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Entering University during Times of Disruption: Experiences of First-Year Students from a Historically Disadvantaged University in South Africa during the COVID-19 Pandemic

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ABSTRACT

The study, premised on the interpretive paradigm explored the experiences of First Year students from a historically disadvantaged university in South Africa during the COVID-19 pandemic. The study was underpinned by one research question namely, *what are the experiences of first-year students from a historically disadvantaged university during the COVID-19 pandemic?* Convenience sampling was used to select 52 students from one diploma programme. Data was generated through open-ended online questionnaires designed using Google Forms and was analysed thematically. The Technology Acceptance Model was employed as a theoretical lens to frame the study. Findings highlighted the following themes namely, challenges with device ownership and Learning Management System Use, Student Access to the Learning Management System due to connectivity challenges in rural areas, interaction experience with other students online and challenges associated with interacting with Lecturers online. From the findings, the study recommended that deliberate efforts at the national level be undertaken to bridge the digital divide between students from historically disadvantaged universities and historically advantaged universities through the provision of requisite technology infrastructure. Further, the study recommended thorough capacity building in the use of information communication technologies for students from historically disadvantaged communities who may not be privy to the technologies.

Keywords: *Covid19, Historically Disadvantaged University, Learning Management System, WiSeUp*

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INTRODUCTION

The Coronavirus (COVID-19, hereafter) which was detected in China in late December 2019,[1] was declared a pandemic by the World Health Organization [WHO] on January 30, 2020.[2] Consequently, this impacted on nations and cities globally negatively, as they were locked down to contain the further spread of the virus.[3] One

[1] Nuhu A Sansa, "Analysis for the Impact of the COVID-19 to the Petrol Price in China," *Available at SSRN 3547413*, 2020.
[2] Michael Mhlanga, John Tenha, and Francis Ndlovu, "Technical and Vocational Education and Training Policy in Zimbabwean Secondary Schools: Teachers' Views," *International Journal of Humanities, Social Sciences and Education* 8, no. 7 (2021): 111–18, https://doi.org/10.20431/2349-0381.0807013.
[3] Laura Di Renzo et al., "Eating Habits and Lifestyle Changes during COVID-19 Lockdown: An Italian Survey," *Journal of Translational Medicine* 18, no. 1 (2020): 1–15; Indy Man Kit Ho, Kai Yuen Cheong, and Anthony Weldon, "Predicting Student Satisfaction of Emergency Remote Learning in Higher Education during COVID-19 Using Machine Learning Techniques," *Plos One* 16, no. 4 (2021): e0249423.

of the sectors affected by the lockdown due to the COVID-19 pandemic was higher education, as higher education institutions closed in Africa and other nations of the world.[4]

The South African President, in his announcement on March 23, 2020, placed the country on level 5 lockdown nationally, intended to last for 21 days effective from 26 March 2020 to 16 April 2020.[5] Therefore, the historically disadvantaged university where the study was carried out, like its counterparts within South Africa and other parts of the World switched from its normal traditional face-to-face teaching and learning to online.[6] This was to ensure the continuation of the University academic calendar. Consequently, the Higher Education Phase 1 response started, and this was accompanied by an emergency planning phase for the sector.[7] During this period, the university management swung into action by working to ensure staff and students got access to information and communication technology (ICT, hereafter) devices as well as data, whilst the creation of online resources to be delivered to students by academic staff was ongoing.[8] An emergency multi-modal teaching plan was developed and approved by the Senate of Walter Sisulu University.[9] Thereafter, various policies and procedures on remote learning such as 'Quality Standards for Online Learning, Guidelines for Online Assessments' and 'WSU New Approach to Teaching and Learning During Covid-19' were developed.[10]

This sudden migration to online teaching catalysed the massive deployment of ICTs infrastructure in different institutions. This was easy for some institutions, whilst others either closed or battled with the challenges associated with the transition to this mode of instruction because their programmes were tailored to run in face-to-face mode. One notable feature portrayed by the emergence of the pandemic, is the existence of digital inequality in Africa between nations with better infrastructure than others, institutions better equipped than others as well as inequality of provision between students from urban and rural settings.[11] This is peculiar to South Africa, as access to ICT hard and software, especially in education was hampered because of the digital divide linked to poverty.[12]

With these challenges, the question arises, *what are the experiences of these first-year students from a historically disadvantaged university during the COVID-19 global pandemic?* Thus, the study sought to explore the experiences of first-year students from a historically disadvantaged university during the COVID-19 global pandemic. Since the focus of the study centred on the application of ICTs in teaching and learning, the Technology Acceptance Model (TAM) was adopted to frame the study.

In the following section, a brief review is presented on higher education sector response to COVID-19, online and emergency remote learning, theoretical framework, the context of the study (case study), methodology, findings and discussions as well as conclusion and recommendations.

LITERATURE REVIEW

The Higher Education Sector Response to COVID-19

The Higher Education (HE) sector globally was affected by the outburst of the Covid-19 pandemic in diverse ways thereby resulting in major changes in the modes of instruction and research functions of universities.[13] Globally, this resulted in the closure of educational institutions around the world in a bid to curtail its spread,

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[4] Simon Burgess and Hans Henrik Sievertsen, "Schools, Skills, and Learning: The Impact of COVID-19 on Education," *VoxEu. Org* 1, no. 2 (2020): 73–89; Goolam Mohamedbhai, "COVID-19: What Consequences for Higher Education?," University World News, April 9, 2020, https://www.universityworldnews.com/post.php?story=20200407064850279..

[5] CHE (Council on Higher Education). *Quality assurance guidelines for emergency remote teaching & learning and assessment during the Covid-19 pandemic*. South Africa: CHE,(2020); David Mhlanga and Tankiso Moloi, *COVID-19 and the Digital Transformation of Education: What We Are Learning in South Africa*, 2020, https://doi.org/10.20944/preprints202004.0195.v1.

