

Who Moved my Old Cheese? Implications of COVID-19 to Teaching and Learning in Southern Africa

Selloane Pitikoe

University of Eswatini
spitikoe@uniswa.sz

Karen Ferreira-Meyers

Institute of Distance Education, University of Eswatini
karenferreirameyers@gmail.com

Sithulisiwe Bhebhe

University of Eswatini
sbhebhe@uniswa.sz

Nompumelelo Dlamini-Zwane

Southern Africa Nazarene University
zsnehtmp@gmail.com

Abstract: This reflective essay seeks to share the authors' thoughts and feelings on the impact of 2019 coronavirus disease (COVID-19) on the general teaching and learning strategies, theories, and practices in the small kingdom of Eswatini in Southern Africa. Coming from varying backgrounds in education allows the authors to tackle the overview of consequences from different points of view and angles. The common thread amongst the authors is an observation that the disruptive nature of the pandemic, with its sudden onslaught and the need to react fast, might lead to long-lasting transformations in the area of teaching and learning. Emphasis in this essay is on whether online teaching and learning happened previous to the start of the pandemic and to determine its effectiveness in terms of access and self-directedness of the learners. Given the devastating impacts of COVID-19, governments had to develop 'instant' provisions, such as digital/e-learning platforms in the formal education sector, in a bid to minimize new infections through social distancing while also supporting learning outside the classroom. The question that remains unanswered, though, is the appropriateness and effectiveness of the digital platforms in the context of a developing country with existing socio-economic and infrastructural underlying problems; hence the rationale for this paper. In conclusion, a few recommendations will be proposed in view of improving the immediate, short-term teaching and learning strategies that can later be reflected upon once the pandemic subsides.

Keywords: E-learning and emergency remote learning, COVID-19, social distancing, impact on the education sector, Eswatini

Introduction

On the 13th of March 2020, the citizens of the Kingdom of Eswatini were officially notified of the first 2019 coronavirus disease (COVID-19) case in the country. It is trite today to note that the world is battling against the coronavirus and various economies across the globe have declared a lockdown. On the 23rd of March, Eswatini's government declared that the country would go into a

partial lockdown from the 29th of the same month—which was later extended to the 6th of May 2020—in a bid to minimize infection and counteract the spread of the virus. Following the government’s instructions, all institutions dealing with education were closed, affecting academic delivery.

The paper looks at various disruptive consequences of the COVID-19 pandemic on the Eswatini education sector. It seeks to respond to one major question, namely whether online teaching and learning is effective, accessible, and beneficial to the specific learners in the context of a small developing nation such as Eswatini with its existing socio-economic and infrastructural problems. It is therefore divided in three major sections; the first one discusses the paper’s theoretical bases, the second one deals with what existed before the pandemic hit the country, and the third examines the disruptions and immediate solutions proposed by various institutions and by the Ministry of Education.

Theoretical underpinning

The global impact of technology and the resultant transition in people’s lifestyles is underscored. Nonetheless, the adoption rate and individual attitudes towards technology use in Eswatini remain a grey area. This paper is guided by the Technology Acceptance Model (TAM), which was developed by Fred Davies in 1985 as a tool for exploring the factors that motivate users to adopt digital devices (Marangunić & Granić, 2015). Surendran (2012) further argues that Davies’ premise of TAM was that external factors such as device features and functionalities are the main factors that motivate one to make a conscious decision to fully adopt a new technology or system.

According to Marangunić and Granić (2015), Davies further identified three factors that, according to him, motivate individuals to either adopt or reject the technology: a) perceived ease of use, b) perceived usefulness, and c) attitude toward using the devices. The implication is that, if the technology is user-friendly and addresses the user’s needs, it will ultimately affect the user’s attitude (Marangunić & Granić, 2015). The consumer’s attitude or perception is pivotal in influencing the consumer’s decision. Henceforth, the authors have adopted TAM as the guiding framework that will help in developing a deeper understanding of the educational practices prior to and during the COVID-19 pandemic and the reactions of Eswatini’s learners in either accepting or rejecting technology use. The following section talks about the pre-COVID-19 educational practices and policies.

Existing teaching and learning policies (education and ICT), strategies, theories, and practices

The Kingdom of Eswatini (formerly Swaziland) is the smallest of the last three kingdoms in Africa, following Lesotho and Morocco. Landlocked by South Africa and Mozambique, this developing country, like others, embraces education as a tool for economic liberation and social development. Thus, the need to ensure continuity of education during the pandemic is underscored.

Isaacs (2007) posits that as small as the Kingdom may seem, it is presumably wealthier than most countries in Africa. Nevertheless, an estimated seventy percent of Swazis live in rural areas that are frequented by recurrent drought, consequently leaving the majority of the populace impoverished due to repeated failing crops. Hlatshwayo (2016) reveals that since 2011, the Kingdom of Eswatini has experienced great economic and structural reforms laid down in the Fiscal Adjustment Roadmap and the 2011 Economic Recovery Strategy. This constitutes a glimpse of hope for educationists, namely that the education system will reap benefits. Goal number four of the Eswatini government’s Vision 2022 is to “Ensure inclusive and equitable quality education and

promote lifelong learning opportunities for all” (Hlatshwayo, 2016). However, Eswatini’s institutional, financial, and technical capacity limited her ability to effectively implement the proposed policy reforms.

Issues of inclusion and equity have also been underscored in the National Information and Communication Infrastructure (NICI) 2012-2016 that relates to the appreciation of technology’s impact on the 21st-century job market. Two of twelve aims relate closely to education provision. For instance, aim two speaks to the integration of Information and Communication Technologies (ICT) in the mainstream education, and aim nine highlights a need for universality, quality, and equity in education provision. While the policy further commits to developing the ICT bandwidth, currently, the capacity of the bandwidth to match the ever-increasing ICT demands is questionable.

