Teacher education in a flexible higher education environment: Considerations for the future

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Lynette Jacobs

Office for International Affairs, University of the Free State
Email: jacobsl@ufs.ac.za
ORCID Identifier: https://orcid.org/0000-0003-1582-5024

Karen Ferreira-Meyers

University of Eswatini
Email: karenferreirameyers@gmail.com
ORCID Identifier: https://orcid.org/0000-0002-4418-269X

TETFLE TEACHER EDUCATION THROUGH
FLEXIBLE LEARNING IN AFRICA
JOURNAL

Abstract

Although teacher education practices had undergone major changes due to the possibilities that came with developments in the field of information and communication technologies and the introduction of online teaching and learning since the turn of the century, the COVID-19 pandemic brought about further major paradigm shifts and greater flexibility in the way teacher education for prospective and in-service teachers can be and are offered. The question can rightfully be asked by higher education institutions offering these programmes, what should inform their thinking and planning going forward, specifically in the Sub-Saharan context where the demand for education is ever-rising, amongst other, due to the relatively young population of the region and the massification of higher education. Yet the question can be asked now that the pandemic is almost over, how do higher education institutions move forward with teacher education programmes, and on what do they base decisions on. We thus highlight some considerations for universities on the future of flexible teacher education programmes. We start by discussion the concept of flexible learning, and specifically flexible modes of delivery for teacher education. We then provide some theoretical and contextual considerations for higher education institutions to take into account, after which we consider challenges, solutions and impact of such programmes. We argue that higher education institutions should embrace flexible learning as the way forward for teacher education programmes, but that they should make sure that it aligns with the context of the institution.

Keywords: Education theory; online learning; teacher education; student autonomy; blended learning

CONTACT: Lynette Jacobs- JacobsL@ufs.ac.za, Karen Ferreira-Meyers - karenferreirameyers@gmail.com

Introduction

During the first two decades and more of the twenty-first century, the higher education space, like elsewhere, has undergone major changes due to the possibilities that came with developments in the field of information and communication technology (ICT). Specifically in South Africa, as a result of student protests in 2015, the introduction of online teaching and learning gained momentum at so-called contact universities where students were traditionally in lecture halls on campus (Czerniewicz, Trotter and Haupt 2019). This occurred even more in 2020, globally, when the COVID-19 pandemic caused institutions of higher learning to stop all face-to-face class attendance. This period saw major paradigm shifts and greater flexibility emerging in how learning and teaching can and should take place (Wolhuter and Jacobs 2021a). The well-defined division between distance education and on-campus education has become blurred. Möller (2020) maps the different ways of programme offering on two continuums:

1) various levels of engagement in real-time (ranging from fully synchronous to fully asynchronous learning and teaching)
2) the levels of use of technology during the process (ranging from 'low tech' to 'high tech')

The changes that occurred worldwide can also be seen specifically in the field of teacher education programmes in terms of how programmes for prospective and in-service teachers are offered. While impetuses such as the development of technology and other forces such as socio-economic changes, policy reforms and evolving student needs can result in significant changes, it can also be a matter of, as Wolhuter and Jacobs (2021b: 105) put it, of 'using new tools to advance the old'. In an environment that allows for flexibility, higher education institutions offering teacher education programmes should reflect on the future of those programmes and how the flexibility that is now possible will result in preparing not only future and current teachers, but also the learners they will teach, for the uncertain future. Indeed, the question that we consider in this paper is: Now that the pandemic is almost over, how can higher education institutions move forward with teacher education programmes, and what should they base decisions on? We thus first highlight some considerations for universities on the future of flexible teacher education programmes. We start by discussing the concept of flexible learning, specifically flexible modes of delivery for teacher education. We then provide some theoretical and contextual considerations that higher education institutions, specifically in the Sub-Saharan context, can take

into account, whereafter we consider the challenges, solutions and impact of such programmes.

