teachers and student teachers in the ethical use of technology. Such research is necessary because understanding how teacher educators learn about technology could create a basis for helping them with appropriate technology professional development activities. While Ribble and Bailey’s (2015) work highlights what teacher educators should know about digital citizenship in teacher education, it can also serve as a guide for specific action points for researchers. Among others, teacher educators can focus on analysing current digital citizenship practices and propose some adjustments to benefit teacher education institutions regarding how

they ought to develop digital citizenship. Some of the critical research questions may include: How do teacher educators perceive their role in promoting digital citizenship? While considering the nine digital citizenship focal areas (see Table 1), how should teacher educators prepare students and teachers to advocate for digital citizenship during emergency remote teaching?

Research can also explore the role of institutional technology policy in using technology such as the Internet, software, and network systems. Some guiding research questions might include: In what way, if any, do institutional policies and teacher education curricula embed digital citizenship issues in teacher education institutions? What specific forms of support do teacher educators require to foster ethical behaviour among student teachers and teachers? Other questions may focus on maintaining information security and preventing illegal cyberspace activities. Answers to all these questions will increase teacher educators' awareness of practical approaches and content areas that might improve teachers' and student teachers' ethical use of technology. The findings will also offer insights into the content and design of technology professional development for teacher educators.

Conclusion

This paper explored digital citizenship as a technology competence for teacher educators in Malawi, drawing on the literature and policy documents. We aimed at providing insights into the intersection of ethics and educational technology by focusing on how teacher educators in Malawi can facilitate the development of ethical use of technology in education. Accordingly, we have proposed technology professional development activities and content areas for teacher educators. We have also recommended functional areas for consideration by teacher educators; and suggested further research that can advance scholarship on the role of teacher educators in facilitating the development of ethical use of educational technology in Malawi. These proposals are significant beyond the context of Malawi. For example, Malawi shares the experience of most African countries, where the digital divide is widely evident, and there are limited opportunities to prepare educators

to navigate digital technology in their work (Ibrahim & Waziri, 2021). Exploring digital citizenship as an ethical issue in educational technology also responds to the need to increase Africa's contribution to the literature on the intersection of ethics and educational technology.

In theory, by focusing on the role of teacher educators in addressing techno-ethical issues in Malawi, the paper contributes to critical scholarship that reflects on the socio-political implications of digital technology, as well as imagining the future of education through technology. Specifically, exploring digital citizenship as technology competence for teacher educators exemplifies research on the intersection of ethics and educational technology concerned with questioning the hype around technology use in teacher education. Moreover, focusing on digital citizenship aligns with a critical perspective that forecasts what should matter most as educational technology gains attention in the post-pandemic era.

Declaration of Conflict of Interest

The authors have no conflicts of interest to declare.

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