The importance of ICT in education provision is further acknowledged in objective 5.1.4 of the Swaziland Digital Migration policy of 2013 (Ministry of Information and Communication Technology, 2013). This objective seeks to broadcast basic education programs for both in-school and out-of-school children of school-going age using the national television channel. What remains unknown is the accessibility of TV’s, especially to marginalized groups of society such as the rural dwellers.

One of the questions that beg answered is whether the existing policies were able to respond to the new situations related to the pandemic. Nakayiwa (2020) points out that Uganda saw the opportunity for testing the use of ICT’s, in particular when used for virtual and online teaching and learning, during the partial shutdown and closing of schools and learning institutions as a result of the COVID-19 pandemic. Eswatini found itself in a similar situation when the COVID-19 pandemic caused the breakdown of the traditional education system: could the country benefit from this hectic period to promote new teaching and learning opportunities through ICT’s to realize goal number four of its national Vision 2022?

Rethinking instruction in a developing country

The global coronavirus-related disruption has given educators (limited) time to rethink the sector and come up with alternatives to face-to-face instruction. Technology could fill the existing gaps and play a key role in educating future generations. It is vital for the role of the educator to change as current knowledge is a mere mouse-click away. Thus, the existence of the coronavirus could be the disruption that the education sector needed to reexamine how we educate our nations. The Kingdom of Eswatini is no exception to this change.

The World Association of Christian Communication for all (WACC) (2016) points out that the Kingdom of Eswatini, like most developing countries, has challenges in attaining its millennium development goals and “education for all” initiatives. Recent studies—such as Habibu, Clement, and Mamun (2012), Ghavifekr, Kunjappan, Ramasamy, and Anthony (2016), Alkahtani (2017), and Azzi-Huck and Shmis (2020)—all analyzed different developing countries and came to similar conclusions, namely that these nations lack infrastructure, expertise, and motivation to implement technology integration in the education system. In an effort to enhance access to quality education, Eswatini has created policies and strategies to harness the role of technology towards building a knowledge-based economy. The application of ICT’s in schools, perceived as a means of transforming the teaching and learning processes, has been met with significant enthusiasm. ICT is further perceived as a tool that will promote socioeconomic, political, and sustainable development.

It is of paramount importance to note that the inclusion of ICT’s in the education system has had an impact on curriculum development and delivery and that it continues to pose new challenges for education and training systems around the world (Okocha, 2020). Ngwenya et al.’s 2019 study on the availability and use of ICT tools for teaching and learning in Eswatini revealed

that while some urban schools have the necessary ICT tools, such tools are inadequate and inaccessible to all staff members and learners. The study concluded that there was a need to accelerate the use of ICT's for teaching and learning in the country.

Bhebhe and Maphosa (2016), examining teachers' computer literacy and ICT utilization in Eswatini, revealed that some schools lack digital tools to deliver the lessons while teachers have limited digital skills and knowledge to use ICT tools in the classrooms, echoed by Mkhabela, Nxumalo, & Bhebhe (2018). Okocha (2020) also revealed that most developing countries lacked adequate planning, adequate teacher training, and expertise for the introduction of ICT's in schools. Seemingly, inequalities in ICT distribution, lack of technical support, and inadequate infrastructure also contributed as key factors affecting the introduction, adoption, and integration of ICT's in schools. These challenges noted from 2000 onwards were an indication that the Kingdom would not be in a position to continue schooling after the COVID-19 lockdown, which meant learners and teachers alike were no longer allowed to physically attend their classroom-based classes.

Was the infrastructure to do so available? Where would the learners access online materials and instruction? Maseko (2011) revealed that the ICT industry in the Kingdom of Eswatini was characterized by a number of Internet Cafés that had a tendency of changing their locations and numbers. These Cafés were similar in infrastructure and had more or less the same amount of space which could only accommodate between 5 and 15 individuals at a go. This all meant the developing country did not have a strong culture of using ICT's. Thus, there is a need for more ICT infrastructures to be put in place for more practice and utilization even for teaching and learning in the country.

The learner and the instructor in today's world

It is important to rethink instruction in the current world as learners in institutions today are a generation that has grown up in an interconnected world. Due to this COVID-19 pandemic, learners are facing cancelled exams, sporting events, and even graduations (UNESCO, 2020b), yet this generation is distinct and defined by the technology in their hands. This generation can best be described using the terms FOBA (Fear of Being Alone) and FOMO (Fear of Missing Out). This implies a need for constant social contact and instant communication and feedback through apps, such as Messenger, Instagram, Snapchat, and WhatsApp messages from parents and educators (Luthra & Mackenzie, 2020).

In those parts of the world where technological resources are available, the learner has been prepared to work collaboratively with others to solve climate change (Popp, 2011; Varma & Linn, 2012) and mental health challenges (Van Der Merwe, 2019). Some learners have penetrated the world through social media and can communicate with the world through technology. The COVID-19 crisis may well change our world and our thinking on which transformations in the education sector are necessary to better prepare our learners for what the future might hold (Luthra & Mackenzie, 2020). As the educator rethinks the form of instruction to be given to today's learners, there is also a need to examine the equity of instruction in developing countries.

Eswatini embraced the notion of today's instructor as an educator and not a knowledge-holder who imparts wisdom to their pupils. The country is keen to redefine the role of the educator in the classroom and lecture theatre to a facilitator of young people's development to become contributing members of the education society (Luthra & Mackenzie, 2020). This is especially seen in that 21st-century learners are able to gain access to knowledge, and even learn a technical skill, through a few clicks on their phones, tablets, and computers.

Coronavirus disruptions and immediate solutions: Teaching and learning in difficult times

Late 2019 came with talks around the outbreak of coronavirus in Wuhan, China. Little did the world know that the virus would bring the world to a halt within the first four months of 2020 and call for a global response to mitigate the spread of the virus. Some of these emergency measures included the reduction of large crowds, which led to the closure of schools and institutions from pre-school to higher education (Patrinos & Shmis, 2020). The Kingdom of Eswatini had its yearly education system disrupted and left the educationists with an online option to education as gatherings were banned (Swazi Media Commentary, 2020).

