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PROSPECTS AND PITFALLS ASSOCIATED WITH IMPLEMENTING BLENDED LEARNING IN RURAL-BASED HIGHER EDUCATION INSTITUTIONS IN SOUTHERN AFRICA

ABSTRACT

While blended learning is well entrenched in many developed countries as a solution towards enabling access to educational resources and managing student diversity, this may not be the same for rural based universities in developing countries. Yet, blended learning is ideal for the current terrain of the COVID-19 pandemic which requires learning modalities that promote social distancing to reduce the spread of the disease while ensuring that students have access to quality teaching and learning materials and to frequently stay engaged. For many rural based universities, successful blended learning implementation implies an exploration of possible ways to strengthen existing practices. This paper, using the document analysis method, sought to explore the prospects and pitfalls of implementing blended learning in rural- based universities in Southern Africa. The blended learning implementation framework by Graham, Woodfield and Harrison (2013) served as a guiding framework as it was specifically designed to determine success in blended learning adoption and implementation in education. This framework utilises the constructs of strategy, structure and support to differentiate the stages of adopting blended learning. These three stages are in a continuum and comprise awareness and exploration as stage 1, adoption or early implementation as stage 2 and mature implementation and growth as stage 3, with stages differing depending on the extent of formalisation of the institutional strategy, structure and support. Findings indicated prospects of blended learning entail providing opportunities for flexible learning, enabling access to a wide range of educational resources and limiting alienation associated with purely online education delivery. For many institutions, however, implementation of blended learning is still a mirage with the majority still at the first stage of Graham et al.'s (2013) blended learning adoption and implementation framework owing to technical resource constraints related to unstable or non-existent network coverage characteristic in rural locations, curricular deficit stemming from the blended learning model not aligning to context, thus lowering morale for wider implementation. This is exacerbated by weak goodwill and limited policy guidelines on a specific blended learning model. The study



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concludes that creating conducive conditions for blended learning in rural based universities necessitates a context friendly implementation model where institutional evaluation data inform strategies, support and pedagogical approaches and related resources that can be used locally. The study recommends governmental support for resourcing rural universities to acquire affordable and usable resources to offset challenges hindering blended learning. Rural institutions should also strive to strengthen support to students and staff to build confidence in the potential of blended learning.

Keywords: *Blended learning; institutional goodwill; curriculum deficit; student-centredness.*

1. BACKGROUND AND INTRODUCTION

Undeniably, pockets of institutions of higher learning in many countries of the world using blended or hybrid learning are on an upward trajectory, as the world gears up to welcome the fourth industrial revolution (Mokenela, 2019; Mtebe, Mussa & Kissaka, 2015). The fourth industrial revolution drives many functions of human activities through technology, hence, the need for students and lecturers to embrace it in order to solve contemporary problems. Some scholars even argue that blended learning is a “new normal” strategy of educational delivery due to its potential to enhance teaching and learning (Norberg, Dziuban & Moskal, 2011) in terms of autonomous learning, self-paced learning opportunities and differentiated learning provision (Ossiannilsson, 2017). Opportunely, blended learning is associated with improving teaching practices by enabling teachers to provide a wide variety of teaching modalities (Ehrmann, 1998), thus allowing students to gain the core competencies currently required. In fact, blended learning has been found to increase students’ learning performance (Lubua, 2019), which is associated with increased socially learning and engagement. This makes blended learning a promising solution to averting the spread of COVID-19 as it promotes social distancing while at the same time providing access to a wide range of learning resources shared in print and as multimedia.

