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# THE LEARNING EXPERIENCE OF A VISUALLY IMPAIRED LEARNER REGARDING EMERGENCY BLENDED TEACHING AND LEARNING AT A HIGHER EDUCATION INSTITUTION

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## ABSTRACT

*Disability or impairment in general does not deprive one of the rights to basic human needs and care. However, often people with disabilities encounter barriers such as unfriendly infrastructure to access basic services such as education and health care. In this paper the authors explore the experiences of learners with visual impairment on the implementation of blended learning to thwart the challenges of COVID-19 in institutions of higher education. This narrative case study employed a telephonic semi-structured interview guide to collect data on a visually impaired learner enrolled with the University of Eswatini (UNESWA). There were two research questions that the study sought answers for: what was the learning experience of a visually impaired learner regarding blended learning during COVID-19? And, how did a visually impaired learner cope academically during the emergency blended learning and teaching? The study found the following: a) incompatible devices; b) poor internet connection; c) challenges to log onto and manoeuvre Moodle and d) a need for a step-by-step guide to help the visually impaired learner to master the Moodle platform. Thus, the study recommends a) awareness creation on disability issues; b) installation of JAWS software in the computer labs; c) intensive Moodle training for visually impaired learners; d) a need for a resource centre that caters for different impairments, e) technologically savvy lecturers to troubleshoot and f) institutional opportunities for learners to procure affordable devices.*

Keywords: JAWS; assistive technology; visual impairment; disabilities; Moodle; blended learning.

## 1. INTRODUCTION

COVID-19 has speeded up the implementation of blended learning; a rapid change that has brought a lot of change and challenges for learners with disability. For instance, the world came to a halt following the global mandate for closure of higher education institutions (HEI) in March

2020 to mitigate the spread of the disease and placed decision-makers in a tight position of ensuring that education continued through other means besides face-to-face teaching and learning. One such strategy was blended learning – “a combination of contact teaching with a teacher and of a self-contained preparation using on-line education” (Hubackova & Semradova, 2016:552), which is gaining significant global momentum.

Nazarenko praises blended learning as an approach that preserves traditional teaching and learning methods while also “handing over” (2015:77) some educational functions to digital learning. This means that blended learning as a “a fundamental shift in instructional strategy” (Watson, 2008:6) blends or mixes face-to-face with digital teaching and learning methods to serve three main purposes, namely those of effectiveness, access and affordability of education (Graham, 2009).

Some of the advantages of blended learning include facilitation of accessible individualised flexible self- (paced and directed) learning on the move. Also, blended learning promotes collaborative learning “of varied interaction patterns in a synchronous/asynchronous” mode (Medina, 2017: 42). In addition, the learners gain time management as well as digital literacy skills in the comfort of their homes while allowing simultaneous multiple tasking (Medina, 2017). This flexible nature of blended learning implies that visually impaired learners too can benefit from blended learning in the comfort of their own homes. However, more research is required to explore the experiences of visually impaired learners regarding blended learning during COVID-19 era.

Given the socio-economic dilemma that most learners face in HEI in nations such as the Kingdom of Eswatini (formerly Swaziland), blended learning could come in as a remedy that opens up access to teaching and learning to the marginalised groups of society such as those living with visual impairment. Latchem (2017) argues that inclusion of Information and Communication Technologies (ICTs) supports UNICEF’s vision towards education inclusion. Leporini and Buzzi (2007) also applaud ICTs in education for breaking barriers of education access. This is echoed by Nisar, Munir and Shad (2014) who discovered the positives of ICTs in Pakistan’s education system. However, Nisar and colleagues posit that ICTs in education have to be affordable and accessible by all learners, including those with visual disabilities (Leporini & Buzzi, 2007).

