DIGITAL PEDAGOGY, ACADEMIC FREEDOM AND RESPONSIBILITY IN THE POST-COVID-19 PRE-SERVICE TEACHER EDUCATION

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ABSTRACT

When coronavirus hit in 2020, learning institutions could not have imagined that curriculum delivery would be disrupted to the point that face-to-face teaching and learning could impossible due to a lockdown. Digital technology was deployed for remote teaching and learning. The lockdown accelerated digital transformation in learning institutions. The transformation required a new pedagogy for learning to be effective. Hence, educators in teacher education programs cannot continue to teach the pre-service teachers the same way they used to if the prospective teachers are to be adequately equipped to teach in this digital era. This means that the digital transformation in the post-COVID-19 affected teacher educators' responsibilities and freedoms for equipping student teachers. Hence this article analyses teacher educators' lived experiences of their academic freedoms and responsibilities in the post-COVID-19 when equipping student teachers to teach with and through new technologies. Results of the study show that digital technologies can promote academic freedom by enhancing access, engagement, efficiency, and free exchange of ideas. Digital tools can also provide affordable access to international collaboration. Teacher educators around the globe are collaborative and exchange ideas virtually. Educators can invite guest lecturers from far to their online classes. The collaborations are proving to be more cost effective than when people had to travel to meet in person. However, those lacking digital skills, as well as those lacking digital resources and technical support, are missing out on the potentials the digital technology could enhance in their work.

Keywords: Teacher education, accountability, pre-service teacher, digital pedagogy, academic freedom

INTRODUCTION

Teacher education institutions have the responsibility of preparing prospective teachers to teach effectively in 21st-century classrooms. Teacher educators need to equip pre-service teachers for the realities of classrooms for both affluent and marginalised communities (Starkey 2020;

Sadeck, Moyo, Tunjera 2021). When coronavirus hit at the beginning of 2020, learning and teaching in teacher education institutions was disrupted because face-to-face instructions were not possible due to lockdowns (Scull et al. 2020; Mseleku 2020). This impacted negatively on teacher education within higher education (UNESCO 2020). Consequently, there was heightened attention to the use of digital technologies to mitigate the disruptions (Matsieli and Matula 2024). Higher education institutions, including the teacher education programmes, deployed digital technology tools for learning and teaching to continue remotely. The pandemic enabled digital transformation in higher education to take place with speed (Soto-Acosta 2020). While this "digital transformation has provided substantive benefits, its adoption has also ushered in challenges" for teacher educators (Matsieli and Matula 2024, 2). This move requires teacher educators to be knowledgeable about digital technologies and to be responsible and accountable for equipping student teachers technological knowledge and competencies for teaching with and through the tools (Scull et al. 2020).

While teacher educators have the academic freedom to plan and design the training programme for the student teachers, assessing its effectiveness, they also need to take ownership of the training process. They must be accountable for the results of the training, which includes ensuring that student teachers are adequately modelled to teach with and through digital tools in this digital era. Whilst the teacher educators have been responding to the coronavirus, there has been a notable lack of research regarding results of their actions and experiences in the "new norm" (Ratten 2023). Hence this article aims to analyse teacher educators' lived experiences of their academic freedom and responsibility in the post-COVID-19 when equipping student teachers to integrate digital technologies into their pedagogies. The question the article seeks to answer is:

How has the post-COVID-19 affected teacher educators' freedom and responsibility towards equipping pre-service teachers with digital pedagogy?

In answering this question this article employed a qualitative approach. The researcher adopted an interpretive research paradigm where qualitative methods were used to gather and analyse in-depth interview data collected from twelve teacher educators. Specifically, the researcher used Interpretative Phenomenological Analysis (IPA) approach to gain insights on teacher educators' lived experiences regarding academic freedom and accountability when preparing new teachers in this digital era.