Despite many contested definitions of blended learning, a number of scholars concur that it entails thoughtful integration of face-to-face teaching in tandem with online modalities, such as, radio and web based technologies or mobile learning, with the strength of each mode mutually and reciprocally reinforcing one another (Garrison & Vaughan, 2008; Graham *et al.*, 2013; Caird & Roy, 2018). This attribute facilitates maximum learning as students have the benefit of being able to collaborate with their peers and this reduces isolation; they can share learning resources from various sources. Lecturers are also able to provide a wide array of learning resources using multiple modes to address the needs of diverse students as well as provide feedback on grey areas. Additionally, the lecturers have an opportunity to give personalised attention to students who may be falling behind. This can be done through face-to-face and online meetings (Stein & Graham, 2020). Conveniently, the superiority of blended learning over other modes of educational delivery includes its ease in facilitating collaborative communication and problem solving, coupled with flexibility and personalised learning (Cleverland-Innes & Wilton, 2018), and thus enhancing pedagogical practices.

Blended learning is driven by global imperatives such as globalisation, modernisation and the need to embrace the ideals of the fourth industrial revolution, particularly the proliferation of Information and Communication Technologies (ICTs) (Machumu, 2018). The ideals of the fourth industrial revolution are that individuals have capacity to think outside the box to find solutions to existing world problems using technological tools to support exploration, decision making and creation of products in the different fields. Enhanced pedagogical practice occurs when students develop competencies to work with various contemporary technologies such

as material science, biotechnology, nano technology, augmented reality, robotics, digital technologies and 3-dimensional printing technologies when they engage in projects that solve real-life problems (Ally & Wark, 2019; Hussin, 2018; Hirschi, 2018). When teachers use blended learning successfully and offer learning opportunities for augmented realities, simulations and use of project-based activities to solve authentic problems, students increase the repertoire of competencies to solve ill-defined problems and use various sources of knowledge (Hussin, 2018). According to Binkley *et al.* (2012), twenty-first century competencies can be broadly categorised as ways of thinking, tools for working and living in the world. Ways of thinking entail problem solving, emotional intelligence, negotiation, creativity and cognitive judgement as well as developing ICT literacies, competencies for living in the world, particularly global and local citizenship, personal and social responsibility and cultural awareness. Such competencies also gear students up to embrace the needs of the fourth industrial revolution (Soffel, 2016). Furthermore, given the importance of preparing students for professional roles, the online component of blended learning provides students with learnability, or the ability to unlearn, learn and relearn (Sungsup *et al.*, 2019). It is therefore important that rural based universities also ensure that their different stakeholders do not fall behind by embracing blended learning. Fortunately, the current generation of students is incrementally motivated to use technology in their learning and thereby prompting institutions to embark on blended learning (Tshabalala, Ndeya & Van de Merwe, 2017).

2. BLENDED LEARNING IMPORTANCE IN RURAL UNIVERSITIES

Rural universities naturally face staffing constraints, as many qualified professionals prefer to work in metropolitan universities where social amenities are readily available (Ndebele, Muhuro & Nkonki, 2017). Therefore, rural institutions benefit from using blended learning because they can hire part-time staff to offer some of the classes online and also use social media platforms, mobile learning tools and/or learning management systems to reduce the strain on staff having to repeat lessons for students who miss classes due to illness or other constraints (Mascarenaz *et al.*, 2015). Students benefit from this arrangement as they are able to learn the materials at their own pace and can use other technological tools for further research to access important learning content that improves the student experience (Rugube, Mtetwa-Kunene & Maphosa, 2020). Rural based universities can send students learning materials through flash disks or broadcasts to offset high data costs associated with purely online delivery, thus allowing maximum learning in different spaces. In cases of natural disasters such as storms, floods and cyclones, blended learning is the best option (Castro, 2019). Furthermore, blended learning has also become important during the current outbreak of diseases such as COVID-19 where face-to-face teaching is prohibited as a means to combat the spread of the disease. Desirably therefore, blended learning is an innovative endeavour that could benefit students in rural based universities in Southern Africa, bereft of different kinds of requisite infrastructure, such as those of ICT. This is a huge scorecard to the desired United Nations Sustainable Development Goals (SDGs) by 2030 (United Nations, 2015). However, this can only succeed when the teachers provide the appropriate learning opportunities and have the requisite resources and capacity to also facilitate such learning. Ideally, the criteria for blended learning depends, *inter alia*, on learning goals, expected learning outcomes, context of learning, lecturer and student preferences, instructor experience and situational demands (Thomas, 2010; Graham *et al.*, 2013). In fact, when implementing blended learning, institutions may find themselves falling into one of the three categories described in the next section.