This section looks at the current disruptions that COVID-19 brought forth to the teaching and learning environment. On the 11th of March 2020, the World Health Organization (WHO) declared COVID-19 as a global pandemic (Lau et al., 2020). This declaration called for immediate strategies to be in place to mitigate the spread of the virus.

Global lockdown

As a result of wanting to arrest the spread of the virus, most countries decided to lock down, which was characterized by movement restrictions in and out of the countries, as well as disruptions of air and road traffic. The immediacy of the lockdown had some devastating impacts on education systems, as well as national and social movements.

Schools' closure

On March 17th of 2020, Eswatini's government chose the most followed measure to counteract the eminent devastating effects of the COVID-19 and closed all schools and institutions of higher learning. Okocha (2020) laments that the closure of schools and universities threatened access to education and the school administration routine. The closure meant that learners were to stay and study at home, much to the dismay of the learners who had grown intimate with the traditional classroom approach.

The Ministry of Education and Training's (2018a) Swaziland national curriculum framework for general education avers that ICT should be offered as a subject from Grade 3 in Eswatini schools. Common practice had been to provide access to computers across the education system. Most of the learning institutions in Eswatini tended to subscribe to the notion that all that is necessary for learners to use technology for their learning is accessibility to a computer. One issue that is worth investigating is whether ease of access to a computer only is adequate to ensure learners' ICT's use for learning during the pandemic. The COVID-19 pandemic disruption has made it crystal clear that it is not.

Hargittai (2010) echoes that numerous young people can operate computers and other devices but cannot transfer these skills into the learning context. This implies that the learners require more than computer literacy. The pandemic has interrupted the normal practice of merely arming learners with computer skills and made a call for a shift to digital literacy as an essential need for learners across the education system. Digital literacy embraces a variety of practices, including computer literacy, media literacy, communication literacy, visual literacy, and technology literacy (Beetham & Sharpe, 2011). Learners with a positive experience with technology, devices, and know-how evade the risk of being ostracized. Moreover, as already noted above, the pandemic has uncovered the glaring need to support capacity strengthening for teachers on ICT skills. The pandemic has clearly demonstrated that teachers need technical support and that they remain significant to the learning process. The paradigm shift in terms of the teacher assuming a facilitator

role does not preclude the requirement for teachers to serve as leaders in the classroom in terms of lesson planning and follow-up.

As mentioned above, Nakayiwa (2020) points out that Uganda saw the partial shutdown and closing of schools and learning institutions as an opportunity to test the country's views and uptake of ICT's, as well as virtual and online learning. In many developing countries, online learning is seen as a noted paradigm shift from the 'old cheese'—traditional education which learners have enjoyed for times immemorial.

This new education dimension also landed on the parents, who had to become the immediate support structure for their children. Notably, not much time was allocated to developing a better understanding of the learners' socioeconomic background—how tech savvy are the parents and the learners? How accessible is the internet in their homes? What kind of support do the learners need? How are the parents expected to support the learners? While Gikas and Grant's findings from the United States' context revealed that students in institutions of higher learning own "mobile computing devices" (2013), which have improved their academic performance because they enable learning on the go, not much is known on how Eswatini's students use their mobile devices to continue learning from home.

Restricted contact between students and educators

Hlatswako (2020) reveals that more than 970 schools (primary and secondary) have been affected by closures due to the pandemic in the process, interrupting the rapport between students and educators. The contact between these two stakeholders pertaining to schoolwork is central to the achievement of students. Some students come from underprivileged backgrounds with very limited parental support while others lack strategies to work independently and are not resilient. The PISA report (2018) exposed that on average across OECD countries, amongst 15-year-old students there was just one in nine students able to navigate online learning on his/her own. In addition, 16% of the population in Eswatini is confronted with illiteracy challenges (Ministry of Education and Training, 2018b), leaving such learners during this pandemic in particular without a support system, either from the school or the home environment. In addition, some households do not have access to TV. While the decision to continue with the education program is supported, issues of inclusion and equity remain a challenge in the education sector.

Social distancing

The social distancing concept, which was later renamed physical distancing by some, refers to personal space (from 1/1.5 to 2/2.5 meters) between two people (Lau et al., 2020). The aim of distancing was to contain and reduce the spread of unidentified infections while also maintaining the health of those who were still negative from COVID-19 infection. Consequently, in addition to the schools and higher learning institutions, the proposed distancing locked down churches, cancelled large public gathering such as funerals, and restricted other community gatherings to a limited number ranging between 20 and 50 people (Lau et al., 2020). This impact of the closure of churches and important social gatherings is still examined.

Funerals form an important rite of passage in humanity, which is usually treated with cultural sensitivity in Africa, including in Eswatini. Failure to uphold the funeral cultural traditions and norms may result in spiritual and social implications (Social Science in Humanitarian Action Platform, 2020). Therefore, special considerations were made whereby only close family members and relatives could attend funerals. This led to the disruption of the African social responsibility

whereby a whole community comes together for the final send-off to pay their respects to the deceased.

National economy

Pouliakas (2020) discusses the majority of non-essential businesses being shut down and the working population being instructed to work from home, which can have a negative impact on family routine (see, for example, Hayes et al., 2020). Homes are places of socialization and family gatherings. However, the pandemic transformed our homes into both mobile offices and learning centers. For some workers, especially those who work in the informal sector, the closure of non-essential businesses threatened their jobs and financial security.

Remote working implied that such workers were technologically competent and possessed effective devices enabling them to work with minimal support while also coming up with creative ways to remain organized (Bishop, 2020). This paradigm shift compelled people to move out of their comfort zones—‘their old cheese’—and venture into the new unknown digital world (Bishop, 2020).

The economic impact is also visible at continental and national levels. Notably, the South African Rand has weakened by at least 11%. As a result, the Southern African Customs Union (SACU) members’ currencies, such as those of Lesotho and Eswatini, were adversely affected. Equally important, Southern Africa has experienced a significant decline in the tourism industry in high tourist attraction countries such as Zimbabwe, South Africa, Seychelles, Mauritius, and Zambia. Even though Eswatini’s income from tourism is lower than some of its neighboring countries, the fact that no tourists can enter the country will have a negative impact on its economy. In spite of the devastating global effects of COVID-19, governments had to devise strategies to ensure that the education provision continues through remote learning.