Concept of flexible learning

The concept of flexible learning is understood in many ways. For instance, Hammersley, Tallantyre and Le Cornu (2013: 4) refer to 'pace, place and mode of delivery' and emphasise that students are allowed to choose and control 'when, where, how and sometimes what they learn'. Joan (2013: 39) explains it as a 'different way of learning, namely e-learning, m-learning and online learning', while Hammersley et al. (2013: 4) again emphasise that flexibility allows students to choose to study where they want, including 'from tube trains to home to hotel rooms abroad'. To add to this, Lockee and Clark-Stallkamp (2022: 344) explain that if the learning content is made available through a range of media formats, which may include images, text, podcasts and video casts, it 'can support a wider array of critical student accessibility needs, as well as learner preferences'. Content and learning opportunities can specifically be offered in a flexible manner that allows students to pace their learning, and even choose the volume and sequence of what is learned. Flexible learning, therefore, not only provides students with choices but also expects students to have the agency and ability to navigate these choices towards success. Andrade (2023: 113) believes that flexible learning can 'unleash the powers of people within the organisation and give them autonomy to pursue work that has purpose and meaning, build their competencies, and develop mastery'.

Flexible modes of delivery for teacher education programmes

Hammersley et al. (2013: 4) explain that modes of delivery refer to the use of different 'learning technologies in delivering flexible learning and enhancing the students' learning experience'. As Möller (2020) puts it, these technologies can be used in a variety of ways, with various levels of synchronous and asynchronous teaching, and can include on-campus as well as distance education programmes. Flexibility in terms of modes often leads to other forms of flexibility and new ways of doing (Hammersley et al. 2013). For instance, Taole et al. (2024) report on how it can enable teaching practice supervision asynchronously using online tools.

The use of ICT in education has evolved from 'paper behind screen', to interactive tools that allow flexibility and engagement. The tools which Möller (2020) describes as high-tech or low-tech, can include everyday communication tools to collaborate, but also sophisticated technology and fit-for-purpose software. Czerniewicz et al. (2019: 12) mention 'online learning platforms, third-party provider sites, social media and connectivity apps, online collaboration platforms, presentation software [and] digital teaching formats (such as lecture recordings, narrated slides, podcasts)' amongst others, and in what follows, we discuss some of the findings related to these.

Flexible learning using everyday communication tools

Relatively cheap, everyday tools to communicate via technologies such as WhatsApp on phones and other devices provide students and higher education institutions with accessible and easy-to-use technology that can be used for learning, which allows for flexibility (Jackson 2020). It is particularly handy in less affluent countries. Jackson (2020), for instance, reports that in Sierra Leone, WhatsApp has become a common tool for flexible teaching and learning and, importantly, it can accommodate more than text, as voice notes and videos can be sent and received, meaning that both audio and video teaching resources can assist students in understanding the work. Still, it requires students to own devices with this functionality. De Jager (2024) notes that such a WhatsApp can even be used in a flexible learning environment for teaching art.

An advantage of using everyday communication tools for teaching and learning is that it does not restrict communication between lecturers and students or amongst students, implying that students can help one another and contribute to one another's learning (Jackson 2020).

Flexible learning through dedicated platforms

Higher education institutions commonly use learning management systems such as BlackBoard or Moodle to facilitate learning in various degrees of synchronousness (Möller 2020). It does, however, come with challenges. Phejane (2022) shares how, during the COVID-19 pandemic, students struggled to access the learning material because of the size of the files, making it expensive. Students also struggled with

poor directives on how to access and use these files. Furthermore, many students did not have access to their own computers; neither did they have access to affordable and consistent internet connectivity. Pietersen (2023: 147) cautions that to 'transform online higher education to become a socially just environment, lecturers need to adopt pedagogies of care towards their students' in the flexible learning environment.