3. BLENDED LEARNING ADOPTION FRAMEWORK

In their framework guiding the use of blended learning in education, Graham *et al.* (2013) stress the need to examine three issues of institutional strategy, structure and support to differentiate the stages of adopting blended learning. When an institution is at the awareness and exploration stage, only individual staff with their own interest in blended learning informally advocate for blended learning, but there is no consensus on the definition of blended learning, nor is there a uniform policy or funding. In terms of structure, there is no blended learning model, no structured blended learning curriculum or formal evaluations to address blended learning goals. The ad hoc nature can also lead to some implementations not aligning to institutional vision and mission. Further in this stage, the technical and pedagogical support mechanisms are weak owing to a lack of expertise or resources and there is no structure to incentivise those staff adopting blended learning; hence, there is minimal interest to implement blended learning among stakeholders. The second stage, called adoption or early implementation has insitutional leaders and staff beginning to have a formally conceptualised blended learning model and tentative policies to motivate for institutionalised adoption in high impact areas among the willing faculty, but there are limited mechanisms to evaluate the quality of course design and outcomes. The institution starts to develop technical and pedagogical support for students and staff, but these are still at experimental stages and the curriculum is still not fully aligned to the vision and mission. This also leads to piecemeal implementation.

The third stage is called the mature implementation and growth stage. This is the most desirable stage where the funding for implementation of blended learning is available as well as policies to guide implementation processes. The institution develops widespread awareness of a uniform model of blended learning that is accepted and understood by stakeholders, and a taskforce for monitoring implementation ensures the curriculum aligns with the institutional mission, vision and goals and existing resources. The structure is such that the technical resources are robust and support is well established, intellectual and quality assurance mechanisms and incentives offered to staff for adopting blended learning are clearly established. Additionally at this stage, there are adequate technical resources, and formalised pedagogical approaches to implement blended learning and consistent evaluation of blended learning ensures that the curriculum aligns with the context . Even though the framework above provides the conditions for successful blended learning, the implementation is still a cause for concern because of other important aspects that need to be taken into account when implementing blended learning as discussed below.

On the flipside of the coin, blended learning is not necessarily a solution for all educational problems (Hunt-Baron *et al.*, 2015). While it works well for self-motivated and self-regulated learners as well as those who have an interest in technology, those not sharing the attributes may find blended learning to be strenuous. Thus, it is critical to also consider the conditions for successful implementation of blended learning. Furthermore, blended learning demands a stringent environment that many institutions find difficult to afford. In fact, blended learning requires a high technological outlay to develop literacy professional development (Machumu, 2018). More so, failure by institutions to have the requisite infrastructural learning equipment may result in negative student learning outcomes (Sivakumar & Selvakumar, 2019). Anecdotal reports point to institutions having adopted blended learning models with limited regard to contextual needs and this has resulted in apathy among stakeholders. Lecturers who are reconfiguring curriculums require essentials such as clear learning outcomes, careful design of learning activities and continuous support and learner feedback (Stein & Graham, 2020), all

of which are difficult to put in place. For instance, teaching approaches that promote frequent active engagement through interactions, discussions and are believed to be well suited for blended learning but academics who are accustomed to traditional lecture methods may fail to support students effectively.