While scholars generally applaud the remedial role of BL there are challenges that come with this approach. For instance, Vaugnan (2007) explored the perspectives of BL in higher education and discovered limited commitment to self-directed learning as well as limited access to and ownership of modern technological resources that come with sophisticated applications to access remote learning. In the same vein, Smyth, Houghton, Cooney and Casey (2012) understudied postgraduate students in Ireland and identified some of the BL challenges such as: a) lack of non-verbal cues, b) time consumption, c) technological illiteracy, d) access to and ability to navigate the learning tools and that e) technology overshadows the traditional teaching roles. In addition, Simui *et al.* (2018) identify limited access to information and infrastructure such as roads, transport and buildings coupled with orientation and mobility limitations for visually impaired learners.

Another study by Fichten *et al.* (2009), which focused on the problems and solutions of e-learning for learners with a disability in institutions of higher education in Canada, revealed limited access to online learning material and learning platforms such as audio and video material and adaptive technologies as major impediments for learners with a disability. The

study also found that learners with disabilities needed flexible time to attempt and complete online assessments.

These limitations tend to reinforce disability – (inability/limited functionality) as opposed to the learners' actual impairments (Simui *et al.*, 2018). This implies the need for decision makers to make proactive decisions and plans that are cognisant that no one is immune to disability; hence, proper prior planning to accommodate the frail nature of human beings (Siebers, 2007).

This narrative case study interrogates equity and access to blended learning by marginalised visually impaired learners. Simui *et al.* (2018) argue from the Zambian context echoed by Mutanga (2017) from South Africa that learners with a disability are relegated to the periphery in terms of access to social services. For instance, some African societies consider disability as a bad omen (Thwala, Ntinda & Hlanze, 2015) which could result in such a child being denied access to education (Mutanga, 2017); the notion that counteracts Simui *et al.* (2018).

For Simui *et al.* (2018), individuals with different forms of impairments also have basic human needs such as access to services, freedom of choice, love and education. Nonetheless, the attitudes and reactions of “non-disabled people” (Simui *et al.*, 2018:164) degrade people with different forms of disabilities. Such unwelcoming attitudes and environmental settings further intensify the learners' impairment by rendering such learners unable (disabled) beyond their actual impairments (Johnson, 2003). A need for a conducive environment that accommodates people with disabilities unconditionally is highlighted (Siebers, 2007).

While much has been done globally to avert the devastating impact of COVID-19 (WHO, 2020), visually impaired learners in particular are systematically marginalised from mainstream educational systems, in relation to access to online teaching and learning resources. Traditionally, learners with visual impairment could not perform at the same level as the “normal learners” because of the mismatch between their functional abilities and social demands (Eide & Jele, 2011). In most cases, the institutional infrastructure was unfriendly to their diverse needs, medical ones included. A few examples of insufficient resources is the teaching staff's limited skills in Braille, signed languages, technical support as well as the lack of access to assistive software in the computer laboratories (Mouzakis, 2008; Mwakye, 2013) which relegates those marginalised learners to the periphery in terms of education access.

Simui *et al.* (2018) argue that there are positive efforts made to accommodate learners with visual impairment in lower education. However, the gap still remains in institutions of higher education. Seemingly according to these authors BL for learners with visual impairment experiences a) negative learner perceptions towards online learning; b) lack of policies that support inclusive education; c) an unfriendly teaching and learning environment; d) exclusive pedagogy as well as; e) insufficient orientation and mobility training programmes for learners with visual impairment. Based on these arguments, the authors were keen to explore the experiences of learners with visual impairment enrolled with the University of Eswatini (UNESWA).

Before COVID-19 the plight of learners with disabilities in HEI has always been topical with emphasis on the unfriendly infrastructure that did not accommodate the diversity of the learner community. For instance, while the computer laboratories have installed the Job

Access With Speech (JAWS<sup>1</sup>) software, an Assistive Technology<sup>2</sup> that helps visually impaired<sup>3</sup> learners, there is little else to accommodate different medical conditions. This situation further escalated during the COVID-19 pandemic which came with limitations on mobility and social distancing as precautions against the spread of the virus.