Flexible internationalised learning

An emerging approach to flexible learning as a form of virtual exchange, labelled COIL (Collaborative Online International Learning). Rubin (2017: 34) explains COIL as 'based upon developing team-taught learning environments where teachers from two cultures work together to develop a shared syllabus, emphasizing experiential and collaborative student learning'. In essence, for a short period, students from different parts of the world work together on a task jointly designed by their lecturers, on which they are evaluated, and the mark they jointly obtain for the assignment contributes to their grades at their own institutions (Haug and Jacobs 2023). The engagements between students in small groups mostly take place outside formal teaching time, and students not only have to navigate effective groupwork but also intercultural collaboration, working across space and often different time zones, usually with students studying a different field, to solve a problem presented to them by lecturers. Such interdisciplinary learning brings together different cultures, knowledge, paradigms of thinking and scientific fields in a flexible learning environment to solve complex problems.

Theoretical considerations

Decisions regarding programmes on offer need to take a theoretical perspective into account. Some of these relate to the context in which higher education institutions find themselves, while others relate to aspects of teaching and learning. What we discuss is not a complete list, but some ideas of what might be considered. Below, the theories of neoliberalism, collectivism, critical thinking theory and connectivism are explored because they offer contrasting viewpoints on education and learning. This has a significant impact on how programmes are structured and delivered. By understanding the underlying philosophies of these theories, educators can make

informed decisions about a programme's curriculum, teaching methods (pedagogy) and assessment practices. Neoliberalism and collectivism, for example, address how education serves individual versus societal needs, influencing what is taught and the skills graduates develop. Critical thinking theory emphasises developing analytical skills in students, while connectivism focuses on knowledge creation in a digital age. These theories inform how teachers are prepared to facilitate learning and adapt to the evolving educational landscape. Ultimately, considering these contrasting lenses allows educators to design well-rounded programmes that equip future teachers with the necessary knowledge, skills and dispositions to thrive in today's complex classrooms.

Neoliberalism

The current neoliberal higher education space is driven by performativity and the economy, resulting in both academics and students to be viewed as commodities and sources of income (Page 2020). Although some resistance is building up against this, universities worldwide are in a race for the highest spots in global ranking indices (Wolhuter 2023). Part of the critique is that it renounces the origin and being of universities and it does not take context into account. Still, business considerations influence decisions concerning the offering of education programmes. For instance, Kumi-Yeboah, Young and Boadu (2014) report how the lack of resources and space at higher education institutions in Ghana, combined with the demand for education, led to an increase in distance education programme offerings. Zaayman (2021) reports on the business generator used by his institution to inform decisions about online teacher education offerings in South Africa to ensure that it makes business sense. Included in his model are considerations such as tuition fees, costs of equipment, pro-rata operational costs, teaching time allocation and so forth. While critique against the neoliberal nature of higher education abounds (see, for example, Shapiro 2020), institutions opting for flexible learning cannot ignore the business side of programme offerings.

Collectivism

In contrast with the individualistic and market-driven thinking that neoliberalism brings, in Africa, like in many parts of the Global South, communal thinking

is engrained, and several theories refer to this notion. For instance, the Collective Fingers Theory (CFT) draws from the principles of the *Ubuntu* philosophy. An African principle behind the CFT is that 'a thumb although it is strong cannot kill aphids on its own; it would require the collective cooperation of the other fingers' (Mbigi 1997: 33). *Ubuntu* is a form of humanism or collectivism that is expressed in the Zulu language as *ubuntu ngumuntu ngabantu*, which can be translated into English as "I am because you are" (AFN 2020), referring to the interconnectedness of humans and the notion of compassion and care.

Several principles (Ngubane and Makua 2021) are engrained in *Ubuntu*, although we briefly touch upon them: deep solidarity and respect; coexistence in harmony, suggesting mutual interdependence; compassion, sharing and sympathy; and respect and dignity. Drawing from these, Ngubane and Makua (2021:6) explain that within a pedagogy of *Ubuntu* one works from the premise that all students can excel 'if their humanity is positioned at the forefront of their teaching and learning', irrespective of differences. Students are seen as 'significant others who bring unique backgrounds, experiences and prior knowledge for teachers to build on towards the development of new knowledge' (Ngubane and Makua 2021:6), recognising lecturers and students as co-creators of knowledge. In the context of flexible learning that often assumes individualism (Houlden and Veletsianos 2019), it is important to create possibilities to collaborate. This design feature, even if synchronous collaboration is intended, has to ensure that students not only feel connected and part of the community but are recognised as co-creators of knowledge and learning.