Seemingly, there is an array of possible practical challenges in implementing blended learning in rural based higher education contexts (Mtebe, Mussa & Kissaka, 2015), particularly in sub-Saharan Africa, which suffers innovation deficits (Abah, Mashebe & Denuga, 2015; Hlalele, 2012a). Evidence abounds that most innovations associated with blended learning fail because of misalignment to institutional goals and contexts (Graham *et al.*, 2013). Further to this, blended learning requires specialised personnel to support ICT literacy (Patel, Kadyamatimba & Madzvamuse, 2017). Perhaps the fact that most rural based higher education institutions (HEIs) are bereft of resources to institutionalise and strengthen the ICT sector, makes them blended learning unfriendly or have to do with its progression taking a snail's pace (Machumu, 2018). Perhaps this scenario has made blended learning implementation in a number of institutions remain utopian and a mirage.

4. PROBLEM STATEMENT

Ubiquitously, blended learning is a desirable phenomenon because it, inter alia, facilitates flexible learning, is cost effective, caters for diversity and enables student-centred learning (Boelens *et al.*, 2017; Stein & Graham, 2020). Observably, these desirable qualities are critical for rural-based HEIs. Inopportunistly, implementation of blended learning exhibits a gap that this paper envisages to bring to the fore. This gap, inter alia, includes disadvantaged geographical locale that does not attract a qualified cadre of ICT personnel, suffering poor infrastructural outlay, such as, electricity and poor network connectivity (Mokenela, 2019). This paper aims to discuss the prospect of implementing blended learning in rural based institutions of higher learning as well as deciphering the gaps impeding such an endeavour.

5. AIM

The paper aims to discuss the prospects and pitfalls of implementing blended learning in higher education institutions in selected Southern African countries.

6. PLAUSIBLE RESEARCH QUESTIONS:

- What are the prospects of implementing blended learning in rural based HEIs in Southern African countries?
- What are the pitfalls of implementing blended learning in rural based HEIs in rural Southern African countries?

7. METHODOLOGY

This is a discourse-based paper aiming to discuss the prospects and pitfalls of implementing blended learning in rural based institutions of higher learning in Southern Africa. The paper has drawn literature from an array of sources that include empirical monographs, global eclectic educational reports, books, theses, journal articles and secondary data. A literature search based on the main concepts resulted in several themes as discussed in the findings below.

8. FINDINGS

8.1 Blended learning brings solutions

Universally, blended learning can be a solution in surmounting educational challenges such as managing diversity and providing access to resources (Bonk & Graham, 2012), all of which are glaring gaps in institutions of higher learning. Opportunely, addressing this gap is also emphasised in the SDGs (UNESCO, 2016; Ochezaffa & Radinger, 2019). Furthermore, many countries in Southern Africa have also developed their own plans in line with regional development protocols, such as the SADC protocol on Higher Education and Training. Moreover, individual countries have domesticated those plans. For instance, South Africa has promulgated the National Development Plan as a blueprint to transform society by reducing poverty and inequality (National Development Plan, 2012). Importantly, the plan promotes the use of open source software as well as leveraging ICTs in education to facilitate lifelong learning, continuous professional development, knowledge production and innovations.

Fortunately, blended learning in other Southern African countries, is believed to enhance many benefits such as continuous professional development in the workplace in Malawi (Mastellos *et al.*, 2018) as well as promote student engagement and support in Namibia (Johnson, Abia & Quest, 2016). More so, it has successfully been applied in research in fields such as agriculture, forestry and aviation with illustrious success (Piano *et al.*, 2019; Kearns, 2016). Moreover, evidence abounds of its breakthrough in cost effectiveness in the healthcare sector in Southern Africa (Sissine *et al.*, 2014). This implies that if well implemented, it has a long-term positive cost reduction. Blended learning has also made some innovative achievements in providing hands-on skills in physical therapy, especially when students engage in authentic setting of professional practice (Volasky, 2019). Furthermore, blended learning has been found to be a strong driver in strengthening professional development of rural-based science teachers in Botswana (Boitshwarelo, 2009) as well as bolstering the work of health practitioners in Malawi (Mastellos *et al.*, 2018).