Responses

While in reality the closure of the schools could effectively suppress the spread of the virus, it was soon discovered that prolonged school closure could have devastating effects on the learners within the education system, which is why a decision was made to facilitate continuity of learning beyond the traditional classroom approach.

E-learning/home learning/remote learning

E-learning is seen as a remedy that provides flexible learning opportunities for students to study at the time convenient to them without compromising quality (Bender, 2020). Tinio states that e-learning “encompasses learning at all levels, both formal and non-formal, that uses an information network — the internet, an intranet (LAN) or extranet (WAN) — whether wholly or in part, for course delivery, interaction and/or facilitation” (as cited in Vaičiūnienė, Mažeikienė, & Oleskeviciene, 2013, p. 29).

The African Union’s Third Specialized Technical Committee on Education, Science, Technology, and Innovation (African Union, 2019) endorsed the following:

1. Digital connectivity of schools – internet connections in schools which would then be accessible to resource-deprived learners;
2. Online learning – deployment of various technological devices to deliver instruction material on a distance learning mode;
3. Teachers as facilitators and motivators of learning – teacher to identify various remote

- learning methods that would facilitate learning outside the classroom;
4. Safety online and offline – guiding against children’s exposure to cyber sexual harassment;
 5. Skill focused learning – a holistic learning approach whereby learning provides skills that are required in the 21st century job market.

The gist of the message is that education has to continue beyond the traditional teaching methods under the close guidance and facilitation of the teachers. Such education has to take into consideration the trending of the 21st century’s job market. Of critical importance is protection of children from online sexual harassment. Now, the question that remains is how ready are the Southern African countries to embark on online learning?

Most African countries have started implementing different e-learning platforms to ensure learning continuity. Angola embarked on the transmission of Tele-classes, which were aired over the Tele Aulas TV channel and was a collaborative effort between the Ministry of Education and the Public Television of Angola (UNESCO, 2020). The Central African Republic launched a collaborative effort between the Ministry of Education and Radio Ndeke Luka, with the support of Foundation Hirondelle, of daily e-learning programs aired over the radio at 17:05 pm. These classes were on basic numeracy and literacy using French and Sango as teaching languages (UNESCO, 2020). On the other hand, Botswana started e-learning under the auspices of the Ministry of Education and Skills Development (Ntshwarang, Malinga & Losike-Sedimo, 2021). The Batswana (people of Botswana) have since launched Botswana Education Television in April to facilitate online teaching and learning classes on a distance-learning mode (Ntshwarang, Malinga & Losike-Sedimo, 2021). Similarly, in South Africa, an established e-learning portal in the Western Cape was bilingual with English and Afrikaans learning resources accessible for teachers and learners. The South African Department of Education and Training developed online courses and materials for different grades and made them accessible for home study on the Department’s website (Association for the Development of Education in Africa (ADEA), 2020). In Zambia, the National Broadcasting Channel launched a teaching and learning program whose mandate is to broadcast online classes during and beyond the schools’ closure (UNESCO, 2020).

The Kingdom of Eswatini has also aggressively embarked on the provision of teaching and learning using different platforms. For instance, as of April 2020, through UNICEF’s support, the Ministry of Education and Training (MoET) took a stance to launch home curriculum support lessons for external examination grades—Grade 7, Form 3, and Form 5—as a contingency plan following the extension of the lockdown. The home learning programs were introduced on broadcast media (TV and radio stations), the internet (You Tube), and national newspapers (Times of Eswatini and Eswatini Observer). Reasons behind this significant and expeditious move include an attempt to mitigate the effects of COVID-19 disruptions on the school calendar and also to safeguard learners’ rights to education. The initiative was also launched in expectation of external examination preparation. Moreover, literature avers that 80% of the Eswatini population has access to radio (Daries & Valenzuela, 2020) and <https://www.mtn.co.sz/foundation/education>); hence MoET strongly believed that this program would provide a platform for most learners to continue with learning countrywide, regardless of their geographic settings. In July 2020, it was reported – perhaps a bit prematurely - that, in Eswatini, online learning has become the new normal during coronavirus. (Daries & Valenzuela, 2020).

In carrying out this initiative, MoET partnered with Eswatini TV, Eswatini Broadcasting and Information Service (EBIS), Times of Eswatini, and Eswatini Observer. Daries and Valenzuela (2020) affirm that the first lessons on core subjects were aired on TV and radio within ten days of school closure, while elective lessons were published in the local daily newspapers from Monday to Friday. Moreover, as of June 2020, 4,216 lessons’ language of tuition remains English, and 51 are

delivered in siSwati. Lessons on core subjects were broadcast on TV for 3.5 hours daily and 10 hours on the radio. As a measure to adhere to inclusivity principles, the lessons were presented with a component on sign language interpretation. This proved to be an initiative that was positively received by some students, parents, and teachers.

A testimony from a 12-year-old male Grade 7 student from the Manzini region in May 2020 indicated that learning at home provided an opportunity for support from siblings in elucidating complex concepts (Daries & Valenzuela, 2020). A Form 3 female student from Cana, a rural place in the Manzini region, expressed positive sentiments about the initiative but lamented the fact that some learners in her community missed lessons due to non-accessibility to electricity, radios, and television sets (Daries & Valenzuela, 2020). It was also noted that some parents bombarded students with household chores, so some were not able to participate in the program. A survey carried out by UNICEF at Ka-Schiele High School (Form 5 students) in Mbabane through raising hands in July 2020 reflected that 13 out of 17 students participated in the program and valued it (Daries & Valenzuela, 2020).