Critical thinking theory

An important consideration when planning for flexible learning in teacher education programmes is how to advance critical thinking skills. Al-Maawali (2022) points out that critical thinking is essential to prepare teachers for the future, yet is often overlooked. Fikriyati, Agustini and Suyatno (2022: 2) found in their study, focused on five critical thinking skills ('ability to interpret, ability to analyse, ability to evaluate, ability to make inferences, and ability to explain') amongst teacher education students that there was little uptake of these skills. While critical thinking is often linked to Bloom's higher-order skills (analyse, evaluate and create), Wilson (2016) adds that students must be able to recognise the underlying assumptions in spoken

and written communication in texts, identify preconceptions and analyse differences and similarities. Critical thinking empowers learners to navigate the vast network of information emphasised by connectivism, fostering effective knowledge creation, collaboration and adaptation in a dynamic digital world. In designing for flexible learning, ways to develop these skills need to be included intentionally.

Connectivism

The theory of connectivism is based on the notion that learning and building knowledge happen through connecting different opinions, sources, ideas and perspectives, and that such a connection of knowledge can happen both in the same physical space or through non-human appliances (Siemens, Rudolph and Tan 2020; Downes 2023). Examples of tools in the learning management system that can be used are gamification (including functions such as leader boards, interactive quizzes, badges or certification and challenges) and social learning opportunities (for example internal Wikis and discussion forums) (360 Learning n.d.).

Domestication theory

The clear distinction between humans and technology became blurred over the last ten years, specifically where the connectedness between humans and their digital devices is no longer disputed and impact education (Wolhuter and Jacobs 2021b). Hynes and Richardson (2009) highlight the importance of considering the social construct that informs the purchasing and use of devices. Domestication theory refers to how technology and humans adjust to one another and co-exist, and how it is taken for granted (Hynes and Richardson 2009). In the context of teacher education aspects such as what devices and digital tools are owned (appropriation), how it is placed or available (objectification), how it is used (incorporation) and how relations between the technology and devices are built internally and externally (conversion) (Hynes and Richardson 2009) should be contemplated. During designing flexible learning, these considerations can be at an institutional as well as an individual level for both lecturer and student.

TPACK

A useful framework to consider in flexible learning environments is the expansion of Shulman's notion of pedagogical content knowledge (PCK), namely the TPACK (technology, pedagogy and content knowledge) framework. It describes 'how teachers' understanding of educational technologies and PCK interact with one another to produce effective teaching with technology' (Koehler & Mishra, 2009:66). Content knowledge refers to knowledge of the subject while pedagogical knowledge refers to knowledge of instructional methods. PCK, however, transcends these two knowledges with an understanding of how to represent and teach the subject to make it understandable to others (Cochran 2018). When technological knowledge is added and integrated relevantly and appropriately with pedagogical and instructional knowledge to advance learning within a context, the expertise of teachers can be seen (Koehler and Mishra 2009). Karlsson and Nilsson (2023) suggest that students in teacher education with programmes should be provided with a reflective tool (e.g. T-CoRe), which combined with self-recorded videos that include text, not only provide evidence of their TPACK, but can also improve the way teachers use technology in the classroom. Programmes for teacher education that purposefully prioritise TPACK development for both teaching professionals and students will see an increase in impact in flexible learning (Karlsson and Nilsson 2023).

Replacement, amplification and transformation: The R.A.T. model

When considering how an institution would intentionally implement flexible learning, a theoretical model that can guide such an institution's consideration is the R.A.T model regarding thinking about ICT (Hughes 2014). Hughes (2014) explains that technology can first be viewed as the replacement of instruction, while technology is just a digital means to the same instructional end. This means that the only change that occurs is the medium. Second, technology can amplify learning, meaning that the instruction remains the same, but technology is used to make instruction more efficient, effective and productive. It thus refers to the extension of capabilities through digital means. However, technology can be used as a transformative tool, meaning new inventions, richer instructional means and possibly new cognitive forms that might emerge. Of course, the one does not exclude the other, but planning and

implementation should be intentional.

