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The Learning Then and Now: A Case Study on the Effects of Gender on Online Learning Support Post Covid-19 at a South African University

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ABSTRACT
This paper explored students' online learning experiences before and post-Covid-19 pandemic with a focus on whether all students are supported to have online learning access without considering their gender differences. The questionnaire was used to collect data from 247 students who were randomly selected from the cohort of 400 students. The study tested the four null hypotheses at 0.05 level of significance: (i) H_0: There is no significant association between gender and access to laptop for learning purposes, (ii) H_0: There is no significant association between gender and access to internet for learning purposes, (iii) H_0: There is no significant association between gender and access to data for learning purposes and (iv) H_0: There is no significant association between gender and who provides data to access internet for learning purposes. This study revealed that there is no significant association between the following: gender and access to laptops, gender and access to the internet, gender and access to data, and gender and who provides data to access internet for learning purposes. The study therefore recommended the following: lecturers must not conduct classes when students are at their homes assuming that every student has access to internet connectivity; the provision of necessary support for online learning needs to be strengthened by all the parties who are responsible for support students with relevant equipment for active online learning so that no students is left behind when blended learning is implemented; support students with necessary gadgets and adequate amount of data to enhance online learning; students must be supplied with laptops regardless of gender and year of study. The paper contributes to scholarship by addressing gender disparities in online learning, providing valuable insights for educational institutions, offering a methodological model for future studies, and informing policies to create a more inclusive and effective online learning environment.

Keywords: Covid-19, Institution, Online Learning, Remote Learning, Student Access, Gender, Differences, Technology

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INTRODUCTION
The emergence of the Covid-19 pandemic has forced most institutions of higher learning to restructure their mode of learning and teaching from face-to-face to online.[1] E-learning is defined as learning that uses technology to engage students in their learning independently at any time and anywhere.[2] While numerous research has been conducted on the impact of the Covid-19 pandemic on education, there is a paucity of research on whether gender

[1] Zethembe Mseleku, *A Literature Review of E-Learning and E-Teaching in the Era of Covid-19 Pandemic* (Los Angeles, CA, USA: Sage , 2020).
[2] OECD, "E-Learning in Tertiary Education, Policy Brief," 2005, https://www.oecd.org/education/ceri/35991871.pdf.

has an effect on how students are supported to have access to online learning or not. People live in societies where inequality is perpetuated and practised day in and day out, this study explores whether gender has an effect on how students are supported to have access to online learning.

Research has shown most students are not ready and well-prepared to learn online. Therefore, when it comes to the emergency of the Covid-19 pandemic, it was challenging for teachers to get their students ready for learning in an online environment.[3] Despite that students were not ready, but still they were subjected to online learning which is a trend even today. It is for this reason that this study seeks to explore whether gender has an effect on how students are supported to have access to online learning post Covid-19 pandemic. It further explores students' learning experiences before and post-Covid-19 pandemic and determines whether gender is a determinant factor for students' e-learning support.

The study seeks to answer the questions: What were the students' learning experiences before and post-Covid-19 pandemic? Is gender a determinant factor for students' e-learning support? The study focuses on four null hypotheses which were tested at a 0.05 level of significance.

(i) H_0: There is no significant association between gender and access to laptop for learning purposes.
(ii) H_0: There is no significant association between gender and access to internet for learning purposes.
(iii) H_0: There is no significant association between gender and access to data for learning purposes.
(iv) There is no significant association between gender and who provides data to access the internet for learning purposes.

LITERATURE REVIEW

Teaching and Learning before the Covid-19 pandemic

Before the emergence of Covid-19 academic instruction was mostly face-to-face and for most of the lecturers a challenge was to integrate technology into teaching and learning. To some extent, even most of the students did not use technology for their learning. On the other hand, before Covid-19 emerged most universities in South Africa were not obliged to provide data for the students' learning. Also, there was no data support given to the students, they used to buy their own data for internet access.

Teaching and Learning during the Covid-19 pandemic

Tuning to the Covid-19 period the anticipation was that the Covid-19 pandemic would severely impact the developing countries but it turned out to be the other way round. Research highlights that the regions which ended up severely affected include China, Europe, Iran, South Korea, and the United States among others.[4] During the Covid-19 pandemic, the education system worldwide was severely affected as it was not ready for the pandemic, and most of the higher education institutions were found unprepared for online learning.[5] Even though the institutions of higher learning were not prepared for the pandemic, they were still considered as the sources to ensure that students continue to be taught in one way or another. The institutions of higher learning worldwide opted to save the academic year by implementing online learning which most lecturers and students were not conversant with.[6] When the Covid -19 emerged, pressure was exerted on the education sector to devise means of teaching students while they were in their respective homes.

Research has revealed that even though the Covid-19 pandemic forced education institutions to move from face-to-face to online learning and teaching temporarily, however, the move had positive effects on students, for example: improved time management, improved lecture attendance, flexibility and students were disciplined in their own learning as they worked independently.[7] This implies that despite the negatives, a lot can be learnt from the effect of the Covid-19 pandemic. Lessons learnt during the pandemic have a long-lasting effect on how learning and teaching are now perceived in institutions of higher learning.