While this initiative was acknowledged as a rapid response that had a positive impact, it was noted that students and parents in some rural areas were in the dark about its existence (Mkhonta, 2020). Key challenges included having no access to electricity, radio, TV, or any other technology and having no shops in the vicinity to buy newspapers. Some parents highlighted that they could not afford a daily supply of newspapers as they experienced a hunger wave due to the COVID-19 pandemic (Mkhonta, 2020). Students from poor households without digital tools or access to radio, TV, and newspapers cannot access these opportunities to learn, which exacerbates inequalities. Other noted worrying aspects were inadequate teacher training (Vilane, 2020). Moreover, this initiative targeted students taking external examinations, which watered down efforts to provide education to all learners. When external examinations started in November 2020, the airing and publishing of lessons was extended to Grade 6, Form 2, and Form 4 students until mid-December 2020, but many students were still disadvantaged by not being able to access the learning opportunities in time. Furthermore, the program did not have a feedback mechanism in place, which meant that stakeholders with opinion, comments, suggestions or questions had nowhere to submit these.

Institutions of higher learning such as the University of Eswatini (UNESWA) and the Southern Africa Nazarene University (SANU) have employed various platforms to engage learners during the closure. These platforms include Moodle, Google Classroom, Edmodo, WhatsApp, and email. The flipside of these platforms is that they do not accommodate all students' socioeconomic backgrounds, especially those who come from humble beginnings without electrified homes and smartphones.

The above challenges imply that the Kingdom of Eswatini, like most developing countries, was found unprepared to continue school using synonymous delivery modes to what countries like China put in place (Azzi-Huck & Shmis, 2020). This unpreparedness is not foreign to the Kingdom as was already noted by Madzima, Dube, and Mashwama (2016) in their study of ICT learning in secondary Swazi schools. The study revealed inadequacies in a) planning for the integration of ICT's in schools, b) teacher training or lack of expertise in using ICT's on the part of teachers, and c) inequities in ICT distribution, lack of technical support, and inadequate infrastructure affecting the adoption and integration of ICT's in schools.

Vaičiūnienė, Romeris, & Mažeikienė (2013) lament that effective implementation of technological instruction requires planning and decision-making considerations, which include the following: a) the audience/location and additional support that may be required, b) the goals of the teaching and learning activity, and c) the appropriateness of the teaching methods in order to enhance collaboration between the learners and the teacher to match the technology with the

audience so that it accommodates their sociocultural and economic background. In light of these concerns, South Africa discovered that, in spite of the learning opportunities that online learning brings, care has to be taken on the characteristics of its consumers. For instance, most of the students come from humble beginnings and are rural-based, and they attend under-resourced schools with limited or no access to internet facilities (Mbodila, 2020). Students hailing from the rural areas seemingly struggle to connect because of poor infrastructure while others struggle to have sufficient data bundles to enable them to log on and download learning resources. Henceforth, such students become what Mbodila (2020) refers to as “digital strangers,” a characteristic that becomes an impediment to equitable access to teaching and learning. Notably, while e-learning is applauded for bringing learning to the learners, care has to be taken of the ever-escalating digital divide between the haves and the have not’s. Similarly, educators have to take into cognizance the gap that exists between classroom teaching and home learning and identify applications that will reduce such gaps (Bishop, 2020).

Mbodila (2020) further cautions that, while most of the students might be considered as “digital natives” because they have had exposure to digital devices such as cellphones, they mainly use such devices for social activity and collaboration. Therefore, according to Mbodila (2020), it becomes a challenge for such students to translate their social media use and experience into an online learning resource. In the situation of COVID-19, online learning was mostly advocated for as an immediate remedial action that came with very limited support to help the ‘digital stranger.’ This implies a need for the education field to develop a deeper understanding of the learners’ diverse sociocultural and economic backgrounds in order to develop strategies that accommodate vulnerable and marginalized learners.

In another study conducted in the South African higher education context, Krull (2020) opined that lecturers have to self-assess the online material before delivering such to the learners. He further identified three critical areas for such self-assessment, namely teaching presence, cognitive presence, and social presence. Teaching presence refers to the design of learning instruction and guiding the students to ensure they attain the desired learning objective. Coupled with the above-mentioned, Krull (2020) indicated a need for the teacher to make prior assessment of the students’ social settings and the level at which such students can access the internet. Krull (2020) highlighted the role of communication between the teacher and students as key in effective remote learning. The second critical area, cognitive presence, concerns itself with the learners’ knowledge construction. Central to this factor is the user-friendly material that also allows the students to make meaning out of what they are learning. Krull (2020) also factors the need for such material to be broken into manageable workloads that would not require a lot of data for downloading. The last area for consideration is social presence whereby emphasis is on creating a community of learning where students interact with the learning content within a social group. The role of the teacher is to guide the discussion and make comments on the learners’ contributions. Based on Krull’s (2020) submissions, development of remote learning material has to be learner-centered to encompass the learner’s social environment and the contribution it plays in reinforcing learning.

Recommendations and conclusion

Stakeholder’s engagement

From a funding and general oversight perspective, government has been for a long time the body that funds and supervises education. The pandemic fast-tracked the establishment of partnerships with mobile telecommunication providers and broadcasting corporations to enable educators and learners to access educational platforms at competitive rates. In April 2020, Eswatini MTN and

Eswatini Mobile (two major providers) introduced study bundles for students at reasonable rates as an initiative to facilitate learning during lockdown. This exemplifies how government and private institutions can work together for a common goal.

Reshaping of tuition agenda

Deliberations of the advancement of the education program have always been dominated by tertiary institutions. The COVID-19 pandemic has evoked a paradigm shift in the way we perceive tuition provision. Most primary and secondary schools depended on the official school calendar to advance the tuition agenda. To ensure the advancement of the inclusion and equity education agenda, attempts have been made by the Ministry of Education and Training of Eswatini to use TV and radio channels to assist with the continuation of the educational program. Merits of these innovations include the combination of traditional and new-age technologies that have the ability to reach a wider audience within Eswatini. According to the World Bank (2017), radio coverage is 85% of the population, and there are 1,052,000 mobile phone subscribers in Eswatini, which makes it possible to reach rural remote communities in a cost-effective manner. Over the past decade, educational technologists have criticized the learning by radio and TV phenomenon because of the absence of continuing contact and interaction between instructor and learners. The pandemic has exposed radio and TV as viable tuition delivery alternatives to the traditional face-to-face, which, however, needs modification of certain critical practices to ensure effective tuition provision. These developments in the education sector have the potential to facilitate the learning of new skills.