Understanding teacher education in the 21st century

Teacher education institutions are required to equip student teachers with appropriate pedagogy for 21st Century classrooms regardless of the learners' socio-economic background (Darling-Hammond 2017). As such, pre-service teachers should be adequately prepared for the classrooms in this digital era. This means all teachers must possess 21st Century knowledge and skills and be able to integrate them into their pedagogies for learners to receive quality education relevant to the demands of the 21st Century (Chigona 2018). Teacher educators are required to equipping student teachers to be able to teach and assess 21st Century knowledge and skills. Such knowledge and skills enable teachers to impart appropriate 21 Century skills to the learners in the digital era. According to Greenhill (2010, 6), teacher education programs should "equip teachers to be able to meet the demands of the global economy by exemplifying, and embedding in instruction, the mastery of 21st Century skills such as critical thinking, problem-solving, communication, collaboration and creativity and innovation".

When COVID-19 hit during the first quarter of 2020, learning institutions could not have imagined that curriculum delivery would be disrupted to the point that physical gathering in the classroom was prohibited due to lockdown protocols. Consequently, as Crompton, Chigona and Tunjera (2024) argue, remote teaching and learning was preferred, hence digital technologies were used to avoid loss of learning.

While this move to online learning and teaching helped prevent the loss of learning, it also presents challenges for students and their lecturers (Mabidi 2024, 98). According to Scull et al. (2020, 497), "the teacher education sector in most countries had not anticipated the shift to off-campus teaching of such a massive scale, and the sector was not well prepared for the challenge". The COVID-19 pandemic imposed new demands on curriculum delivery processes. Hence, teacher educators in higher education institutions could not continue to teach the pre-service teachers in the same ways they used to, and neither could learners learn like in the past (Mabidi 2024). Ewing (2021, 50) is of the opinion that "the pandemic awakened and enabled opportunities for exploration and change around teaching/learning innovation". This means that teacher educators need to acquire digital pedagogies so that the modelling of the pre-service teachers is relevant in this digital era (Crompton et al. 2024). Academic respondents in Ewing's (2021, 42) study about "Rethinking Higher Education in post-COVID-19" indicated that lecturers need to "do much better than simply providing an online recording or a traditional lecture or PowerPoint slides with voice-over. Academics needed to spend time developing more engaging online programs with the assistance of learning designers. This is also true for assessment". McCluskey and Winter (2014) argue that this reliance on digital technology for

teaching and learning has an impact on the academic freedom and accountability of teacher educators in higher education.

Academic freedom and accountability in digital age

Academic freedom is the "freedom to do academic work" (Moshman 2017, 2). It means an educator has a right to teach, but also the learner has a right to learn in an academic setting without external interference (Lerch, Frank and Schofer 2024). However, for academics or educators, free expression may be "limited in the academic context by their responsibility to teach a defensible academic curriculum in a manner that respects the intellectual autonomy of their students" (Akerlind and Kayrooz 2003, 328).

In the postCOVID-19 era where digital technology is used for teaching and learning, teacher educators should be able to exercise their academic freedom to experiment with novel digital pedagogies (Ibid). This is important even though administrators may easily follow one's teaching processes meaning the educators' freedom may be affected (McCluskey and Winter 2014). Nonetheless, the teacher educators are still expected to take the responsibility of ensuring that student teachers are effectively equipped for the realities of the 21st Century classrooms. The teacher educators must be accountable for the results of the training they offer, which includes ensuring that the prospective teachers are adequately modelled to teach in the contemporary digital era (Ewing 2021).

It is argued that the digital transformation in higher education has impacted academic freedom because individual lecturers are no longer "lone performers" as they were before the adoption of digital technology for teaching and learning (McCluskey and Winter 2014, 141). During that time, McCluskey and Winter (2014, 141) note:

> "it was also difficult to evaluate "good teaching because it was something very subjective and hard to capture in some objective template. The individual freedom of the professor as a unique kind of craftsman underlies the whole university. With the digital revolution came other classes of academic professionals: media experts, instructional designers, data geeks and retention experts. These new groups in the university often straddled both pedagogical theory and mastery of various digital technologies".

In the digital era, teacher educators or lecturers need to work as a team with instructional designers or media experts to effectively teach students (Ibid).