[6] Rushiella N Songca, Clever Ndebele, and Munienge Mbodila, "Mitigating the Implications of Covid-19 on the Academic Project at Walter Sisulu University in South Africa: A Proposed Framework for Emergency Remote Teaching and Learning," *Journal of Student Affairs in Africa* 9, no. 1 (2021): 41–60.

[7] CHE (Council on Higher Education). *Quality assurance guidelines for emergency remote teaching & learning and assessment during the Covid-19 pandemic*.

[8] Songca, Ndebele, and Mbodila, "Mitigating the Implications of Covid-19 on the Academic Project at Walter Sisulu University in South Africa: A Proposed Framework for Emergency Remote Teaching and Learning."

[9] Walter Sisulu University Self Evaluation Report, 2022.

[10] Walter Sisulu University Self Evaluation Report, 2022.

[11] Mohamedbhai, "COVID-19: What Consequences for Higher Education?"

[12] Alison Gillwald, "From Digital Divide to Digital Inequality: The Connectivity Paradox," in *Law and Development Research Conference: University of Antwerp*, 2017; M E Choung and M G Manamela, "Digital Inequality in Rural and Urban Settings: Challenges of Education and Information in South African Youth Context.," *Bangladesh E-Journal of Sociology* 15, no. 2 (2018); Moeketsi Letseka, Matsephe Martha Letseka, and Victor Pitsoe, "The Challenges of E-Learning in South Africa," *Trends in E-Learning* 8 (2018): 121–38.

[13] Samia Chasi and Orla Quinlan, "Inclusion in Times of Covid-19: The Case of International Students in South Africa," *Journal of Student Affairs in Africa* 9, no. 1 (2021): 205–21.

thereby placing about 1.2 billion students in 183 countries out of school.[14] As reported by the United Nations Educational, Scientific and Cultural Organisation (UNESCO, hereafter) on 1 April 2020, about 185 countries have their schools and higher education institutions (HEIs) closed, thereby affecting 1, 542, 412, 000 learners, which constitute 89.4% of total enrolled learners.[15] Therefore, mitigating the disruptions emanating from the outbreak of the pandemic required alternative responses,[16] such as online and remote learning.[17] In agreement with Manase,[18] the implementation of emergency remote learning (ERL) through online platforms by most educational institutions became a choice considering the undeterminable duration of the pandemic, and this was to cater for some of the traditionally planned theory and practice-based classes.[19]

Online and Emergency Remote Learning

Online learning, also referred to as internet-based learning or web-based learning is not limited by time and geographic location, and therefore, makes teaching and learning separable through internet-based information delivery systems.[20] Thus, online learning implies the provision of teaching and learning activities to students who are separated by distance.[21] As a result, it is argued by some researchers that the evolution of online learning is traceable to distance education, through the application of information and communication technologies (ICT, hereafter) such as laptop computers, tablets, cell phones and other digital infrastructure among others.[22] In literature, the basic commonality associated with the concept of online learning, e-learning, distance learning, digital learning, m-learning, open learning, web-based learning, computer-mediated learning, and blended learning is the possibility to connect an ICT infrastructure through a network and learn anywhere, anytime and by any means.[23] Some institutions of higher learning capitalized on the use of these ICTs to embark on both synchronous and asynchronous e-learning programmes to ensure their academic calendar was not suspended.

Synchronous online learning involves real-time interpersonal communication, the use of natural language and immediate feedback[24] whilst asynchronous teaching or learning is an approach that allows for the self-paced exchange of ideas and information where different parties are not dependent on each other's simultaneous involvement.[25] Evidence from research has highlighted the advantages and disadvantages associated with both modes of online learning before the disruptions in the educational system due to COVID-

[14] Cathy Li and Farah Lalani, "The COVID-19 Pandemic Has Changed Education Forever," in *World Economic Forum*, vol. 29, 2020.
[15] Giorgio Marinoni, Hilligje Van't Land, and Trine Jensen, "The Impact of Covid-19 on Higher Education around the World," *IAU Global Survey Report* 23 (2020): 1–17.
[16] Muhammad Adnan and Kainat Anwar, "Online Learning amid the COVID-19 Pandemic: Students' Perspectives.," *Journal of Pedagogical Sociology and Psychology* 2, no. 1 (2020): 45–51.
[17] Ndakaitei Manase, "Disguised Blessings amid Covid-19: Opportunities and Challenges for South African University Students with Learning Disabilities," *Journal of Student Affairs in Africa* 9, no. 1 (2021): 107–18.
[18] Manase, "Disguised Blessings amid Covid-19: Opportunities and Challenges for South African University Students with Learning Disabilities."
[19] Aleksander Aristovnik et al., "Impacts of the COVID-19 Pandemic on Life of Higher Education Students: A Global Perspective," *Sustainability* 12, no. 20 (2020): 8438; Kelly M Moser, Tianlan Wei, and Devon Brenner, "Remote Teaching during COVID-19: Implications from a National Survey of Language Educators," *System* 97 (2021): 102431; Michael P A Murphy, "COVID-19 and Emergency ELearning: Consequences of the Securitization of Higher Education for Post-Pandemic Pedagogy," *Contemporary Security Policy* 41, no. 3 (2020): 492–505; Tae Eun Shim and Song Yi Lee, "College Students' Experience of Emergency Remote Teaching Due to COVID-19," *Children and Youth Services Review* 119 (2020): 105578.
[20] Leisi Pei and Hongbin Wu, "Does Online Learning Work Better than Offline Learning in Undergraduate Medical Education? A Systematic Review and Meta-Analysis," *Medical Education Online* 24, no. 1 (2019): 1666538.
[21] Songca, Ndebele, and Mbodila, "Mitigating the Implications of Covid-19 on the Academic Project at Walter Sisulu University in South Africa: A Proposed Framework for Emergency Remote Teaching and Learning."
[22] Novita Eka Tristiana and Elvira Rosyida, "Students' Perception on the Integrating of Information and Communication Technology (ICT)," *English Education: Jurnal Tadris Bahasa Inggris* 11, no. 1 (2018): 35–44.
[23] Venera-Mihaela Cojocariu et al., "SWOT Anlysis of E-Learning Educational Services from the Perspective of Their Beneficiaries," *Procedia - Social and Behavioral Sciences* 116 (February 2014): 1999–2003, https://doi.org/10.1016/j.sbspro.2014.01.510; Sujit Kumar Basak, Marguerite Wotto, and Paul Belanger, "E-Learning, M-Learning and D-Learning: Conceptual Definition and Comparative Analysis," *E-Learning and Digital Media* 15, no. 4 (2018): 191–216; Jasmine Paul and Felicia Jefferson, "A Comparative Analysis of Student Performance in an Online vs. Face-to-Face Environmental Science Course From 2009 to 2016," *Frontiers in Computer Science* 1 (November 12, 2019), https://doi.org/10.3389/fcomp.2019.00007.
[24] Ina Blau, Orli Weiser, and Yoram Eshet-Alkalai, "How Do Medium Naturalness and Personality Traits Shape Academic Achievement and Perceived Learning? An Experimental Study of Face-to-Face and Synchronous e-Learning.," *Research in Learning Technology* 25 (2017).
[25] Jack Boumans, "Cross-Media, e-Content Report 8, ACTeN—Anticipating Content Technology Needs," *Retrieved December* 10 (2004): 2008; A A Safavi, "Developing Countries and E-Learning Program Development," *Journal of Global Information Technology Management* 11, no. 3 (2008): 47–64.