Notably institutional student support for learners with disabilities should transcend the needs identification stage to reach the putting in place of learning environments that support the diverse conditions presented by the learners (Fossey *et al.*, 2015). Ngubane-Mokiwa applauds the University of South Africa for its disability policy and a “well-resourced library” (2018:2) in support of visually impaired learners. However, she laments that most institutions of higher education such as UNESWA lack the necessary infrastructure that supports visually impaired learners. Along the same lines, Ngubane-Mokiwa (2020) argues that the rapid transition from traditional teaching and learning to online learning did not only escalate the exclusion of learners with disabilities by introducing a rapid e-learning approach that did not accommodate the diverse learner impairments. For instance, use of visual presentations such as power point that excluded the visually impaired learners. Also, not much preparation was done to harmonise the Learning Management System with the needs of the visually impaired learners; an implication of major institutional gaps in learner support.

Similarly, Gunawardane and Fernando (2020) conducted a study on the readiness of HEIs of Sri Lanka to accommodate the educational needs of the learners with disabilities during the pandemic. They found that shifting from the classroom-based offering to an offsite mode brought about “digital isolation” (2020: 13) for the visually impaired learners with challenges of limited computer literacy skills coupled with absence of assistive technology that then impacted on their access to online teaching and learning. For instance, institutions of higher education implemented offsite learning without prior training of the visually impaired learner on how to manoeuvre the LMS to access teaching and learning material as well as messages from the lecturers. This implied unequal access to teaching and learning material between the disabled and the non-disabled learners (Gunawardane & Fernando, 2020). The latter also highlighted while issues of access to technological devices due to the limited “purchasing power of technological supportive equipment” (ibid: 13), the prevalence of COVID-19 further barred these learners from access to quality and equitable education that the authors further associated with insensitivity of the decision-makers and a disconnect between the policy and the implementation of appropriate measures to execute such policies in HEI. Henceforth, the learners with disabilities were caught in the middle between their impairment and the shift in the education provision. Findings by Gunawardane and Fernando (2020); Ngubane-Mokiwa (2013; 2020) and those of Fossey *et al.* (2015) reveal similar issues that learners with disabilities face globally, including in Eswatini.

- 1 One of the most important technologies for someone who is blind to access a computer is a screen reader. This is software that interacts with the operating system that reads aloud elements on the screen and allows the user to navigate and select elements. In addition to Voiceover and Talkback, there is JAWS for Windows and NVDA for Windows, a free open-source screen reader.
- 2 Assistive technology refers to “any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified or customised, that is used to increase, maintain or improve functional capabilities of individuals with disabilities (as defined by the 2004 Individuals with Disabilities Education Improvement Act or IDEA promulgated in the USA).
- 3 Defined in terms of function to describe the vision of individuals who have uncorrectable vision loss to the extent that they qualify for extra educational support (encompasses both low-vision and blindness).

## 2. BACKGROUND/CONTEXT OF THE STUDY

Set against the Kingdom of Eswatini's higher education context, this paper focuses on the University of Eswatini (UNESWA) whose traditional education provision faced a drastic change following the repercussions brought about by COVID-19 starting in March 2020. UNESWA, like many other HEI in the region, adopted the Modular Object Orientated Dynamic Learning Environment (MOODLE) as "her" Learning Management System (LMS) as early as 2008 (Ferreira-Meyers & Nkosi, 2013) albeit at a snail-paced adoption rate.

Notably, UNESWA is not immune to the challenges that learners with disabilities face in HEI. Developing countries such as Eswatini places education at the centre of "her" economic development with the notion that an educated society can contribute positively to the national economy. While the National Development Plan of 1999 and the Vision 2022 of 1999 both advocate for poverty eradication and economic growth, not much research has been done on the learning experiences of visually impaired learners enrolled in institutions of higher education; hence, the rationale behind this paper.

The Eswatini Rights of Persons With Disability Act of 2018 defines disability as a long-term physical, mental, intellectual or sensory impairment that limits full and equal participation in various spheres of life. In Eswatini alone, people with disabilities account for 16 per cent of the entire population and most of these (82%) reside in rural areas. According to the Swaziland Population and Housing Census Preliminary Report of 2017 the rural areas are characterised by limited access to basic services such as education and healthcare, poor infrastructure such as internet connection, roads as well as high poverty levels (Adebayo & Ngwenya, 2015).