8.2 Efficiency

Perceptibly, blended learning is universally associated with efficiency (Cocquyt *et al.*, 2019; Sissine *et al.*, 2014) in terms of raising learning throughput in tandem with facilitating flexible learning (Lubua, 2019). This is a necessary quality in rural based institutions of higher learning that are slow in adapting to innovations in the twenty-first century. However, evidence abounds that the blended learning mode is more efficient than the traditional mode in providing resources and enabling flexible learning in the rural areas (Tirmizi *et al.*, 2017). A study conducted by Sissine *et al.* (2014) reported cost savings on decreased classroom time and travel costs when blended learning was used to train 100 000 healthcare workers in Southern Africa. Furthermore, it was empirically validated that business concepts were easily understood and applied when blended learning was pitted against the face-to-face mode of pedagogy (Cordie *et al.*, 2018).

8.3 Blended learning accommodates diversity

Blended learning is flexible, user- and diversity-friendly (Cleveland-Innes & Wilton, 2018). It allows students to enjoy different preferences, whether auditory, visual or kinetic (Gardner 2008). This finds support in the theory of Howard Gardner on multiple intelligences, which argues that students are endowed with different intelligence packages or preferences. Further

to this, empirical evidence abounds that different students exposed to blended learning reported improved learning performance and motivation (Lubua, 2019). Moreover, diversity embraces multimodal teaching strategies to enable students of different learning abilities to acquire requisite knowledge packages (Boelens *et al.*, 2018).

Diversity is further supported by Walker (2018), who emphasises the importance of applying a variety of teaching approaches and thereby satisfying the needs of different types of students. Diversity is also a scorecard for the lecturers. This is because they have the option of using a combination of video, audio and texts with the effect of widening the horizons of achieving higher outputs and better student outcomes (Luna, 2017). Other scholars emphasise the importance of diversity through differentiation. This allows learners of different capabilities to be provided with individualised support (Rasheed, Kamsin & Abdullar, 2019).

Strikingly, diversity also supports indigenisation and multicultural education (Abah, Mashebe & Denuga, 2015). This is very pivotal in rural based universities that attract students from different cultural backgrounds (Machumu, 2018) and to surmount the gap of adapting to the curriculum that students find alienating (Fataar, 2018b; Henderson, 2017) and multiculturally unfriendly; or one they have to navigate its understanding at a snail's pace. Henderson (2017) describes an alienating curriculum as one that makes students powerless; learning becomes meaningless in that there is no link to lived experiences and promotes social estrangement. In order to combat these gaps, blended learning then can support indigenous grounded teaching methodologies. This resonates well with the current global debate on the decolonisation of the curriculum. This is to provide a platform of different knowledge packages and their application (Fataar, 2018b). Commendably, rural based universities could use resourceful personalities such as chiefs and headmen to be guest lecturers to expand on local practices in relation to particular disciplines. This can be done by allowing them to have a video and thus develop students' connection with local individuals. This would make students easily grasp locally grounded experiential knowledge (Snowball & Mackenna, 2017). This is a tenet of the indigenous knowledge system (Abah, Mashebe & Denuga, 2015).

8.4 Blended learning accommodates student centeredness

Auspiciously, blended learning expedites student-centredness (Trinidad & Ngo, 2019). Learning becomes student-centred when it provides powerful instructional tools and sound academic content, but also allows students to use the tools to explore the content in a way that fits their strengths and interests (Ossianilsson, 2017). This makes learning not only democratic, but also makes students more assertive, and confident enough to take ownership of their learning.

Ideally, successful student-centred learning can be a solution to aid learning Science, Technology, Engineering and Mathematics disciplines – subjects students find challenging (Barabitz *et al.*, 2019). This resonates well with a study conducted in Australia whose results revealed that students in rural based institutions, in rural based education centres, performed relatively lower than those in urban and metropolis contexts, even after controlling for economic differences (Sullivan, Perry & McConney, 2013). Moreover, studies by Yildiz and Ocak (2016) reflected that the students who participated in video-based lesson analysis outperformed the traditional face-to-face mode, since they had opportunities to employ different methods to learn the content. Similarly, a review of studies by Kalisa and Pichard (2017) reported improved appreciation and motivation among the students.