Equipping pre-service teachers with digital pedagogy

Teaching and learning have recently undergone an intense digital transformation following COVID-19 pandemic. The shift to online learning due to the pandemic coupled with the requirements of 21st century skills have created the need for teachers to be equipped with digital pedagogy (Chigona, Crompton and Tunjera 2024). Therefore, the teacher education system needs to model and equip pre-service teachers with digital pedagogy to teach effectively in contemporary classrooms. Starkey (2020,12) argues that "teacher educators" modelling technology use is an important motivator for beginner teachers to use technology in their own teaching". Bashir and Jimmy (2023) concur that digital pedagogy is a new challenge that requires the transformation of teacher education practices and methodologies when modelling digital pedagogy to pre-service teachers.

Digital pedagogy is perceived as a "branch of pedagogical science" that integrates digital tools in the curriculum delivery to enhance the learning and teaching experience (Bashir and Jimmy 2023, Cabañero 2022). Teacher educators are expected to have digital skills to be able to teach with technologies effectively in academics. Digital skills refer to a "range of different abilities, many of which are not only "skills" per se, but a combination of behaviours, expertise, know-how, work habits, character traits, dispositions and critical understandings" (Bergdahl, Nouri, and Fors 2020, 959). However, to teach effectively with digital technologies, experts in education have shown that integrating the tools in the curriculum delivery requires not only knowledge of digital tools, pedagogy and content; but what matters most is how the three knowledges can be infused together (Koehler, Mishra, Akcaoglu and Rosenberg 2013). The educator should have technological pedagogical content knowledge (TPACK) (ibid) to teach using digital technologies effectively.

METHODOLOGY

This study employed a qualitative research approach. Twelve purposively sampled participants drawn from a Teacher Education institution in Cape Town took part in the interviews that solicited information about academic freedom and accountability of teacher educators when equipping pre-service teachers with digital technology skills for effective learning and teaching in the post-COVID-19. The study is located within the Interpretative Phenomenological Analysis (IPA) whereby the role of the researcher is emphasised in the research process. This article seeks to uncover teacher educators' lived experiences and try to understand how they interpret their academic freedom and responsibility in the post-COVID-19 period when preparing pre-service teachers to teach with and through digital technologies.

Data was collected in August 2024 through one-on-one interviews with participants in teacher education at a selected university in the Western Cape, South Africa. These participants provided rich information about their perspectives and lived experiences as teacher educators in the post-pandemic educational space. The sampling procedure was purposive, whereby teacher educators who had experience training pre-service teachers pre- and post-COVID-19 were approached for interviews.

Twelve in-depth interviews were conducted with the participating teacher educators. On average each interview lasted 21 minutes. Each interview was audio recorded and transcribed verbatim. The researcher read and re-read the transcripts, coding the teacher educators' lived experiences regarding their academic freedom and accountability when equipping pre-service teachers with digital pedagogy in the post-COVID-19. The data was catalogued along with the emerging codes and then categorised into themes.

Ethical approval was obtained for the study. The Faculty of Education Ethics Committee of the institution where this study was conducted, issued the clearance certificate. Participants who consented to take part in the study were promised anonymity and confidentiality. To ensure no real names of the participants are used, the codes TE1- TE12 were used when presenting the findings of this study.

FINDINGS AND DISCUSSIONS

This section presents the analysis of findings and discussions. The data analysed was collected from twelve teacher educators who participated in this study. Five emerging themes from the data collected are used to organise this section. The themes that were developed through categorising emerging codes are: –

- Digital technologies and academic freedom,
- Opportunities in post-COVID-19,
- Teacher educators' digital pedagogy,
- Lack of digital skills in the digital era, and
- Lack of resources and technical support in the digital era

Digital technologies and academic freedom

Findings show that digital technologies can promote academic freedom by enhancing access, engagement, efficiency, and free exchange of ideas. In some instances, digital technology has provided affordable access to international collaboration. Teacher educators from different

continents are able to freely collaborate and exchange ideas virtually. They are also able to invite guest lecturers from afar to their online classes. Participant TE 3 and TE 8 said:

> "digital technologies give access to international collaboration, which will enhance collaboration and interaction such as virtual COIL projects. Digital technologies are part of the future and will become even more so with the development of AI" (TE 3)

> "The access to digital technology with good connectivity allows me and my students to benefit from the skills of other teacher educators globally. … can easily invite academics from different parts of the world to talk to your class via MS Teams" (TE8)

In addition to enhancing international collaboration in teacher education, digital technology also makes academic information and resources easily accessible. TE3 narrating how digital technology is promoting academic freedom said,

> "it addresses academic freedom in that as a teacher educator, I can choose how and when to incorporate digital technologies in my own contexts, based on the needs and interests of my students. … technology can enhance efficiency and productivity…" (TE3)

With regards to making information and resources available to the faculty, TE 7 said,

> "Having access to technology that works opens a world of possibilities for me as a lecturer. … If there is internet in the classroom for the lecturer and students to use, …I use apps like Quizlet to engage my students in real-time "(TE 7)

The shift to online learning and teaching due to the lockdown has indeed enabled the realisation of the affordances of digital technology in education. Academic collaborations and research can now be carried out with speed but also cost-effective. Sohrabi et al. (2021, 61) commented that "all areas of research can be performed much more swiftly and efficiently while using online platforms". Digital technology is enabling teacher educators to be creative in their teaching as information accessibility is easy. It has also enabled educators to collaborate with anybody across the globe without spending money.

TE 4 commented on Artificial intelligence (AI), which is a digital technology that can perform complex tasks that only humans can do. AI became popular and useful during the pandemic when teaching and learning was done remotely (Shaikh et al. 2022). TE 4 said,

> "Since we are living in an era of digital technology (AI), academic freedom is profoundly leveraged using digital technologies wherein diverse contestation of ideas, knowledge, expertise and insights sharing are globally enabled by these technologies."

Shaikh and others have reported that AI is beneficial for those who need knowledge that can provide "accelerated instruction in an expedited way" (Shaikh et al. 2022, 3212). In addition, the authors indicated that "understanding new areas that offer fresh perspectives into meta-analyses that produce energetic methods of learning in which instructors may shift much of the regular human labour to artificial intelligence systems in education for acceptable reasons towards learning productivity is essential" (ibid). Teacher educators who are embracing these new technologies in their work are indeed creating the spaces that enhance their academic freedom.

Opportunities in the post-COVID-19

From the data analysis, it has been noted that although the coronavirus pandemic disrupted education, there were benefits realised for both academics and student teachers. In this context one should consider the works of Rapanta et al. (2021) who state that the pandemic "spurred the need for focusing beyond routines and understanding teachers' role(s) as active and creative agents, negotiators and integrators of digital and pedagogical resources into meaningful teaching–learning practices" (Rapanta et al. 2021, 717).

The above statement was echoed by TE9 who narrated that the lockdown protocol due to coronavirus forced her to adopt digital technologies for curriculum delivery:

> "Just like many of my colleagues, I did not take the technology integration into my teaching seriously. I was comfortable with the traditional ways of teaching although I knew that we need to train our students proper technology integration into teaching. Thanks to the lockdown, I now enjoy teaching even supervising my postgraduate students online. It is time saving."

Based on the above, from both academics and students, it is clear that there is a general and welcoming sentiment to the shift to digital platforms, as the technology enables synchronously and asynchronously teaching and learning methods.

TE 2 and TE 9 who pre-COVID-19 did not bother integrating technologies into their teaching, mentioned that they found the shift to online teaching and learning due to the lockdown beneficial to their growth and development regarding technology integration. They are grateful for the various virtual workshops organised for teaching using the Blackboard, MS Teams, WhatsApp and LinkedIn. According to these participants, it was due to the COVID-19 pandemic that these workshops had been offered to reduce loss of learning due to lockdown, but it also accelerated the digital transformation among academics. TE 2 stated that just like many other academics, she had the opportunity to attend digital technology for teaching workshops because they were offered during lockdown period. She continued to say,

> "regular workshops on the latest technologies need to be offered to lecturers outside of lecture time. Often, we, lecturers cannot attend workshops due to classes or other commitments" (TE 2).