Transactional distance theory

The last theory we want to mention is Moore's theory of transactional distance, which warns about the communication gap and psychological distance between the lecturer and the student in a distance education mode (Falloon 2011). Falloon (2011: 189) explains that three factors need to be considered when planning and executing flexible learning in a distance education mode, namely 'dialogue, structure, and learner autonomy'. He found that while a synchronous virtual classroom might provide opportunities for collaboration and active engagement, this will only be possible if it were used for meaningful interaction and dialogue. To add, referring to Pietersen's (2023: 147) discussion of pedagogy of care, lecturers should refrain from just using 'the one-dimensional technological advances required in a 4IR higher education space', but deliberately advance 'relational engagements' in the online learning environment. Clearly quality interactions and dialogues cannot be taken for granted as other factors and their decision to participate or not, might influence how students experience it.

The theories discussed above are only some of the theories that institutions can consider when planning and executing flexible learning. It is important that the planning of flexible learning programmes should be informed by philosophical and theoretical perspectives that are aligned with their context.

Contextual considerations

While teacher education in Africa and other developing contexts has seen significant progress in recent years, achieving quality education for all remains a pressing challenge. Despite increased enrolment, the sector faces a critical shortage of qualified teachers, particularly in rural areas and specialised subjects (Boaduo, Milondzo and Gumbi 2011). Traditional teacher education systems often struggle to keep pace with this demand due to several key challenges while Boaduo et al. (2011) argue for a more globalised perspective and greater cross-border mobility.

Limited resources, infrastructure and qualified academics are significant constraints. Budgetary limitations restrict the provision of adequate learning materials, technology and professional development opportunities for existing teachers. Additionally,

outdated infrastructure in many developing contexts limits access to quality learning environments for aspiring and practising teachers. Furthermore, the under-resourced systems often struggle to attract and retain qualified lecturers, further hindering the quality of teacher preparation (Alikor 2014; Jacobs 2016).

Innovative and flexible approaches are crucial to overcome these challenges and improve teacher education in developing contexts. These include leveraging technology for distance learning and online professional development programmes, utilising partnerships with universities and non-governmental organisations to share resources and expertise, and exploring alternative models such as community-based teacher training programmes. By embracing such innovative solutions, teacher education systems in Africa and other developing contexts can equip future educators with the skills and knowledge necessary to address the educational needs of their communities in the twenty-first century.

Institutional context

Andrade (2023) highlights the importance of a visionary and informed plan for flexible learning that aligns with institutional drivers but also takes contextual risks and possibilities into account. In her study, she recommends the following considerations:
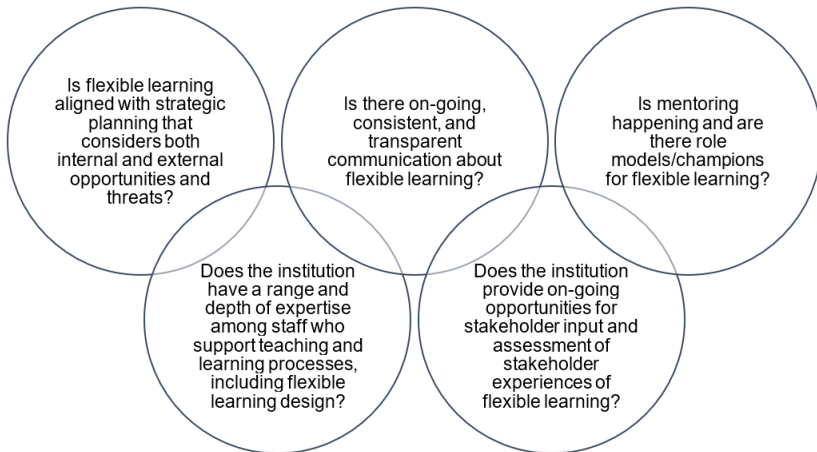