Our article sought to discuss how the small Kingdom of Eswatini in Southern Africa reacted to the onslaught of COVID-19 on the provision of teaching and learning. In a developing country already struggling to integrate ICT's in its education system, the pandemic has simultaneously caused havoc by disturbing traditional classroom instruction and offered an opportunity to think about future schooling. It is recommended that, once the coronavirus spread has been reduced, time is given for enhanced collaboration between the Ministry of Education and Training and the higher learning institutions of the country, parents, and students/learners so that a more flexible and responsive system can be devised.

While the pandemic will have a devastating impact on the country's socioeconomic situation for years to come, as stakeholders in the education system, we have to ensure that the consequences for the teaching and learning environments, processes, and procedures are mitigated. Online and remote learning can be seen as a valid option for the future if and when participants' backgrounds and motivations are taken into account. Research needs to examine if the immediate solutions (closure of schools, redirection to online learning in the universities, offering of learning resources via print media, television and radio) will be/have been beneficial to a generation of young people.

Epilogue

Today, six months after writing our article, the world has continued to change. So has the Kingdom of Eswatini. The impact on the education sector is significant. With regard to policy development, nothing much has changed as the education sector is still in emergency mode trying to find ways to reopen schools for all grades and forms. At the end of 2020, examinations for Grade 7, Form 3 and Form 5 were held. Results are out and the Ministry of Education described them as the best in the last five years. What does this mean exactly? Further research is needed to find out what the impact of the protracted out-of-school experience is for young learners, how the ICT sector has played a role in improving online teaching and learning, what can be expected in the months and years to come. Schools and universities reopened on the 29th of March 2021. Major questions remain: is

Eswatini prepared enough? Will teachers and learners be safe? Will learning take place while the pandemic is still ongoing? How will all this impact people's future?

Acknowledgements

The authors wish to acknowledge the University of Eswatini (UNESWA) and Southern Africa Nazarene University (SANU) for their support in terms of time and resources that enabled the production of this paper.

References

- ADEA. (2020). Abidjan, April 2020 Delivering education at home in African member states amid the COVID-19 pandemic: Country status report. UNESCO – Global Education Coalition: Retrieved from: <https://en.unesco.org/covid19/educationresponse/globalcoalition>
- African Union. (2019). Joint AUC/UNICEF statement to member states on response of the education sector to COVID-19 to ensure continuity of learning. Retrieved from <https://edu-au.org/news/announcements-and-opportunities/237-au-statement-on-response-of-the-education-sector-to-covid-19>
- Alkahtani, A. (2017). The challenges facing the integration of ICT in teaching in Saudi secondary schools. *International Journal of Education and Development using Information and Communication Technology*, 13(1), 32-51. Retrieved from: <https://www.learntechlib.org/p/180215/>
- Azzi-Huck, K., & Shmis, T. (2020). Managing the impact of COVID-19 on education systems around the world: How countries are preparing, coping, and planning for recovery. World Bank Blogs. Retrieved from <https://blogs.worldbank.org/education/managing-impact-covid-19-education-systems-around-world-how-countries-are-preparing>
- Beetham, H., & Sharpe, R. (2011). Digital literacies workshop. Paper presented at the JISC learning literacies workshop, Birmingham, Alabama. Retrieved from <http://jiscdesignstudio.pbworks.com/w/page/40474566/>
- Bhebhe, S., & Maphosa, C. (2016). Examining teachers' computer literacy and utilization of ICTs in teaching and learning at primary school level. *Journal of Communication*, 7(2), 231-240. Retrieved from: https://www.researchgate.net/profile/Sithulisiwe_Bhebhe/publication/321207711_Examining_Teachers'_Computer_Literacy_and_Utilization_of_ICTs_in_Teaching_and_Learning_at_Primary_School_Level/links/5e1867d992851c8364c0814d/Examining-Teachers-Computer-Literacy-and-Utilization-of-ICTs-in-Teaching-and-Learning-at-Primary-School-Level.pdf
- Bhebhe, S., Ngwenya, S., & Nxumalo, Z. G. (2019). The availability and use of information and communication technology tools for teaching and learning English as a second language in Eswatini primary schools. *Think India Quarterly Journal*, 22(2), 115-137. Retrieved from: https://www.researchgate.net/profile/Sithulisiwe_Bhebhe/publication/338503625_THINK_INDIA_Quarterly_Journal_The_availability_and_use_of_Information_and_Communication_Technology_tools_for_teaching_and_learning_English_as_a_Second_Language_in_Eswatini_primary_schools_THINK_INDIA_/links/5e186ac292851c8364c081d6/THINK-INDIA-Quarterly-Journal-The-availability-and-use-of-Information-and-Communication-Technology-tools-for-teaching-and-learning-English-as-a-Second-Language-in-Eswatini-primary-schools-THINK-INDIA.pdf
- Bishop, K. (2020). We are embracing tech during lockdown – but can it replace the classroom? *The Guardian International Edition*, Friday April 24, 2020. Retrieved from:

- https://www.theguardian.com/technology/2020/apr/24/remote-learning-classroom-technology-coronavirus?CMP=share_btn_fb
- Daries, N. & Valenzuela, C. (2020). In Eswatini, online learning has become the new normal during coronavirus. Retrieved from: <https://www.globalpartnership.org/blog/eswatini-online-learning-has-become-new-normal-during-coronavirus>
- Ghavifekr, S., Kunjappan, T., Ramasamy, L., & Anthony, A. (2016). Teaching and learning with ICT tools: Issues and challenges from teachers' perceptions. *Malaysian Online Journal of Educational Technology*, 4(2), 38-57. Retrieved from: <https://eric.ed.gov/?id=EJ1096028>.
- Gikas, J., & Grant, M. M. (2013). Mobile computing devices in higher education: Student perspectives on learning with cellphones, smartphones & social media. *Internet and Higher Education*, 19, 18-26. Retrieved from: <https://doi.org/10.1016/j.iheduc.2013.06.002>
- Habibu, T., Abdullah-Al-Mamun, Md. & Clement, C. K. (2012). Difficulties faced by teachers in using ICT in teaching-learning at technical and higher educational institutions of Uganda. *International Journal of Engineering Research & Technology (IJERT)*, 1(7), 1-9. Retrieved from <https://www.researchgate.net/publication/281349386>
- Hamid, Z., Bisschoff, C., & Botha, C. (2015). An analysis of the Swaziland public educational environment and its role-players. *Problems and Perspectives in Management*, 13(2-1), 129-142. Retrieved from: [http://www.irbis-nbuv.gov.ua/cgi-bin/irbis_nbuv/cgiirbis_64.exe?C21COM=2&I21DBN=UJRN&P21DBN=UJRN&IMAG E_FILE_DOWNLOAD=1&Image_file_name=PDF/prperman_2015_13_2\(contin.\)__3.pdf](http://www.irbis-nbuv.gov.ua/cgi-bin/irbis_nbuv/cgiirbis_64.exe?C21COM=2&I21DBN=UJRN&P21DBN=UJRN&IMAG E_FILE_DOWNLOAD=1&Image_file_name=PDF/prperman_2015_13_2(contin.)__3.pdf)
- Hayes, S. W. Priestley, J. Ishmakhametov, N. & Ray H. (2020). I'm not Working from Home, I'm Living at Work?: Perceived Stress and Work-Related Burnout before and during COVID-19. <https://www.researchgate.net/publication/342800932>
- Hlatshwayo, G. (2016). Swaziland data ecosystem mapping report. Background paper prepared for the Government of Swaziland and UNDP (unpublished). Retrieved from [https://www.undp.org/content/dam/2030agenda/Publications/data-for-development/Swaziland%20-%20Data%20Ecosystems%20Mapping%20Report_Final_Dr.%20Godwin%20Hlatshwayo%20\(05.31.16\).pdf](https://www.undp.org/content/dam/2030agenda/Publications/data-for-development/Swaziland%20-%20Data%20Ecosystems%20Mapping%20Report_Final_Dr.%20Godwin%20Hlatshwayo%20(05.31.16).pdf)
- Hlathswako, S. (2020). SNAT's 15 demands for schools reopening. *Times of Swaziland*. <http://www.times.co.sz/news/128116-snat-s-15-demands-for-schools-reopening.html>
- Isaacs, S. (2007). Survey of ICT and education in Africa: Swaziland country report. infoDev. Retrieved from http://www.infodiv.org/infodiv-files/resource/InfodivDocuments_431.pdf
- Kingdom of Swaziland. (2013a). *Swaziland terrestrial digital television migration policy*. Mbabane: Ministry of Information, Communications and Technology.
- Kingdom of Swaziland. (2013b). *National information and communications infrastructure (NICI): Policies, strategies and plan implementation plan, 2012-2016*. Mbabane: Ministry of Information, Communications and Technology.
- Krull, G. (2020). Ready for remote teaching? Considerations for engaging remote learning experience. Higher Education Learning and Teaching Association of South Africa (HELTASA). Retrieved from: <https://heltasa.org.za/ready-for-remote-teaching-considerations-for-designing-an-engaging-remote-learning-experience/>
- Lau, H., Khosrawipour, V., Kocbach, P., Mikolajczyk, A., Schubert, J., Bania, J., & Khosrawipour, T. (2020). The positive impact of lockdown in Wuhan on containing the COVID-19 outbreak in China. *Journal of Travel Medicine*, 27(3), 1-7. <https://doi.org/10.1093/jtm/taaa037>
- Luthra, P., & Mackenzie, S. (2020). 4 ways COVID-19 could change how we educate future

- generations. World Economic Forum. Retrieved from <https://www.weforum.org/agenda/2020/03/4-ways-covid-19-education-future-generations/>
- Madzima K., Dube E. L., & Mashwama P. M. (2016). ICT education in Swaziland secondary schools: Opportunities and challenges. Retrieved from http://www.appropriatetech.net/images/5icat/papers_knowledge_transfer.pdf
- Magagula, C. (1990). *Implementing educational policies in Swaziland*. World Bank Discussion Papers No. 88. Africa Technical Department Series. Washington, D. C.: World Bank.
- Maloney, J., Colias, M., & Ziobro, P. (2020, April 20). Businesses strive to reopen from Coronavirus shutdown: As attention turns to restarting the American economy, companies are deploying a range of tactics to try to defend their workforces from the contagion. *The Wall Street Journal*. Retrieved from <https://www.wsj.com/articles/the-corporate-coronavirus-plan-to-reopen-make-it-up-as-you-go-11587404618>
- Marangunić, N., & Granić, A. (2015). Technology acceptance model: A literature review from 1986 to 2013. *Universal Access in the Information Society*, 14, 81–95. Retrieved from: <https://doi.org/10.1007/s10209-014-0348-1>
- Marope, M. (2010). *The education system in Swaziland: Training and skills development for shared growth and competitiveness*. World Bank Working Paper No. 188. Africa Human Development Series. Washington, D. C.: World Bank.
- Maseko, N. (2011). Feasibility study on the ICT industry in Swaziland. Academia. Retrieved from https://www.academia.edu/8898658/Information_Communication_Technology_in_Swaziland?auto=download
- Mbodila, M. (2020). Online learning – The pandemic cannot change reality. University World News: Africa Edition. Retrieved from Retrieved from: <https://www.universityworldnews.com/post.php?story=20200420130222745>
- Ministry of Education and Training (2018a). *Swaziland national curriculum framework for general education*. Mbabane: Government of Swaziland.
- Ministry of Education and Training. (2018b). The national education and training improvement programme 2018/19 – 2020/2021. The government of Eswatini. Eswatini: http://planipolis.iiep.unesco.org/sites/planipolis/files/ressources/eswatini_netip.pdf
- Ministry of Education and Training. (2011). *The Swaziland education and training sector policy (EDSEC)*. Mbabane: Government of Swaziland.
- Mkhabela, B. R., Nxumalo, Z. G., & Bhebhe, S. (2018). Digital literacy and utilization of ICTs in teaching and learning. *International Journal of Informatics, Technology & Computers*, 1(1), 1-8. Retrieved from: <https://zambrut.com/digital-literacy-utilisation-icts-teaching-learning/>
- Mkhonta, P. (2020). What is this home learning? *Times of Swaziland*. 27 April 2020. Retrieved from: times.co.sz/news/128048-%E2%80%98what-is-this-home-learning-%E2%99.html
- Nakayiwa, F. M. (2020). Online learning in universities – A missed opportunity? University World News: Africa Edition. Retrieved from <https://www.universityworldnews.com/post.php?story=20200413083638806>
- Ngwenya, S. Bhebhe, S. & Nxumalo Z. G. (2019). The availability and use of Information and Communication Technology tools for teaching and learning English as a second Language in Eswatini primary schools. *Think India Quarterly Journal*. Vol. 22 Issue 2 pp. 115-137. https://www.researchgate.net/profile/Sithulisiwe-Bhebhe/publication/338503625_THINK_INDIA_Quarterly_Journal_The_availability_and_use_of_Information_and_Communication_Technology_tools_for_teaching_and_learning_English_as_a_Second_Language_in_Eswatini_primary_schools_THINK_INDIA_/links/5e186ac292851c8364c081d6/THINK-INDIA-Quarterly-Journal-The-availability-and-use-of-