The belief is that digital technology has the potential to aid innovative teaching. For the potential to be realised, "careful planning is needed that leads to true transformation so that the digital tools are not only used as simple platforms that store content, but that also modify learning strategies" (Ramos-Pla et al. 2022, 14). Therefore, the faculty management must ensure teacher educators are given time to attend workshops that would enable them to take advantage of the digital technology.

Teacher educators' digital pedagogy

Curriculum delivery in schools and universities have recently undergone an intense digital transformation due to COVID-19 pandemic. Ashour, El-Refae, and Zaitoun (2021) perceive digital pedagogy as the preparation of learning activities to suit the digital tools for learning and managing the communication and interactions on the platform to achieve the learning goals. Teaching and learning require teachers to be equipped with digital pedagogy. Hence, teacher educators need to have a strong sense of digital pedagogy. In other words, teacher education programs need to ensure pre-service teachers are equipped to effectively teach with digital technologies when they start teaching in schools. According to TE 2,

> "student teachers are in need of being educated in digital technologies and therefore lecturers need some knowledge. I also think that the nature of certain pedagogical subjects calls for lecturers to strengthen their digital pedagogy to prepare the student teachers effectively" (TE 2).

In a similar vein, TE 7 emphasises the responsibility of teacher educators in this digital era. He narrates like,

> "as lecturers have a responsibility to equip our students to be teachers for coming generations. If we do not even model the use of current technology, how can we prepare them for future technology?" (TE 7).

For teachers to teach effectively in this digital age, it is believed that "teacher educators' modelling technology use is an important motivator" for them (Starkey 2020,12). However, TE 1, TE 2 and TE 7 indicated that some teacher educators lack digital fluency and digital pedagogy hence they cannot model student teachers to use digital technologies for learning and teaching.

> "My perception is that many lecturers do not fully embrace technology in their daily teaching. This has the implication that they do not model good practice for their students" (TE 7).

It is important that teacher educators show and support student teachers how the technologies can be best used in education. Researchers have argued that when educators do not support students" use of digital technologies for learning, the students may use these tools guided by their own initiative, which has been shown to be less beneficial, or even detrimental, to learning" (Bergdahl et al. 2020, 959). Now considering that the digital technologies are here to stay and to enhance teaching and learning, teacher educator must ensure pre-service teachers are well prepared to teach with the technologies. In education, there is a belief that "modelling is a good method to introduce student teachers to a digital tool, but also hands on learning is required to make use of ICT in their teaching practice" Starky 2020, 39. Therefore, it is imperative that teacher educators ensure they equip themselves with digital pedagogy so that pre-service teachers and their learners use the digital tools to enhance teaching and learning.

Lack of digital skills in the digital era

Data collected has shown that lack of digital skills among some teacher educators is posing a significant impact on their responsibility of preparing new teachers for teaching in the digital era. Authors have shown that for one to teach effectively using digital technologies, pedagogical and subject knowledge coupled with digital skills is necessary (Koehler et al. 2013). In line with this necessity, TE 7 is of the opinion that it is problematic when a lecturer does not integrate digital technologies in the teaching to model pre-service teachers. The respondent adds on saying that,

> "Part of the problem is also that lecturers are not held accountable by management. Management has no idea of who uses technology and who does not. We are encouraged to use technology, but management does not monitor the level of uptake or take any steps to provide training (other than the normal avenues that are available, e.g. CIET)" TE 7

According to the respondent above, faculty management are to blame for not holding accountable those who are unable to model student teachers to teach effectively in the 21st Century classrooms. This disagrees with the argument presented by McCluskey and Winter (2014, 141) who showed that the digital transformation in the higher education has made individual lecturers not to be "lone performers" as it used to be when using traditional teaching methods and hence some feel their privacy in teaching is compromised. This was a sentiment shared by TE 6 regarding when teacher educators are unable to effectively teach with digital

technologies. He is of the opinion that the teacher educators' academic freedom and that of the pre-service teachers are negatively affected. This is what he had to say,

> "to a larger extend since most traditional methodologies in teaching and learning in schools are fast becoming obsolete, their participation in academic discourses will eventually be limited due to their limited interactions with digital technologies in society" (TE 6).