19.[26] Due to the unplanned nature of both synchronous and asynchronous platforms employed during the pandemic, both instructors and students were confronted with diverse challenges.[27]

Although the process was unplanned, the central aim why this online approach to learning was adopted during the COVID-19 pandemic was to ensure students had access to instruction. Thus, Gurunju as well as Govindarajan and Srivastava refer to this as emergency remote online teaching and learning, a sudden transition in the mode of instruction from face-to-face and hybrid to fully remote delivery mode as an alternative teaching and learning strategy following the eruption of crisis or emergency circumstances.[28] The focus of emergency remote teaching is to provide students with imminent access to learning, and this distinguishes this method of instruction from well-organised online programme.[29] Besides, Emergency remote teaching provides momentary access to learning and gives educators the opportunity to be creative and innovative, but the execution of this approach to learning presents different challenges to users in various nations of the world, South Africa inclusive.[30] This is evident in several studies.[31]

THEORETICAL FRAMEWORK

The Technology Acceptance Model (TAM) promoted by Davis is employed to frame the study.[32] The development of the TAM is centered on its affinity with information technology. There are two major variables that determine people's choice of using technology namely *perceived usefulness* and *perceived ease of use*.[33] *Perceived usefulness* according to Davis is premised on the belief that people's decision to accept or reject the use of a technological application is dependent on the extent they believe it will help them perform their job.[34] On the other hand, perceived ease of use refers to "the degree to which a person believes that using a particular system would be free of effort." This follows from the definition of "ease": "freedom from difficulty or great effort." [35]From various scholarly findings in the literature on the application of the TAM, some form of relationship exists between the perceived usefulness and perceived ease of use[36] as well as technology application.[37]

Accordingly, the rationale for adopting the TAM for this study is based on its relationship with the application of information technology which aligns with the focus of the research which is on the experiences of first year students from a historically disadvantaged university during the COVID-19 global pandemic. The study examines the use of information technology for teaching and learning, which is captured in the fundamental foundations of the theory. Hence, the purpose is to explore students' perceived usefulness and perceived ease of use of online learning during COVID-19.

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[26] Emmanuel G Dada, Abdulkadir H Alkali, and David O Oyewola, "An Investigation into the Effectiveness of Asynchronous and Synchronous E-Learning Mode on Students' Academic Performance in National Open University (NOUN), Maiduguri Centre," *International Journal of Modern Education and Computer Science* 11, no. 5 (2019): 54–64.

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[28] R A Gurunju, "Pandemic Pedagogy: Will Emergency Remote Teaching Improve Education," 2020; Vijay Govindarajan and Anup Srivastava, "What the Shift to Virtual Learning Could Mean for the Future of Higher Ed," *Harvard Business Review* 31, no. 1 (2020): 3–8.

[29] Charles B Hodges et al., "The Difference between Emergency Remote Teaching and Online Learning," 2020.

[30] Songca, Ndebele, and Mbodila, "Mitigating the Implications of Covid-19 on the Academic Project at Walter Sisulu University in South Africa: A Proposed Framework for Emergency Remote Teaching and Learning."

[31] MvE Herkulaas and Lauren L Oosthuizen, "First-Year Student Transition at the University of the Free State during Covid-19: Challenges and Insights," *Journal of Student Affairs in Africa* 8, no. 2 (2020): 31–44; Mustafa Kamel Mohammadi, Abdul Aziz Mohibbi, and Mohammad Hadi Hedayati, "Investigating the Challenges and Factors Influencing the Use of the Learning Management System during the Covid-19 Pandemic in Afghanistan," *Education and Information Technologies* 26, no. 5 (September 7, 2021): 5165–98, https://doi.org/10.1007/s10639-021-10517-z.

[32] Fred D Davis, "Technology Acceptance Model: TAM," *Information Seeking Behavior and Technology Adoption*, 1989, 205–19.

[33] Davis, "Technology Acceptance Model: TAM."

[34] Davis, "Technology Acceptance Model: TAM."

[35] Davis, "Technology Acceptance Model: TAM," 320.

[36] El Bachir Diop, Shengchuan Zhao, and Tran Van Duy, "An Extension of the Technology Acceptance Model for Understanding Travelers' Adoption of Variable Message Signs," *PLoS One* 14, no. 4 (2019): e0216007; Jennifer Dickman Portz et al., "Using the Technology Acceptance Model to Explore User Experience, Intent to Use, and Use Behavior of a Patient Portal among Older Adults with Multiple Chronic Conditions: Descriptive Qualitative Study," *Journal of Medical Internet Research* 21, no. 4 (2019): e11604.