In order to ensure continued education, the University of Eswatini (UNESWA) also embarked on a massive roll out of online learning to bridge the gap imposed by COVID-19 closure, extended lockdown and social/physical distancing. Hubackova and Semradova (2016) argue that effective blended learning requires the following: a) prior assessment of the quality of the content to meet the online learning demands, b) evaluation of learners' preparedness to transition from traditional methods to online learning, c) the quality and strength of the institution's virtual environment and d) the level of learner interaction with the Learning Management System (LMS). In the case of UNESWA, these drastic changes were introduced and implemented with little or no prior preparation to ensure the readiness of the institution, lecturers as well as learners. In addition, little consideration was given to the adversities and special needs of the learners with disabilities, who have *de facto* become "locked out" of the remote transformed learning approach.

In this paper we discuss the general challenges related to the sudden shift from traditional to online teaching and learning also called "network learning [or] hybrid education" (Carius, 2020:1) before examining the additional challenges faced by learners with disabilities. We look at a particular case of a learner with visual impairment to find out how this learner was (or was not) able to cope during the period between March 2020 and September 2020. In our conclusion we propose recommendations on how to ensure a more inclusive online learning environment. This paper addresses two research questions as follows: a) what was the learning experience of a visually impaired learner regarding blended learning during COVID-19? b) How did a visually impaired learner cope academically during the emergency blended learning and teaching? While attempting to answer these questions, the outline of the paper covers: a) theoretical framework; b) methodology and research questions; c) findings and discussions and d) conclusion and recommendations.

### 3. THEORETICAL FRAMEWORK

#### 3.1 Social model of disability

The social model of disability (Oliver, 1981) was inspired by the work of the British disability movement that took place in the 1960s and 1970s (Retief & Letšosa, 2018). The assumption behind this model is that disability is a social construct that results from the “interrelationships between a dysfunction, an individual response to this dysfunction and the environment” (Sztobryn-Giercuskiewicz, n.d:5). In other words, the social environment plays an important role in disabling people with impairments. Therefore, instead of advocating for rehabilitation of people with impairments, the society needs to come up with strategies to bring about a positive perception of people with disabilities.

This assumption is that people with different forms of impairments are subjected to unfriendly environmental conditions that deprive them the opportunities, liberty and choices to uphold their values (Mutanga, 2017). Similar sentiments are shared by Nussbaum (2006) who laments that people with disabilities need to enjoy special arrangements that will make them live a fulfilled life worthy of social recognition in the social and the world of work to empower them to take control of their lives (Retief & Letšosa 2018). The implication here is that learners with visual impairment need a conducive environment that will enable them to be self-directed in their learning process.

The social model of disability is a paradigm shift from the medical perception of disability or the social labelling of people as weak and pitied individuals (Mutanga, 2017) into “a relational approach that considers both individual impairment and educational arrangements” (Mutanga, 2017:137) that is cognisant of the specific needs of each impairment and tailors the support needs to their specific differences.

Libera and Jurberg (2019) state that a deep understanding of how learners with visual impairment interact with technology enables tailoring the educational practices to address the needs of the visually impaired learners. In this paper, the social model of disability helps the authors understand the interplay between visual impairment as a dysfunction and the visually impaired learner’s response to the environment – in this case being the remote/blended learning in order to answer the two research questions of:

- What is the learning experience of a visually impaired learner regarding blended learning during COVID-19?
- How did a visually impaired learner cope academically during the emergency blended learning and teaching?

### 4. METHODOLOGY AND RESEARCH QUESTIONS

This narrative qualitative case study documents the experiences of a visually impaired learner who is enrolled with UNESWA. A narrative case study is an interpretivist research design that examines cases or experiences or a social phenomenon (Gilgun, 1994) where the experiences of the research participants are pivotal (Brandell & Varkas, 2001). This study used a narrative case study to harvest a rich data source on the experiences faced by the visually impaired learner who is currently enrolled with UNESWA.