8.5 Flexibility

Perceptibly, blended learning is flexible because it offers an opportunity to alternate different teaching strategies (Boelens *et al.*, 2017). Flexibility is a scorecard to the lecturers because it offers them space to attend to different students' needs. This is a very important departure from the traditional model where lecturers put students' problems in one basket (Lubua, 2019). This is desirable because it offers comfort when students are exposed to a repertoire of learning choices. This means that learners can own, control the time, place, space, path and setting to learn (Secha Rao, 2018). This is the tenet of democratisation of learning (Trinidad, & Ngo, 2019). Opportunely, when students feel that learning is in their hands and space, they develop a higher state of motivation and morale, which can translate to higher performance (Loperfido & Giuseppe Ritella, 2017). Importantly, performance is one of the pivotal and desirable overarching educational goals in all countries of the world and is the basis of the former Millennium Development Goals (MDG) 2 and the current SDG 4, which says education must play a pivotal role in eliminating current challenges (UN, 2012).

However, using international yardsticks such as the Millennium Development Goal and Sustainable Development Goal to measure performance of rural based higher education compared with urbanised and metropolitan based higher education institutions is not only unfair, but also utopian (Sullivan, Perry & McConney, 2013). This is because rural based higher education lacks requisite resources to grow. This stark differential evidence of blended learning finds support in the work of Graham *et al.* (2013) who elucidates three stages of blended learning, with the least performing institutions occupying the first stage, while those excelling occupying the third stage. This first stage implies that the purpose of blended learning is not yet widely accepted or valued in the institution but relies on individual efforts.

8.6 Effectiveness

Conceptually, effectiveness has to do with how much a process or a programme is able to fulfil its goals and objectives. A very effective system achieves almost 100% of its expected outcomes (Creemers, 2005). This perfectly resonates with views by Stein and Graham (2020), who opined that blended learning increases motivation, decision making, engagement and performance. These are desirable qualities in rural institutions where students experience a variety of deficits such as low motivation and poor throughput (Hlalele, 2012a). The role of Southern African national policies in increasing education outcomes, such as quality, gender parity, access and inclusion throughput, make such countries effectuate the imperatives of the Sustainable Development Goals. In South Africa, for instance, UNDP aspires to achieve educational effectiveness through the institutions achieving a throughput of more than 75% by 2030 and increasing professional competencies in scarce skill disciplines (National Development Plan, 2012).

8.7 Resource deficits

Undeniably, blended learning faces a range of deficits that include heavy capital outlay to buy requisite infrastructure and equipment, broadband and electricity, ICT skills and support (Machumu, 2018). This resonates well with established rural based higher education institutions in developing countries facing dire infrastructural challenges to implement blended learning (Chisango *et al.*, 2020). In tandem, strong evidence abounds that an infrastructural deficit has a knock-on effect on student ICT literacy skills, performance and throughput (Mascarenaz, 2015). Apparently, due to paucity of resources, students are forced to remain

being digital immigrants. Conceptually, digital immigrants are individuals who move at a snail's pace to improve their ICT skills because they did not learn it early in life (Vugec, 2014). This finds support in a study conducted at the University of Zambia on blended learning that found most exhibiting the characteristics of digital immigrants (Muleya *et al.*, 2019). With rural based universities already depicting numerous deficits associated with blended learning, this has a knock-on effect on enrolments and low staff morale (Machumu, 2018). This situation in Southern Africa runs counter to the achievement of the educational goals, which may also translate to a lower score in the achievement of Sustainable Development Goals (OCED, 2016).