[37] Dennis A. Adams, R. Ryan Nelson, and Peter A. Todd, "Perceived Usefulness, Ease of Use, and Usage of Information Technology: A Replication," *MIS Quarterly* 16, no. 2 (June 1992): 227, https://doi.org/10.2307/249577.

METHODOLOGY

This research which is located within the interpretive paradigm employed a qualitative research approach for data generation and analyses. The interpretivist base their interpretation on the understanding they have of an individual's perspective (Creswell & Poth, 2018) and place values on people's lived experiences and is naturally subjective and sensitive to the biases of both researchers and participants.[38]

Population and Sampling

The population for the study were first-year students registered for a diploma programme in one faculty at a historically disadvantaged South African University. From this population, convenience sampling was used to select 52 students from one diploma programme where one of the researchers was going to work with the lecturer to provide student academic support to the first-year students. Convenience sampling is an approach to the selection of samples for a study where the researcher announces the study and participants are self-selected.[39] This sampling method is preferred most because it is simple, cost-effective and does not consume time as other sampling strategies.

Data Collection

An open-ended questionnaire was designed on Google Forms and a link was sent to the students using their email addresses because of the benefit of this method.[40] Besides, this method was considered appropriate for the study because it enabled the researchers to generate data without close or prolonged contact with the participants in compliance with the COVID-19 protocol of social distancing.

All 52 students consented to participate and proceeded to complete the open-ended questionnaire. The questionnaire contained questions which sought to ascertain student learning device ownership status, student access to the Learning Management System (LMS) hereafter referred to as WiSeUp; WiSeUp experience with other students; WiSeUp experience when interacting with lecturer and challenges militating against accessing and/or using WiSeUp during the teaching and learning process.

Data Analysis

Data generated in the study was analysed using qualitative content analysis.[41] Accordingly, in qualitative content analysis, data generated are presented in words and themes, and this allows the researcher the possibility to make some inferences about the results.[42] Two forms of content analysis exist namely, manifest and latent analysis.[43] The focus of manifest analysis is a direct description by the researcher of the exact word of the participant, stays very close to the text, uses the words themselves, and describes the visible and obvious in the text, whilst latent analysis seeks a deeper meaning of what the informants mean.[44]

Data generated through the open-ended questionnaires was analysed through manifest analysis. Consequently, themes were identified based on their frequency of occurrence, and these include Device ownership, Learning Management System Use, Student Access to the Learning Management System, WiseUp experience with other students, WiseUp experience when interacting with the Lecturer and Challenges militating against accessing and/or using WiSeUp.

Ethical Issues

The Study followed ethical research protocol. As part of ethical considerations, an introduction to the questionnaire contained an introductory paragraph explaining the purpose of the study and requesting consent from students to participate and indicating to students that they were free not to participate and to withdraw from the study at any time. In addition, the introductory paragraph assured students of the anonymity of their identities in the reporting of the data.

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[38] Lesley Eleanor Tomaszewski, Jill Zarestky, and Elsa Gonzalez, "Planning Qualitative Research: Design and Decision Making for New Researchers," *International Journal of Qualitative Methods* 19 (2020): 1609406920967174.
[39] Samuel J Stratton, "Population Research: Convenience Sampling Strategies," *Prehospital and Disaster Medicine* 36, no. 4 (2021): 373–74.
[40] C S L Delport and W J H Roestenburg, "Quantitative Data-Collection Methods: Questionnaires, Checklists, Structured Observation and Structured Interview Schedules," *Research at Grass Roots. For the Social Sciences and Human Service Professions,* 2011, 171–205; Denise F Polit and Cheryl Tatano Beck, *Nursing Research: Generating and Assessing Evidence for Nursing Practice* (Lippincott Williams & Wilkins, 2008).
[41] S N Hesse-Biber and P L Leavy, *The Practice of Qualitative Research* (SAGE Publications, 2011), https://books.google.com.gh/books?id=rkFaeLUsR4MC.
[42] Mariette Bengtsson, "How to Plan and Perform a Qualitative Study Using Content Analysis," *NursingPlus Open* 2 (2016): 8–14.
[43] Bengtsson, "How to Plan and Perform a Qualitative Study Using Content Analysis."
[44] Bengtsson, "How to Plan and Perform a Qualitative Study Using Content Analysis."

RESULTS

The results are presented according to the following emerging themes; Device ownership and Learning Management System Use; Student Access to the Learning Management System; WiseUp experience with other students; WiseUp experience when interacting with the Lecturer and challenges militating against accessing and/or using WiSeUp.

a. Device Ownership and Learning Management System Use

A preliminary question in the questionnaire sought to establish first-year student ownership of devices for learning and teaching, and whether or not students had used the learning management system during the period under review. As shown in Figure 1, 25% did not own any device suitable for use for learning. Of note also is the fact that although 75% of the students did own a suitable device, only 10% of the students had actually used the university learning management system named WiSeUp. This could be attributed to the fact that when the countrywide COVID-19 lockdown was announced by the state president, most of the first-year students had not yet registered with the university and therefore had not received any orientation on the use of the learning management system.