Data collection employed a semi-structured interview guide that was administered telephonically in recognition of the COVID-19 prevention guidelines (WHO, 2020) to answer

the following two key research questions: What is the learning experience of a visually impaired learner regarding blended learning during COVID-19? How did a visually impaired learner cope academically during the emergency blended learning and teaching?

To answer the research questions, a telephonic semi structured interview guide was employed for data collection in recognition of the COVID-19 prevention guidelines. The focus areas included i) device compatibility; ii) connectivity; iii) logging into Moodle; iv) manoeuvring the platform; v) academic performance in general and; vi) learner support needs. The data were analysed thematically based on the objectives of the study.

## 5. FINDINGS AND DISCUSSIONS

The findings in this study revealed the devastating effects that the learner experienced during the lockdown phase since the beginning of March 2020. By virtue of his impairment, the need for a helper or a guide becomes a dire need. The key findings in this study are discussed below in the following thematic areas: i) device compatibility; ii) connectivity; iii) logging into Moodle; iv) manoeuvring the platform; v) academic performance in general and; vi) learner support.

### 5.1 Device compatibility

The findings in this area revealed that the learner experienced some challenges in accessing the teaching and learning content on the UNESWA Learning Management System, Moodle. While it is true that the learner's laptop and cellular phone have the JAWS software (see, for example, Yurtay *et al.*, 2015, for a discussion on this software, used mainly for learners with visual impairments), his phone was old and incompatible with online teaching. For him to access the material meant travelling from home to the Manzini public library (the nearest town from his rural community) to access the internet:

...While it is true that the online teaching and learning is a good strategy that minimises travel to and from school, the opposite has been the case with me. I cannot access the content from home because I am using an old phone which is not even a smartphone which makes it challenging for me to log on to the Moodle platform because this phone is incompatible with modern technology. For me to log on to Moodle and access the material I need someone to accompany me to Manzini library. This means I have to incur transport costs for my bus fare and that of my guide. This shift has really had a bearing on my finances.

When probed further on his ability to receive and respond to WhatsApp messages he said:

I can receive and respond to WhatsApp messages because my cell phone has JAWS to help me with on-screen reading and typing back the feedback. This makes it easier to communicate with my lecturers as well who sometimes sent text messages or audio notes.

In this learner's case it was not only an issue of limited or lack of access to education, the shift also bore a significant impact on his finances when he had to travel from his rural home to the nearest town in order to access the teaching and learning content. Nonetheless, the WhatsApp messages were to some extent another mode of communication. This is in line with research undertaken by Libera and Jurberg (2017; 2020) who lament that social media has a strong visual appeal to all students including those with visual impairment who tend to use them as much as their sighted peers do. The visually impaired learners in particular enjoyed using social media and do so preferably on mobile devices (Libera & Jurberg, 2020).

If the university ensures that students with disabilities have access to proper devices as part of the teaching and learning as well as the blended learning policies then these travel costs would not have been a problem. These findings also indicate that the visually impaired learner experienced problems because his device was outdated, hence it was incompatible with the latest technological applications. This implies a need for UNESWA to consider providing the visually impaired learners with subsidised mobile devices that the visually impaired learners can use in learning and teaching; a course for blended learning policy change agenda.

## 5.2 Connectivity

The learner resides in a rural community where poor infrastructure and limited internet connection are rife. When asked to share his experience in terms of internet connection the learner had this to say:

...internet connection in the rural areas is sporadic. Sometimes in a bad weather it becomes even more challenging. I have subscribed to both Swazi mobile and Swazi MTN to complement each other. With Swazi mobile I have access to a bigger monthly data bundle which I use to access my emails from my laptop through the hot-spotting facility [setting the cell phone as a hotspot to connect to the laptop]. Sometimes Swazi mobile would not connect in which case then I would use my Swazi MTN. The shift mandated that I check my emails at least once a day to keep abreast with any updates communicated through emails. This means I must have data available at all times and that also comes at a cost!