- Information-and-Communication-Technology-tools-for-teaching-and-learning-English-as-a-Second-Language-in-Eswatini-primary-schools-THINK-INDIA.pdf
- Ntshwarang, P. N., Malinga, T. & Losike-Sedimo, N. (2021). eLearning tools at the University of Botswana: Relevance and use under COVID-19 crisis. *Higher Education for the Future*, 8(1) 142–154. DOI: 10.1177/2347631120986281
- Okocha, S. (2020). Poor internet brings academic work to a virtual standstill. *University World News: Africa Edition*. Retrieved from <https://www.universityworldnews.com/post.php?story=20200408203452445>
- Patrinós, H. A., & Shmis, T. (2020). Can technology help mitigate the impact of COVID-19 on education systems in Europe and Central Asia? The World Bank. Retrieved from <https://blogs.worldbank.org/europeandcentralasia/can-technology-help-mitigate-impact-covid-19-education-systems-europe-and&usg=AOvVaw0uFqN97cj3zjU5zjTXId3c>
- Popps, D. (2011). International technology transfer, climate change, and the clean development mechanism. *Review of Environmental Economics and Policy*, 5(1), 1–23. Retrieved from: <https://doi.org/10.1093/reep/req018>
- Pouliakas, K. (2020). *Working at home in Greece: Unexplored potential at times of social distancing?* Aberdeen: The IZA Institute of Labor Economics.
- Social Science in Humanitarian Action Platform. (2020). COVID-19: Strategies to support those affected by deaths during the outbreak: Psychosocial impacts of changing practices. Retrieved from www.socialscienceinaction.org
- Surendran, P. (2012). Technology Acceptance Model: A survey of literature. *International Journal of Business and Social Research*, 2(4). Retrieved from: <https://thejournalofbusiness.org/index.php/site/article/view/161/160>. DOI: <https://doi.org/10.18533/ijbsr.v2i4.161>
- Swaziland (2018) Literacy rate. Retrieved from: <https://countryeconomy.com/demography/literacy-rate/swaziland>
- Swazi Media Commentary. (2020). Swaziland: Calls for ban on public gatherings and border closure as Eswatini hit by Coronavirus. AllAfrica. Retrieved from <https://allafrica.com/stories/202003150161.html>
- UNESCO. (2020). National learning platforms and tools. Retrieved from <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwi21ObjwOvvAhXpSxUIHZJiAx0QFjAAegQIAxAD&url=https%3A%2F%2Fen.unesco.org%2F covid19%2Feducationresponse%2Fnationalresponses&usg=AOvVaw3PKJ2F-9kJsSuaAtxOImMq>
- Vaičiūnienė, V., Romeris, M., & Mažeikienė, V. (2013). Social media in adult education: Insights gained from Grundtvig learning partnership project “institutional strategies targeting the uptake of social networking in adult education (ISTUS)”. *Socialines Technologijos/ Social Technologies*, 2(2), 473–482. Retrieved from: https://www.mruni.eu/en/mokslo_darbai/st/apie_leidini/index.php
- Van Der Merwe, D. (2019). Exploring the relationship between ICT use, mental health symptoms and wellbeing of the historically disadvantaged Open Distance Learning student: A case study. *Turkish Online Journal of Distance Education-TOJDE*, 20, (1, 3), 35-52. Retrieved from: <https://orcid.org/0000-0002-0710-3366>
- Varma, K. and C. Linn, M. C. (2012). Using Interactive Technology to Support Students’ Understanding of the Greenhouse Effect and Global Warming. *Journal of Science Education and Technology*, 21, 453–464. DOI: 10.1007/s10956-011-9337-9

- Vilane, B. (2020). Primary Schools online learning a scam. *Times of Swaziland*. 25 June 2020. Retrieved from: <http://www.times.co.sz/truth-to-power/128808-primary-schools-online-learning-a-scam.html>
- WACC Communication for all (2016). Local media and digital frontiers: Swaziland Community Multimedia Network. Retrieved from <http://www.waccglobal.org/articles/local-media-and-digital-frontiers>
- World Bank. (2017). *The World Bank annual report: End extreme poverty boost shared prosperity*. Washington DC: World Bank