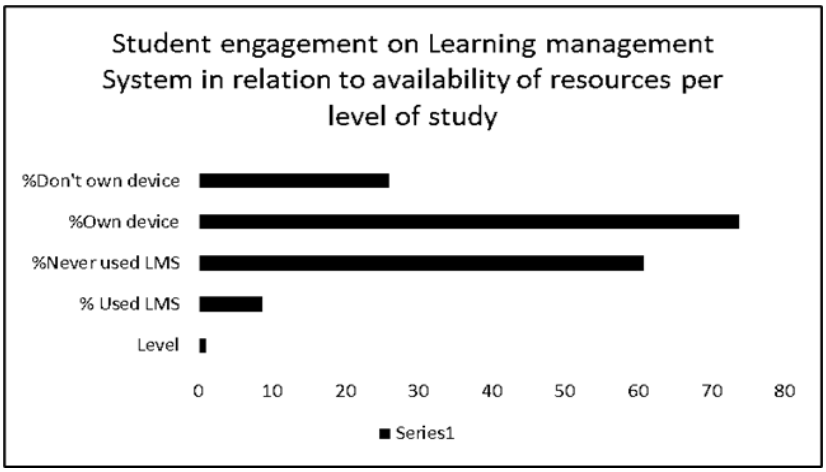

Figure 1: Device ownership and LMS use

The challenges leading to late registration as mentioned above could also be due to the fact that the university under study is not usually the university of first choice for the first entering students due to its location and historical disadvantage. Students first wait to see if they have been offered places at other more well-resourced urban universities before considering enrolling at the university.

b. Student Access to the Learning Management System

A subsequent question sought to find out how the students had accessed the WiSeUp learning management system during the emergency online remote teaching and learning process. Responses indicated that students generally had an idea of how to access the system as shown in these responses;

" By logging in with student number as a username and ID NO. as a password".
"By putting my ID and Student number".
"I followed a link that was sent on the group chat for level 1 B ed class on WhatsApp".
"I use my student number as my username and my ID number as a password to log on to WiSeUp".

Although the university had not conducted any orientation on online learning with the first-year students, it appears that the asynchronous learning materials sent to them helped some of the students to navigate the learning management system, named WiSeUp.

c. WiSeUp experience with other students

A question was included in the questionnaire to determine how the learning management system either enabled or constrained interaction among students during the learning and teaching process. A minority of the students had actually used the learning management system (25% Figure 1). Of this percentage, the majority had found interaction on WiSeUp a challenge for several reasons as shown below:

"It's difficult for us because we are in different places, and here in our homes"
"I don't know how WiseUp operates actually"
"It was challenging because we would not log in at the same time and if we discussed something others would log in another time and take us back to what we have discussed and left".
"Some students are unable to access WiSeUp through many challenges some do not have network in their areas and some don't even know how to use WiSeUp".

From the responses, it can be discerned that the ability to coordinate discussions online among students was a challenge as no clear guidelines or orientation had been provided to students on how to manage their time on WiSeUp. As the students show, this resulted in delayed progress when some students did not participate in scheduled sessions and would then want to raise issues already concluded in previous sessions when they eventually joined. Other students felt interacting with other students on WiSeUp exerted undue pressure on them;

"There were some challenges because some students submit their assignment before the due date and that makes me work under pressure and end up feeling lazy to finish up my work".
"To interact with other students sometimes becomes a challenge because some of the students can submit the work before the due date and it will lead me to work under pressure because we're unique some of the students are fast".

The issue of individual differences and abilities in learning and teaching can indeed be a challenge in group work situations as illustrated in the responses above. This may lead to those students who feel their progress is being pulled back by those perceived to be slowly withdrawing from the group work activity. Similarly, those who perceive themselves as slow and unable to cope with the group pace may also be tempted to withdraw.
There were a few who managed to interact with the learning management system and found the system rewarding as shown in these responses.

"It helped me if I wanted help from other students who have the same questions"
"I understand way faster when I go on WiSeUp, I get to see what people are asking, so it benefits me a lot in terms of understanding"
"You ask difficult questions on educational pages and you are assisted"
"In a good way because if I have a problem I can ask for help from others through it"
As students, we have created groups where we talk and share information

It is affirming to note that the WiSeUp learning management system is seen as aiding learning by those students who were able to use it. Advocacy and training on the use of the system is therefore likely to yield positive results with regard to student learning.

Some students preferred to use social networks, specifically WhatsApp (easier on the smartphone) for interaction as they had challenges with the WiSeUp learning management system;

"We managed to create a group on Facebook that helped us to ask questions on the things that we do not understand which helped me to find some answers that I did not know."
"If there is a special class, my classmates who are on WhatsApp send me messages."
"We have been interacting on WhatsApp group chat only submitting our work on the lecturer's emails, not on WiSeUp but I have seen other students posting their queries on WiSeUp."
"Not much through WiSeUp but using a group that was created on WhatsApp."

The use of social networking as a learning tool to mitigate the challenges of using the official university learning management system can be seen as an innovation on the part of the students. The 21st century students, as digital natives, spend most of their time on social networks and therefore leveraging on this student acumen in social networks can help complement the existing learning management systems in universities.

a. WiSeUp experience when interacting with Lecturer

Students were also asked to give their experiences of interacting with their lecturers on WiSeUp. Majority of the students had had no interaction regarding teaching and learning at all. The only interaction mentioned was the asynchronous access to materials posted by lecturers on the system;

"The lecturers post module guidelines, assignments, marks and sometimes post notes".
"I have seen assignments posted by lecturers on WiSeUp, but we have been submitting to their emails".
"There was no interaction everything was clear, my thing is to submit on time and download the notes that have been uploaded".
I wouldn't really call it an experience, because I just received notes, and I haven't had a direct interaction with my lecturers.
"My experience was that our lecturers could post our assignments and notes every time they were supposed to, there's is no need for them to do that during the lecture"
"Not much experience since I didn't know how it worked but I did get some notes for studying with the help of other students"

The fact that WiSeUp was used by lecturers just as a repository for students to access material is cause for concern. The implication is that such students did not have the opportunity to interact and seek clarity from lecturers on issues they did not understand. This calls for the need for lecturer training on online pedagogy in addition to their training on the technical operations of WiSeUp

There were however some students who had the opportunity to interact with lecturers on WiSeUp. However, even in such cases, the interaction emanated from students who sought clarity from lecturers rather than from deliberate intentions by lecturers to initiate discussions and student engagement on WiSeUp**.**

"I have learned many things, one of them is how to discuss online and also how to submit an assignment online."
"It was vital as I managed to get valuable information."
"The thing is when I'm reading alone I have many questions that need clarity so using WiSeUp makes it easy to communicate with the lecturer, whenever there are problems the lecturer gives clarity".
"I didn't experience any challenge because the time we were still attending there was one tutor who came to us to explain how to access WiseUp".
"It was excellent cause lectures used to send only learning material on WiSeUp. I was never used to sending Assignments online"

The conclusion that can be drawn from these responses again points to the fact that although some interaction took place, it was student-initiated. This again calls for deliberate interventions by the academic staff development unit in the university to provide training on online teaching methodologies.

b. **Challenges militating against accessing and/or using WiSeUp**

Regarding factors and issues that affected student use of the LMS, training and knowledge of the use of the system emerged as the most prevalent. Accessibility of tools for using the system emerged as the second dominant response. Other issues included intermittent interaction access and data costs.