His narrative highlights the infrastructural limitations experienced in the rural settings and the challenges brought about by such to learners with disabilities. It also underscores the need for a reliable data source to connect with and get regular updates from the lecturers. In other words, the rural context and the fragile internet infrastructure present an additional challenge to the learner in spite of data availability. The implication for the lecturers is that the course content has to be organised into shorter audio visuals that could be accessible to the learner with limited data consumption.

## 5.3 Logging into Moodle

The findings revealed the learner had been exposed to a computer course upon registration that included skills on how to log in and out of Moodle. However, the challenge of this training was that the institutional computers did not have the JAWS software to help with onscreen reading. In his own words he said:

I have always wanted to own a laptop! I just loved it! But then it seemed more befitting for university students. Therefore when I finally enrolled into the university I was determined to have my own laptop. When we went for these computer training sessions I then discovered that the machines did not have the JAWS software which I had thought the university would have thought about and had it installed in at least one or two computers to accommodate us. I felt discriminated against. Then I bought my personal laptop and installed JAWS. I am able to log on to Moodle with some assistance though. But the question that keeps bothering me is what will happen if my laptop crashes and I am unable to access the teaching and learning because of the unfriendly infrastructure? In the new normal, I have been able to log on to Moodle, typed assignments and submitted them on time.

The narrative revealed that the institution has a programme in place to capacitate learners with computer skills. However, not much thought has been put into accommodating the

learners' diversity (in the computer labs) and the various medical conditions that they may have. If the students have the necessary devices and software, it was going to be possible to log in, use Moodle to do and submit assignments. Thus, they will be able to work off-campus. Also, an installation of software in the computer labs can also allow the students to work on campus like the rest of the student community and not feel neglected or left out.

## 5.4 Manoeuvring Moodle

It was found that manoeuvring Moodle remained a problem because the student had to request someone to be close by whenever he had an assignment to work on/to submit. For instance, he needed someone to help get into the editing mode of Moodle up to the submission stage of an online test. He elaborates:

I am not confident to use the learning portal especially when it comes to taking timed online tests. I feel like I might put myself in jeopardy of failing because of my slow pace and limited ability to move from one step to the next in the portal. My condition makes it difficult to control the cursor without assistance. While it is true that I can get some help, the main challenge is the time of the test. I might not complete within the given timeframe. This makes the tests different from the assignments because with the latter I have more preparatory time while the test is a matter of a few hours.

In his case, he still needed to build more confidence while exploring the portal before taking timed assessments online. His lack of confidence and the slow pace in using the portal pose a danger of not completing the online assessment especially tests on time which could finally jeopardise his academic performance.

## 5.5 Academic performance

The findings on the effects of the offsite mode on the learner's academic performance revealed no negative effects on his performance. One of the reasons for this is the patience exhibited by the lecturers. He indicated that, in most cases, the lecturers were flexible and accommodating to his particular needs. He narrates:

The lecturers used different learning platforms to continue teaching and learning. For instance some used the Google Classroom which makes learning much easier for me because all the updates immediately go to my Gmail account and I can access the material. Therefore I was able to keep up with the pace provided the documents were in Word or PDF formats. The lecturers' flexibility was also seen in the administration of the test whereby instead of taking a normal online test some provision was made to accommodate my needs. My tests were sent via an email and I was given extra time to work on the test and submit via email. So my academic performance was not affected by the new change.

Evidently, the lecturers were compassionate enough to accommodate the needs of this learner by making special provisions for him to access the assessment activities. It also seemed that complementing Moodle with other learning platforms such as Google Classroom and providing other formats when it came to documentary resources, made it easier for this particular learner to access teaching and learning material. However, little was known regarding the support that the institution could afford him to become competent in using the Moodle platform. This means that, even though individual lecturers did their best to assist, there was limited (if at all) institutional support when it came to learners with disabilities accessing learning materials.