TE 3, TE 7 and TE 8 believe the lack of digital skills among teacher educators limits their creativity and initiative. TE 3 argues that

> "although the teacher educators have the academic freedom to design their own curricula and pedagogy according to their own interests and the needs of the students the lack of digital skills and digital pedagogy might make them feel threatened by the unknown" (TE 3).
>
> "If you are not able to use digital technologies, for whatever reason, you will fall further behind and stagnate in your career" (TE 7).

In teacher education, most of the offerings are constituted by knowledge and content-based skills which then calls for expert oriented lecturers. Hence the lack of digital skills among lecturers is an issue that cannot continue if we are to produce quality teachers who can deliver "quality education for all" learners in the 21st Century classroom.

Lack of resources and technical support in the digital era

While some teacher educators are trying hard to ensure pre-service teachers are adequately prepared and modelled to in the digital age, a lack of resources and technical support have been a challenge to such a positive attitude. It is "indisputably disappointing for the educators when they do not have adequate resources to implement their ideas or work with the digital tools" (Chigona 2018, 376). One such disappointed teacher educator is TE 3 who indicated that:

> "I really like the integration of digital technology into teaching, however, connectivity on campus and lack of devices among students are some of the challenges I face when teaching with and through the digital technologies" (TE 3)

While the respondent above seems to have the TPACK knowledge to be able to teach with digital technologies they are still only concerned about lack of digital tools and internet. On the other hand, TE 4and TE 7are worried about inadequate training on how to use the digital tools but also the technology infrastructure. The training which has been offered to the academics since the beginning of COVID-19 has been too generic. The respondents said,

> "Lecturers are disadvantaged not only by the insufficient skills of technology, but infrastructural development and advancement which cater technological etiquette are the core challenges that avert accountability for development of pre-service teachers" (TE 4)

> "We need more individual and more hands-on training, and support for us to try things on our own, in our subject specific situations" (TE 7)

The institution or the faculty management should ensure teacher educators are offered specific training on how to model pre-service teachers to teach with digital tools. The policies and guidelines regarding digital technology integration is generic such that training offered by the institution's E-learning unit does not speak specifically to teacher educators' pedagogical requirements. Education experts have recommended that teaching methods with and through new technologies require that their students have more "time to understand different digital tools for online learning" but also that they spend time and effort to manage such platforms (Kumar Kumar and Taylor 2020).

Although teacher educators are obligated to equip pre-service teachers with digital pedagogies, not all are doing this. TE 1 explains why some teacher educators are not able to satisfy the requirement:

> "My experience is that many lecturers are hesitant to try new technologies because of the lack of support and because even the basic things do so regularly not work. Some lecturers are embarrassed to ask for help and to admit that they do not know how to do certain things/use certain technologies. Having some kind of community of practice would go a long way to improving lecturers' confidence" (TE 1)

As expressed by TE 1, if teacher educators could work together in communities of practice, they could learn more about digital pedagogies from each other. Authors have argued that a community of practice of educators with similar interests engaging mutually, could be useful for sharing knowledge and experiences on how best to integrate digital technologies in curriculum delivery in teacher education (Chigona and Sosibo 2024).

DISCUSSION

In this study, teacher educators generally believe digital technologies can promote academic freedom and opportunities for teaching and learning. The use of digital tools in teacher education programs can open-up new possibilities and environments that can benefit both academics and pre-service teachers. During lockdown, due to COVID-19, learning and teaching in teacher education was disrupted because traditional face-to-face methods of instruction were not possible. Digital technologies were deployed to avoid loss of learning (Matsieli and Matula

2024). Academics who have embraced the digital technologies have reported that the tools can leverage academic freedom as they enhance access, engagement, efficiency, and productivity.