"Many of us are not trained on WiSeUp and this makes it difficult to use it"
"For me, I see it as a good system but again thorough training must be provided"
"As a 1st year student, I still struggle because I didn't get a chance for proper training".
"Not familiar with technology"
"I've never studied using WiseUp before, so I have no idea how it works."
"There's no network coverage where live and I do not have data to access the internet"
"The challenge of accessibility to technology makes me disinterested."

From the responses, it can be concluded that the perceived ease of use of the WiSeUp learning management system has an influence on student attitudes toward the system. A system can only be easy to use if one has the tools to use the system. Similarly, knowledge of the system, how it works and how to navigate it results in ease of use.

General Comments on Benefits of using WiSeUp

Online learning was seen as an innovative way to learn that was not boring and kept students active further indicating that it would be an advantage as young people loved using technology. The following excerpts are presented for illustrative purposes;

"I think it opens up the brain as it is quite fascinating and you never get bored, so it is wonderful to know that it educates".
" it is good because you learn in different ways than focusing on one method of listening to lecturers in class".
"it is a good thing because as young people we love using social networking sites so education will be at our fingertips".
"It helps a lot so I will continue even without a lecturer physically closer to me, I can access all the information I want".
"keeps things easier when you find that you missed class or there is a class which you do not know about, then within hours you would have received that information".

From the analyses of the excerpts above, it can be gleaned that there are enormous benefits associated with the application of online learning. According to the first comment, online mode of instruction eliminates the existence of boredom associated with learning as it is fascinating, whilst for the second it opens learners to different methods of learning. From the third comment, online learning is seen to expose students to different education as it brings learning to the learners irrespective of where and when.

DISCUSSION OF FINDINGS

In this section, the authors present the discussion of findings from the themes that emerged in the study namely: Device ownership and Learning Management System Use; Student Access to the Learning Management System; WiseUp experience with other students; WiseUp experience when interacting with Lecturer; Challenges militating against accessing and/or using WiSeUp as well as benefits from using WiSeUp.

The study revealed some challenges faced by students from historically disadvantaged backgrounds in accessing resources for university education. This finding corroborates the result of Herkulaas and Oosthuizen whose study also found the lack of electronic devices required for learning as one of the challenges that confronted first-year students at the University of Free State during the COVID-19 pandemic.[45] Similarly, this finding aligns with the result of Mohammadi, Mohibbi and Hedayati whose study revealed infrastructural availability as one of the challenges and factors influencing staff and students use of the learning management system during the COVID-19 pandemic in Afghanistan's higher institutions.[46] The experience was also the same for Saudi Arabia, where a study by Alenezi highlighted hardware (LMS accessing devices) barriers to students' willingness to use the Learning Management System.[47] Consequently, this finding suggests unequal access to the use of the university Learning Management System by students, as some students were left behind, and this contravenes the nation's policy of inclusivity or 'no student must be left behind philosophy.'

This implies a digital divide between those who own devices and those who do not. This is a confirmation that access to ICT infrastructure specifically in teaching and learning is hindered due to the digital divide and inequality[48] associated with certain socio-economic factors as race, social class, gender, age, geographical area and educational background.[49] This finding alludes to the fact that most students enrolled at WSU (88%) are from traditionally disadvantaged backgrounds (WSU, 2020). Therefore, the Perceived usefulness of the university Learning Management System will be negative according to the TAM, since the accessibility of the system is dependent on students' ownership of personal devices which so many are not in possession of at the moment; hence, this interferes with their decision to either accept or reject the university online registration platform.[50]

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[45] Herkulaas and Oosthuizen, "First-Year Student Transition at the University of the Free State during Covid-19: Challenges and Insights."
[46] Mohammadi, Mohibbi, and Hedayati, "Investigating the Challenges and Factors Influencing the Use of the Learning Management System during the Covid-19 Pandemic in Afghanistan."
[47] Abdullah Alenezi, "Barriers to Participation in Learning Management Systems in Saudi Arabian Universities," *Education Research International* 2018 (2018).
[48] Gillwald, "From Digital Divide to Digital Inequality: The Connectivity Paradox"; Choung and Manamela, "Digital Inequality in Rural and Urban Settings: Challenges of Education and Information in South African Youth Context."; Moeketsi Letseka, Matsephe Martha Letseka, and Victor Pitsoe, "The Challenges of E-Learning in South Africa," in *Trends in E-Learning* (InTech, 2018), https://doi.org/10.5772/intechopen.74843.
[49] Alexander JAM van Deursen and Jan AGM van Dijk, "The First-Level Digital Divide Shifts from Inequalities in Physical Access to Inequalities in Material Access," *New Media & Society* 21, no. 2 (February 7, 2019): 354–75, https://doi.org/10.1177/1461444818797082; Mark Warschauer, "Reconceptualizing the Digital Divide," *First Monday*, 2002.
[50] Davis, "Technology Acceptance Model: TAM."