Figure 1: Institutional considerations (adapted from Andrade 2023)

Stakeholder engagement

Pitikoe et al. (2021) stress the importance of getting stakeholders on board and harness their support. For instance, during the height of the COVID-19 pandemic, the University of Eswatini (UNESWA) negotiated with the two major mobile service providers in Eswatini to provide study bundles for students at affordable prices. Likewise, the Eswatini Ministry of Education and Training (MoET) negotiated with the local TV and radio stations to support education programmes. The question is, though, whether such support can continue and be expanded to support flexible learning as the new normal.

Importance of appropriate instructional design

Creating successful flexible learning programmes in teacher education requires careful consideration of several key elements. First, understanding the diverse needs and learning styles of aspiring teachers is crucial (Du Preez 2023). This involves conducting thorough needs assessments, offering multiple programme pathways, and providing personalised learning journeys within the programme structure. Additionally, ensuring accessibility across various locations and time zones is essential, fostering inclusivity and catering to the diverse backgrounds of learners.

The very essence of successful flexible learning lies in its learner-centred approach. Interactive learning activities designed to foster collaboration, critical thinking and problem-solving are crucial. This includes online discussions, peer-reviewed activities, simulations, and project-based learning tasks. Furthermore, building robust support mechanisms is essential (Omidire and Aluko, 2022). This includes readily accessible faculty support, peer mentoring programmes and online communities where learners can connect and share experiences. These elements create a supportive environment that fosters individual growth and help to navigate the challenges of independent learning.

Instructional design is regarded as a scarce skill in Southern Africa, yet it is essential for student success (Du Preez 2023). Müller, Mildenberger and Steingruber (2023: 1) argue that when flexible study programmes are implemented, design needs to focus on 'adequate course structure and guidance for students, activating learning tasks, stimulating interaction and social presence of teachers, and timely feedback on

learning process and outcomes'.

Technology plays a crucial role in supporting and enhancing flexible learning environments. Learning Management Systems (LMS) are central platforms for accessing curriculum materials, submitting assignments and engaging in online discussions (Bismala and Manurung 2021; Joan 2013; Omidire and Aluko 2022). Open educational resources (OERs) offer a wealth of free, high-quality materials that can be readily integrated into the programme. Additionally, communication tools like video-conferencing platforms and collaborative online documents enable real-time interaction and collaboration among learners and faculty, regardless of their physical location (Andrade 2023; Du Preez 2023). By leveraging technology effectively, flexible learning programmes in teacher education can overcome geographical boundaries, offer greater accessibility and ultimately provide future educators with the skills and knowledge to thrive in the ever-evolving educational landscape.

Importance of quality assurance and student feedback

Growing evidence demonstrates the significantly positive impact and effectiveness of flexible learning approaches on teacher education outcomes. Studies indicate that flexible learning can enhance teacher preparedness, improving student achievement within classrooms (Müller et al. 2023). Additionally, research suggests that flexible learning models foster greater learner autonomy, higher self-efficacy and enhanced reflective practice among teacher candidates, leading to long-lasting professional development benefits (Andrade 2023).

These perceptions should, however, be concisely monitored. Therefore, evaluating such programmes is crucial to ensure their quality and effectiveness. For instance, what can be considered, amongst others, are the directives and recognition by professional bodies, student satisfaction, student achievement, course completion rates and pathways for recognition of prior learning in the flexible learning environment (Bismala and Manurung 2021; IIEP-UNESCO 2021).

Both quantitative metrics (examination scores, skills-based assessments) and qualitative methods (interviews, focus groups, reflection journals) should be employed to gather holistic insights (Du Preez 2023; Pietersen 2023). Success stories and lessons learned from implementing these initiatives provide invaluable guidance. Programmes demonstrating exemplary outcomes often exhibit well-structured

curricula, strong mentorship and student support, seamless technology integration and a focus on practical, classroom-ready skills (Bismala and Manurung, 2021; Joan 2013). The challenges encountered during implementation, such as ensuring adequate student motivation and technological accessibility, offer important lessons for future refinement of flexible teacher education programmes (Müller et al. 2023; Phejane 2022).