Analysis of the data collected for this study shows that one of the affordances of digital technology in teacher education is the access to international collaboration. Teacher educators from the institution where data was collected are collaborating with teacher educators from other countries and even continents. They can share experiences of preparing pre-service teachers. They are also able to participate as guest lecturers and contribute to one another's classes virtually. They have also noted that this has opened more doors in terms of sharing research ideas. This is linked to the affordances to collaborate internationally reported by Sohrabi et al. (2021) in their study about the "Impact of COVID-19 pandemic on scientific research and implications for clinical academic training". They indicated that, "International research efforts, built on collaboration, have allowed for significant breakthroughs to be made regarding our understanding of the pandemic. The open sharing of knowledge and research efforts has stimulated global collaborative bonds with common purpose. It is our hope that these will continue beyond the pandemic, for the benefit of both education and research" (Sohrabi et al.2021, 61).

According to the respondents in this study, digital technology promotes quick access to information. This is echoed by Shaikh et al. (2022, 3212) who have argued that "AI is advantageous for individuals who need knowledge that can provide accelerated instruction in an expedited way". However, engaging with the information requires digital skills. While teacher educators are expected to have the digital skills, the findings have shown that there are some whose digital skills are developed to an adequate standard. Hence, they are unable to use digital technologies in their teaching for effective learning outcomes. The worrying thing is that they are not able to model prospective teachers on how to effectively teach with and through digital technologies.

Teacher educators' knowledge of pedagogy and subject matter may not necessarily yield to effective teaching using digital technologies even if they have technological knowledge. What is required for the educators is a sense of "a deeper knowledge of how to introduce technology from a pedagogical perspective; that is, the theory and practice of how best to teach with and through and through digital technology" (Chigona, 2018, 376). Such technology integration would result in effective teaching and learning in this digital era. Although the institution has policies and guidelines regarding digital technology integration the challenge is that training offered by E-learning unit is too generic as they try to accommodate different disciplines in one sitting. This may not be adequate for teacher educators who need a special

skill on how to effectively integrate technological, pedagogical and content knowledge and not just how to use the digital tools.

Therefore, to ensure that the academic freedom of the teacher educators is not curtailed, the faculty management should provide support for subject specific training on how to integrate digital technology into pedagogy. Akerlind and Kayrooz (2003, 335) stated that "the presence of supports to enable the exercise of academic freedom is primarily seen in terms resources and infrastructure necessary to enable appropriate academic activities". The provision of subject specific training would yield to pre-service teachers being modelled to teach with and through new technologies in the post-COVID19 era.

CONCLUSION

Teacher educators have the responsibility of ensuring that student teachers are well equipped and modelled to teach the 21st century learners. However, COVID-19 pandemic accelerated the digital transformation which enhanced access to information and productivity in many institutions of learning. The transformation requires teacher educators to be knowledgeable about the digital technologies and teach with these tools effectively. The teacher educators must ensure that student teachers are adequately modelled to teach with and through digital technologies in this digital era.

This study has shown the benefits of digital technologies and digital pedagogy among teacher educators. Analysing lived experiences, the study has revealed that integration of digital technologies and digital pedagogy have the potential of promoting academic freedom by enhancing access, engagement, efficiency, and free exchange of ideas in education. One digital technology advantage experienced by the teacher educators in this study is the affordance to easy and affordable access to international collaboration. Teacher educators around the globe can collaborate and exchange ideas online with much greater ease and efficacy than before. The academic freedom also trickles down to pre-service teachers who are frequently exposed to different ideas from invited guest lecturers from other countries to their online classes.

In a nutshell, the accelerated digital transformation, due to COVID-19 pandemic, is perceived to be beneficial as it enhances information and other resources accessibility, and affordances to promote academic freedom in teacher education. Therefore, teacher educators are encouraged to adopt digital pedagogy to enhance their own and their students' digital competence. To keep on realising the technologies' potentials of enhancing academic freedom, teacher educators need to take the initiative and bear the responsibility of constantly updating their knowledge and skills as digital technologies are advancing at faster rates. It would also

help if the education faculty management ensured that there is subject specific training for teacher educators on how to integrate digital technology into pedagogy.

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