8.8 Curricula policy deficit

While blended learning can be considered as a solution in effecting curriculum reform (UNESCO, 2016), mainstreaming it has not been easy. The situation above resonates with a 2015 report indicating that blended learning is still at its emerging stages of development in sub-Saharan Africa (Wallet, 2015; Mokenela, 2019). This is validated by empirical research on blended learning implementation that found that most institutions are at stage 1 of the framework by Graham *et al.* (2013). Conceptually, this framework indicates that institutions are at different ranks, with those at the lowest rank not having a clearly identified model for implementing blended learning, nor a clear context based strategy to support implementation; rather there is a reliance on personal initiatives that are neither recognised nor incentivised (Porter & Graham, 2015; Mokenela, 2019).

Lamentably, a number of scholars in the Southern African region contend that the application of blended learning, as informed by Graham's blended learning implementation framework, has neither borne any dividend in literacy improvement, nor pedagogical alignment (Muleya, *et al.*, 2019). Importantly, rural-based universities need to be multicultural. This validates the desire for an indigenously developed curriculum. Conceptually, an indigenously grounded curriculum embraces local knowledge and practices (Snowball & Mackenna, 2017). This links well with the current global campaign to decolonise the curriculum (Fataar, 2018b).

8.9 Institutional goodwill deficit

Conceptually, institutional goodwill is achieved when the leaders inspire, motivate and support the workforce (Gil, Rodrigo-Moya & Morcillo-Bellido, 2018). This is a springboard to heighten workers' morale, motivate and support a particular plan (Hlongwane, 2013). This finds support from the ICT blended learning framework where excelling leaders drive and inspire their workforce (Graham *et al.*, 2013). Evidence abounds that rural based universities struggle to implement blended learning due to weak leadership. For instance, studies in South Africa reported serious gaps in leadership process leading to paucity of professional personnel to spearhead learning in one South African university (Patel *et al.*, 2017). Perhaps the scenario above mirrors the NDP report observation on the leadership gap in failing to drive and support many educational plans such as those bolstering ICT and blended learning. Furthermore, this finds support from studies in Southern Africa where researchers found limited leadership support in implementing blended learning (Tshabalala *et al.*, 2014). Misleading evidence exists that leadership gaps and goodwill deficits can be associated with workers' resistance (Lavanya & Kalliath, 2015).

9. CONCLUSIONS

In the era of COVID-19-19 where the traditional face-to-face method is proving impossible, prospects of implementing remote learning in rural based higher education institutions have many potential benefits for institutions to continue to deliver quality education, teachers to continue engaging with students and offer an enhanced learning environment and students to acquire the requisite skills required in the fourth industrial revolution, and such prospects should be further enhanced. However, the current study found that these benefits such as access to resources, allowing diverse populations to participate in education and improved motivation and learning quality as well as efficiency are currently minimally realised in rural based universities. This is partly due to infrastructural challenges, resource limitations and curriculum deficits stemming from alignment deficits with the blended learning model and pedagogy. This has been exacerbated by lack of goodwill in determining whether blended learning models that align to resources support capacity. In the light of the above, it is important that Southern African governments increase budgetary allocation to rural based universities to allow them to address some of the challenges. Creating conducive conditions for blended learning in rural based universities necessitates that management have good will to promote dialogue as well as develop a context friendly implementation model where institutional evaluation data inform strategies, support and pedagogical approaches and resources that can be used locally. Also strengthening professional academic development using cost effective modalities may assist staff and students to gain the competencies needed to successfully implement and embrace blended learning.

10. THE WAY FORWARD

There is a need for a context friendly implementation model where institutional evaluation data inform strategies, support and pedagogical approaches as well as resources that can be used locally. Furthermore, many rural based institutions still suffer material and human resource constraints owing to historical backlogs. Therefore, governmental support for resourcing rural universities to acquire affordable and usable resources is likely to offset challenges hindering blended learning. Moreover, for institutions to move to higher stages of Graham *et al.*'s guiding framework, institutional policies and plans should strive to use locally available data to decide on a feasible blended learning model commensurate with existing capacity in addition to strengthening support to students and staff to build confidence in the potential of blended learning.

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