Still, although the potential of flexible learning in teacher education programmes is argued, one should not assume that students are necessarily positive about it. In a survey by Rakishevaa and Xua (2024) among undergraduate teacher education students in the United States of America, the students were not very positive about their experiences in the flexible online environment. The authors shared that the students were 'cautiously optimistic about online learning' and believed that although it 'could be effective and efficient, their attitude toward the outcomes of online teaching and learning was neutral' (Rakishevaa and Xua 2024:57).

Opportunities, challenges and solutions in implementing flexible learning for teacher education

Above, we included several theories and considerations relevant to implementing flexible learning in teacher education programmes given the tensions between the neoliberal, market-driven approach to higher education and the more collectivist *Ubuntu* philosophy prevalent in parts of the Global South. Designing flexible learning should foster critical thinking skills, connectivity of ideas (connectivism), integration of technology with pedagogy and content (TPACK) and high-quality student-instructor dialogue (transactional distance theory). The domestication theory points to understanding how technology is adopted and used by individuals, while the R.A.T. model provides a framework for viewing technology as replacing, amplifying or transforming instruction.

There is often resistance from lecturing staff to move towards flexible learning (Hammersley et al. 2013; Xavier and Meneses 2021; Salama and Hinton 2023), specifically fearing that they might become redundant. Yet even asynchronous learning requires support by humans, even if not in the same form as traditional teaching and learning. Flexible learning design requires instructional designers who have a fair range of technological skills, as well as ensuring that substantial time is available for

the upfront development of content. As learning by students will happen at different times without the synchronous presence of the lecturer, students need to be guided clearly on the platforms to enable student success (Lockee and Clark-Stallkamp 2022), and lecturers need guidance from skilled instructional designers.

Another issue that is often mentioned is to make sure that assessment is in line with an institution's assessment policy and that it is trustworthy and rigorous (Hammersley et al. 2013). Hira and Anderson (2021) recommend project-based learning in a flexible learning environment, specifically because it provides students with a task that has meaning and relevance personally but enables autonomy and agency in learners. In addition, specifically given the importance of the communal values in the Southern African context, project-based group work allows for collaboration outside the typical framework of class time (Hira and Anderson 2021).

Flexible learning not only provides individual students with the opportunity to take control of their own learning but also provides opportunities for institutions. Wolhuter (2024) explains that flexible learning provides the opportunity for teacher education programmes to be internationalised in a decolonised mindset. Higher education institutions can enrol students from many parts of the world, but at the same time provide a curriculum that resembles epistemic diversity and include previously marginalised voices (Jacobs & De Winter, 2021).

In short, flexible learning presents exciting opportunities to amplify and transform teacher education through thoughtful integration of technology. By leveraging tools like gamification, discussion forums and self-reflection activities, institutions can foster critical thinking skills, connectivity of ideas, and the development of technological pedagogical content knowledge (TPACK) in pre-service teachers. Moreover, asynchronous collaboration and co-creation of knowledge can be designed in alignment with the *Ubuntu* philosophy's emphasis on human interconnectedness and collective wisdom.

A key challenge lies in navigating the tensions between the neoliberal, market-driven approach that treats education as a commodity, and *Ubuntu's* communal, human-centric values of compassion and dignity. Another critical issue is ensuring meaningful student-instructor dialogue and sustained engagement in online or blended learning environments. Additionally, varying levels of technology access, digital literacies, and domestication of technology among students and faculty can impede the effective implementation of flexible learning initiatives.

To address these challenges, institutions should adopt a holistic approach that balances economic viability with technological integration and *Ubuntu's* principles of caring and human dignity. Providing comprehensive instructor training on building online learning communities, facilitating discussions and using technology effectively is crucial. Needs analyses to understand students' technological access, skills and preferred learning modes can inform universal design. Offering robust technology and academic support services is also recommended. Most importantly, flexible learning initiatives should continuously be evaluated through the lenses of critical pedagogies, connectivism, TPACK and culturally responsive teaching.