It is highlighted in the results that students were able to navigate the LMS and access the asynchronous materials sent to them. This finding corroborates the work of Dada, Alkali and Oyewola.[51] In their study, it was revealed that students who were less motivated became highly motivated as well and had their mental alertness improved through active class participation achieved via asynchronous learning. Thus, due to its flexibility, the asynchronous learning method is preferred in mitigating the challenges that inhibit the conduct of normal face-to-face classes encountered by educational institutions during crises, such as COVID-19.[52] The implication of the findings according to the TAM, is that the perceived usefulness of the asynchronous online learning method is positive considering the students' experiences, that is, it allowed them access to learning resources.[53]

The issue of individual differences and abilities in learning and teaching as shown in the results of this study, can indeed be a challenge in group work situations where those students who feel their progress is being pulled back by those perceived to be slow may withdraw from the group work activity. Similarly, those who perceive themselves as slow and unable to cope with the group pace may also be tempted to withdraw. In this regard, Thondhlana and Belluigi argue that the disruption of group work can emanate from students with varied academic goals.[54] This is exemplified in the allocation of work in the group between those who aim for just a passing grade and others with higher grades feeling they are assigned many tasks compared to the rest. This finding agrees with the results of a study by McKinney and Cook, who found that group work was negatively affected by stress and perceptions of unequal contribution of group members.[55] Corroborating this, Chang and Brickman (2018) in their study reported that the realisation of the gains of group work depends on assigning different roles to all members to encourage all students' participation, as this can lead to noticeable gains in student achievement, reasoning ability, and motivation.

The study also highlighted the benefits of the use of LMS in teaching and learning and how this can be used during times of disruption. Online learning was seen as an innovative way to learn that was not boring and kept students active further indicating that it would be an advantage as young people loved using technology. The result of this study agrees with those of Al-Handhali, Al-Rasbi and Sherimon, who reported that learning management systems offer several types of communication tools that enable students to study from anywhere in the world.[56] Also, the finding corroborates that of Omar and Yaacob who found that the use of LMS encourages users to share content with their peers, thereby reducing the instructional gap that exists from one student to another.[57]

From the findings of this study, it is glaring how the use of social media supports teaching and learning. The use of social networking as a learning tool to mitigate the challenges of using the official university learning management system by students can be seen as an innovation on the part of the students This finding corroborates that of other studies that found the use of social media tools as platforms employed for teaching and learning in higher institutions.[58] These media tools in addition to the university learning management system include such platforms as WhatsApp and Facebook.[59] Also revealed in one of the studies, two out of five universities explored the use of WhatsApp for teaching and learning.[60] The use of Facebook and WhatsApp in the process of learning to train students' critical thinking skills conceptually can be declared worthy of being

[51] Dada, Alkali, and Oyewola, "An Investigation into the Effectiveness of Asynchronous and Synchronous E-Learning Mode on Students' Academic Performance in National Open University (NOUN), Maiduguri Centre."
[52] Sir John Daniel, "Education and the COVID-19 Pandemic," *PROSPECTS* 49, no. 1–2 (October 20, 2020): 91–96, https://doi.org/10.1007/s11125-020-09464-3; Claire Major, "Innovations in Teaching and Learning during a Time of Crisis," *Innovative Higher Education* 45 (2020): 265–66.
[53] Davis, "Technology Acceptance Model: TAM."
[54] Gladman Thondhlana and Dina Zoe Belluigi, "Group Work as' Terrains of Learning'for Students in South African Higher Education," *Perspectives in Education* 32, no. 4 (2014): 40–55.
[55] Pamela McKinney and Chloe Cook, "Student Conceptions of Group Work: Visual Research into LIS Student Group Work Using the Draw-and-Write Technique," *Journal of Education for Library and Information Science* 59, no. 4 (2018): 206–27.
[56] B A Al-Handhali, A T Al-Rasbi, and P C Sherimon, "Advantages and Disadvantages of Earning Management System (LMS) at AOU Oman," *International Journal of Technology* 1, no. 2 (2020): 222–28.
[57] Umazah Omar and Aizan Yaacob, "The Benefits Of Learning Management System (Lms) In Facilitating The Tesl Teacher Trainees'learning," *Practitioner Research* 2 (2020): 103–19.
[58] Dagogo William Legg-Jack, "Digitalisation Of Teaching And Learning In Nigeria Amid Covid-19 Pandemic: Challenges And Lessons For Education 4.0 And 4ir," *PONTE International Scientific Researchs Journal* 77, no. 10 (2021), https://doi.org/10.21506/j.ponte.2021.10.10; Chukwuma Clement Okeji and Juliet Chinedu Alex-Nmecha, "Online LIS Teaching and Learning during COVID-19 in Nigeria: A Study," *Global Knowledge, Memory and Communication* 71, no. 3 (2022): 155–73; Rudi Kustijono and Fachruddin Zuhri, "The Use of Facebook and WhatsApp Application in Learning Process of Physics to Train Students' Critical Thinking Skills," in *IOP Conference Series: Materials Science and Engineering*, vol. 296 (IOP Publishing, 2018), 012025.
[59] Legg-Jack, "Digitalisation Of Teaching And Learning In Nigeria Amid Covid-19 Pandemic: Challenges And Lessons For Education 4.0 and 4IR"; Kustijono And Zuhri, "The Use Of Facebook And Whatsapp Application In Learning Process Of Physics To Train Students' Critical Thinking Skills."
[60] Okeji and Alex-Nmecha, "Online LIS Teaching and Learning during COVID-19 in Nigeria: A Study."

applied in the classroom, especially for science subjects such as Physics.[61] According to the TAM, the Perceived usefulness and Perceived ease of use are in affirmation, since the use of social media tools, which are both online platforms aided their learning which is indicative of their positive comments. [62]

Findings revealed some level of interaction that existed between students and lecturers. However, these interactions were initiated by students. The major activity executed by lecturers using the LMS was to post their lecture notes without the use of the platform for proper teaching. Thus, this indicates some levels of misconception and challenges from the lecturers' angle as it seems lecturers conflated the posting of materials on the website with e-learning. In agreement with this result are the findings by of Annamalai et al. who reported that lecturers were unable to manage the use of LMS effectively.[63] Besides, this created a problem for students because lecturers' incompetence in relation to providing more relevant learning content and commitment constituted one of the barriers to the use of LMS. Corroborating the underpinnings of the TAM, this negates the perceived usefulness, as students found it difficult to relate with their lecturers through the use of the LMS.[64]