## 5.6 Learner support need

When asked how the institution could help/assist to build his confidence, he had this to say:

I wish I could be workshopped on Moodle because I really need expert guidance in using the portal. I want to learn how to use the navigator and the combination or hot keys (ctrl+alt+shift) maybe they could help me to move the cursor faster. I need to know how to get to the editing mode without support. Generally I need to see myself being able to use Moodle independently if at all possible. Following that workshop I need a mock test where I will check my level of confidence and the time taken to complete the task at hand.

When asked to comment on how the infrastructure could be improved to accommodate the learning needs of students living with a disability, in particular a visual impairment, he had this to say:

Currently, there are a number of computer labs on campus but not even a single computer has JAWS software to accommodate the needs of the visually impaired learners. I would like to see the university installing JAWS in at least one or two computers in each lab so that we could have a broader choice of which lab to use and get the maximum benefit like the rest of the scholars. At the moment we are excluded in the teaching and learning practice. At least if there are such machines which have JAWS then there would be no need for me to carry my laptop to and from class each day; instead I would use the lab-based computers. Also, the lecturers have to be well equipped on blended learning to assist the learners with troubleshooting. Maybe in the near future, the institution might think of having a centre that fully caters for the needs of the learners with disabilities.

These suggestions imply the need for learner support strategies that are sensitive and accommodative of the diverse requirements of the learners. There is also an implication on the timing of the teaching, learning and assessment activities that are cognisant of the diverse disability conditions of the learners. Our study respondent also recommended that lecturers be assisted in acquiring the necessary technological competences to be able to help in cases where learners' computer literacy skills are limited.

## 6. CONCLUSION

In this paper, the focus was on the experiences of a visually impaired learner during the educational paradigm shift from traditional teaching to a blended/online learning approach at UNESWA as a result of the COVID-19 pandemic. The study revealed the implications of the new normal on access to online teaching and learning for learners with disabilities. For instance, the incompatibility of his device limited his access to the learning content from his home. Instead he was compelled to travel to the nearest town to access the material, which had a travel cost implication for him and his guide. Secondly, his residence in the rural setting with poor infrastructure also had a significant bearing on his connection and access to the internet.

In spite of his subscription to the two network providers, the poor infrastructure led to sporadic connection, not to mention the prohibitive costs of data bundles. Thirdly, the participant indicated that regardless of the computer course that he took upon registration, the institution did not accommodate the digital needs of the learners with disabilities. For instance, the available Moodle Learning Management System software does not cater for the needs of the visually impaired learner. Hence, he felt incompetent to use the learning portal to take online assessments, especially the tests.

Fourthly, he indicated that apart from using Moodle as the formal learning portal, some lecturers complemented this LMS with other platforms such as Google Classroom that he could easily access and that allowed him to keep abreast of the latest course-related information. Also, the lecturers were flexible to accommodate his diversity when administering assessment by allowing him to take offline tests and giving him additional time to complete the tests. As a result, his academic performance was not negatively affected by the shift.

He also made some recommendations that included a) the need to install specific software in some of the computers in the available labs to give the learners with disabilities a choice to use these laboratories as and when the need arose; b) the need for the lecturers to be technical computer skills savvy and c) the need for a centre that will be fully accessible to learners living with disabilities.

## 7. RECOMMENDATIONS

We believe the insights gained from the small case study can inform the way forward for higher education institutions. There is a need to raise awareness on matters of importance to learners with disabilities. While in our study, only those with visual impairments were examined, there are many other learners with disabilities whose needs should be studied. Computers made available to students should be equipped with particular software to make learning and teaching accessible to students with disabilities, even if only at dedicated computers. There has to be a needs-based training for learners with disability, in particular those with visual impairments, to build their confidence to independently manoeuvre the learning management systems.

Higher education institutions should establish and equip centres that cater for the learners with disabilities and their diverse medical conditions. While students can be assisted by lecturers who possess technical skills in computer literacy who can become a resource for learner support in trouble shooting, institutions should provide the learners with opportunities to procure subsidised modern gadgets that allow the learners to participate in blended and/or online learning activities.

These findings and recommendations could have a positive bearing on policy change agendas not only for UNESWA, but for other places of learning, such that inclusion of the learners with disability becomes the norm.

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