Recommendations

The article provides several considerations regarding the opportunities offered by flexible learning to transform teacher education through technology-enabled critical thinking, connectivity and TPACK development and align with *Ubuntu's* collaborative ideals regarding the challenges of navigating market-driven versus human-centric educational models. While ensuring meaningful online engagement across diverse digital literacies and the holistic solutions involving balancing economic viability with *Ubuntu's* compassion, comprehensive instructor training, technology/academic support services and continuous evaluation through critical pedagogical lenses, certain insights came to the fore which higher education institutions can use to plan for teacher education programmes in the future. First, they should embrace the possibilities that come with flexible learning approaches. At the same time, there should be structural support for flexible learning, including policy renewal and institutional support, such as ICT support, training and appropriate software.

Second, sufficient consideration of how to balance the business needs with the need for social justice is required. While institutions cannot ignore the need to be financially sustainable and to promote their reputation, they should remain true to the values of the region, which calls for care and compassion, the dignity of the student and student success.

Instructional design should receive due consideration, and again a balance is needed between content that enables autonomous learning and the consideration for data usage. It is important to provide enough support for students and to create opportunities for building community within the online learning environment where

collaboration and knowledge sharing are possible.

Hand in hand with the above is monitoring and evaluation of the quality of the programmes. Sufficient room for student feedback and other quality assurance mechanisms must be built into the programme.

Last, contextual realities should be considered when planning for flexible teacher programmes, including demographical and geographical considerations, language, infrastructure, timelines and so forth.

Conclusion

This introductory article discusses the implementation of flexible learning in teacher education programmes, particularly in the context of Sub-Saharan Africa and the Global South. The purpose of the article was to explore the opportunities, challenges and potential solutions associated with adopting flexible learning approaches in teacher education. The main concern expressed in the article is how to navigate the tensions between the neoliberal, market-driven approach to higher education, which treats education as a commodity, and leveraging on the more collectivist, *Ubuntu* philosophy prevalent in parts of the Global South, which emphasises human interconnectedness, compassion and dignity. Additionally, we highlight the challenge of ensuring meaningful student-instructor dialogue and sustained engagement in online or blended learning environments, as well as addressing varying levels of technology access, digital literacies and domestication of technology among students and faculty.

We wish to conclude by recommending a holistic approach that balances economic viability with technological integration and *Ubuntu's* principles of caring and human dignity. It emphasises the importance of comprehensive instructor training, conducting needs analyses to understand students' technological access and preferences; offering robust technology and academic support services and continuously evaluating flexible learning initiatives through the lenses of critical pedagogies, connectivism, TPACK and culturally responsive teaching. We also highlight the need for instructional design, monitoring and evaluation of programme quality, and consideration of contextual realities when planning flexible teacher education programmes.

While teacher education practices had already undergone major changes before the COVID-19 pandemic due to the possibilities that came with developments in the field of information and communication technologies, and the introduction of online

teaching and learning, it is trite to say that the pandemic brought about further major paradigm shifts in the way prospective and in-service teachers are skilled, upskilled and reskilled. Not only has this led to the blurring of the lines between so-called contact teacher education programmes and those that are described as being part of the open, distance and e-learning (ODeL) mode, but it has also opened up pathways to engage.

Some of the changes brought about by the pandemic were temporary, while others seem to be the new trend. With the disruptions brought about due to the pandemic being almost a thing of the past, it was now an opportune time to reflect on the changes and also the way forward for teacher education practices within a flexible higher education environment.

What follows in this volume are articles related to the changes teacher education has undergone because of the pandemic, due to the focus on innovative technology and the possible opportunities this offers to the way societies educate their prospective and in-service teachers. Still, more research is necessary to ensure that while we take advantage of the possibilities that come with digital means, one has to make sure that critical thinking is advanced and meaningful learning takes place to enhance the quality of teacher education programmes.

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