From the study, some challenges associated with accessing and or using WiSeUp were highlighted. These included a lack of training for students, poor connectivity and lack of access to the internet. Data cost and the digital divide between those who could afford to own devices and those who couldn't were apparent in the findings. The findings of this study align with those of Mohammadi et al.[65] In their study, it was reported that participants had challenges with institutional LMS due to a lack of skills in the use of ICT. Also, it was revealed that access to the internet and high data costs created big hindrances for students in Afghanistan to participate in online learning. There was limited access to the internet for participants who resided in rural areas and peri-urban areas. In relation to the digital divide, the result of this study is confirmed by other findings in the literature that reported the lack of such physical equipment as computer devices and server communication networks as impeding factors in the application of online learning.[66] Thus, these revelations have brought to bear the challenges associated with access and use of the LMS (WiSeUp) which has negative implications for the adoption of e-learning in relation to both perceived usefulness and perceived ease of use.[67] A system can only be easy to use if one has the tools to use it.

Participants revealed some benefits from using WiSeUp. According to them, online learning proved innovative as it kept them active and committed. The implication of this finding is that using WiSeUp (LMS) is considered valuable by students. This finding is corroborated by the results of a study by Mukhtar et al. (2020) who reported that online learning made good students active, promoted self-directed learning, and enabled ease of access to learning materials.[68] Similarly, the finding of this study confirms others in the literature where it was reported that LMS tools facilitate preparation, and flexibility thereby improving the learning experience and commitment of students.[69] Also, the findings of this study agrees with another, which revealed that students' perception of the use of the LMS system as a valuable platform, especially during the COVID-19 pandemic.[70] From this finding and in consideration of the theoretical propositions of Davis' TAM, the adoption of the mode of learning is accepted following its perceived usefulness and ease of use.[71]

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[61] Kustijono and Zuhri, "The Use of Facebook and WhatsApp Application in Learning Process of Physics to Train Students' Critical Thinking Skills."
[62] Davis, "Technology Acceptance Model: TAM."
[63] Nagaletchimee Annamalai et al., "Investigating the Use of Learning Management System (Lms) for Distance Education in Malaysia: A Mixed-Method Approach," *Contemporary Educational Technology* 13, no. 3 (2021): ep313.
[64] Davis, "Technology Acceptance Model: TAM."
[65] Mohammadi, Mohibbi, and Hedayati, "Investigating the Challenges and Factors Influencing the Use of the Learning Management System during the Covid-19 Pandemic in Afghanistan."
[66] Asma Ali Mosa Al-araibi, Mohd Naz'ri bin Mahrin, and Rasimah Che Mohd Yusoff, "Technological Aspect Factors of E-Learning Readiness in Higher Education Institutions: Delphi Technique," *Education and Information Technologies* 24, no. 1 (January 16, 2019): 567–90, https://doi.org/10.1007/s10639-018-9780-9.
[67] Davis, "Technology Acceptance Model: TAM."
[68] Khadijah Mukhtar et al., "Advantages, Limitations and Recommendations for Online Learning during COVID-19 Pandemic Era," *Pakistan Journal of Medical Sciences* 36, no. COVID19-S4 (May 18, 2020), https://doi.org/10.12669/pjms.36.COVID19-S4.2785.
[69] Simen A. Steindal et al., "Postgraduate Students' Experience of Using a Learning Management System to Support Their Learning: A Qualitative Descriptive Study," *SAGE Open Nursing* 7 (January 4, 2021): 237796082110548, https://doi.org/10.1177/23779608211054817.
[70] Uthman Alturki and Ahmed Aldraiweesh, "Application of Learning Management System (LMS) during the COVID-19 Pandemic: A Sustainable Acceptance Model of the Expansion Technology Approach," *Sustainability* 13, no. 19 (October 3, 2021): 10991, https://doi.org/10.3390/su131910991.
[71] Davis, "Technology Acceptance Model: TAM."

RECOMMENDATIONS

The study recommends deliberate efforts at the national level to bridge the digital divide between students from historically disadvantaged universities and historically advantaged universities through the provision of requisite technology infrastructure. Further, the study recommends thorough capacity building in the use of information communication technologies for lecturers to encourage adoption and for students from historically disadvantaged communities who may not have been privy to the technologies before entering university.

CONCLUSION

This study has explored the experiences of first-year students from a historically disadvantaged university during the COVID-19 global pandemic. An overview of related literature revealed that indeed technology could be used as a lever to salvage the academic year. Using the Technology Acceptance Model as a theoretical lens, the findings of the study revealed that perceived ease of use, perceived usefulness and capacity to use technology influence the adoption of particular technologies for learning and teaching. Students had challenges regarding device ownership and the use of WiseUp (LMS), and lack of access to LMS due to poor internet connectivity, especially in those residing in remote rural areas. This in some instances resulted, for example, in students opting for social networks that they could access through their smartphones. Various recommendations have been provided for stakeholders to develop strategies that will bridge the digital divide between students from historically disadvantaged universities and historically advantaged universities. This will ensure efficient learning.

LIMITATIONS AND AREAS OF FUTURE RESEARCH

The findings of this research are significant in relation to students' use of technologies, especially the Learning Management System for learning. However, certain limitations are inherent. The category of students considered were only First Years of small sample size and from one particular university in South Africa. Hence, the generalization of results is deemed unfit. Thus, it is suggested that a large number of samples be considered such as is obtainable in quantitative studies to enable generalization of results, as well as considerations from more than one university.

DATA AVAILABILITY

The datasets generated during and/or analysed during the current study are not publicly available due to privacy concerns.

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