The challenge to students' education during the Covid-19 pandemic was that those from rural areas needed internet connectivity to attend online lecture sessions. For example, a study on variation in student perceptions of higher education course quality and difficulty because of the widespread implementation of online education during

[3] Mailizar Mailizar et al., "Secondary School Mathematics Teachers' Views on E-Learning Implementation Barriers during the COVID-19 Pandemic: The Case of Indonesia," *Eurasia Journal of Mathematics, Science and Technology Education* 16, no. 7 (May 6, 2020): em1860, https://doi.org/10.29333/ejmste/8240.
[4] Pradeep Sahu, "Closure of Universities Due to Coronavirus Disease 2019 (COVID-19): Impact on Education and Mental Health of Students and Academic Staff," *Cureus*, April 4, 2020, https://doi.org/10.7759/cureus.7541.
[5] Hadi Kheira, "Online Learning and Remote Assessment at University during the Covid-19 Pandemic: Challenges and Suggestions," 2022.
[6] Adil Abdul Rehman and Khalid Alharthi, "An Introduction to Research Paradigms," *International Journal of Educational Investigations* 3, no. 8 (2016): 51–59.
[7] Hussan Munir, "Reshaping Sustainable University Education in Post-Pandemic World: Lessons Learned from an Empirical Study," *Education Sciences* 12, no. 8 (August 2, 2022): 524, https://doi.org/10.3390/educsci12080524.

the covid 19 pandemic revealed a negative impact.[8] The challenges include the following: a drop in the perceived quality of students' scores because of the shift to online learning due to lack of connectivity, the courses taught by online experienced lectures were 70% less difficult than those of lecturers who engaged students online for the first time as they were forced by the emergency of Covid-19 pandemic.[9] Another study adds that there was a communication breakdown between students and lecturers. Lecturers and students could not socialise as was done before, and some students suffered depression, anxiety and stress due to the isolation from the majority.[10]

Teaching and Learning post-Covid -19 pandemic

Post Covid-19 period is the time when the world has gone back to normal which is now called the new normal. During Covid-19 many lessons were learnt and until today people are still clinging to them, for example, teaching students online. Teaching is now characterized by a blended learning approach in most institutions of higher learning which is defined by some of the researchers as the combination of both face-to-face and online lessons.[11] Out of all these, the questions posed are as follows: Are the students still supported by the relevant equipment and data to have access to lessons and other educational resources? Is there equality in the distribution of data and the equipment for internet access?

Research argues that for effective e-learning in the university, highly skilled instructors with relevant skills and strategies in e-learning, availability of high-speed computers, data for internet connectivity, good interactive and video-enabled teaching, well-resourced computer laboratories and user-friendly applications are factors that need to be taken into consideration.[12] Researchers classified e-learning barriers based on four areas they affect, viz:

(i) Learners: Financial problems, some students might not be financially viable to be able to buy all the necessary equipment needed to make online learning dreams come true, motivation, assessment, isolation from peers, inadequate e-learning skills and experience, affection and social domain.
(ii) Teachers: knowledge limitations and assessment challenges.
(iii) Curriculum: ambiguity, quality, resources, teaching process, and evaluation
(iv) Schools: organizational and structural factors.[13]

In response to the identified barriers, literature has shown that the East and West universities responded to remote learning in several ways which include:

- The hybrid is favoured more than pure face-to-face and wholly online.
- Engage students in both synchronous (pre-recorded lecture sessions) and asynchronous (live teaching sessions).
- Redesign the teaching materials to suit online learning.
- Offer training to both students and lecturers for them to be familiar with the blended learning approach and the use of technology.
- Technology alone is not a panacea to online learning, there is a need to maximise the effectiveness of the use of technologies and learning management systems to support the implementation of pedagogical approaches.
- There is a need to ensure that students' soft skills and self-efficacy are enhanced.
- The quality of communication and social interactions are particularly important to build an inclusive online learning environment.
- For an inclusive online learning environment, there is a need to enhance quality communication and social interaction between students and lecturers.[14]

[8] S. J. Jacquemin, J. Cavanaugh, and C. Junker, "Variation in Student Perceptions of Higher Education Course Quality and Difficulty as a Result of Widespread Implementation of Online Education during the COVID-19 Pandemic," *Https://Corescholar.Libraries.Wright.Edu/Biology/856* (AURCO Lunch Speaker Series, 2021).
[9] Jacquemin, Cavanaugh, and Junker, "Variation in Student Perceptions of Higher Education Course Quality and Difficulty as a Result of Widespread Implementation of Online Education during the COVID-19 Pandemic."
[10] Munir, "Reshaping Sustainable University Education in Post-Pandemic World: Lessons Learned from an Empirical Study."
[11] Fazilah Razali, Tajularipin Sulaiman, and Ahmad Fauzi Mohd Ayub, "Factors of Learning towards Creating Blended Learning Curriculum Using Learning Management System in Higher Education during Covid-19," *International Journal of Instruction* 15, no. 4 (October 1, 2022): 723–44, https://doi.org/10.29333/iji.2022.15439a.
[12] Mohammad Ali, S.M Khaled Hossain, and Tania Ahmed, "Effectiveness of E-Learning for University Students: Evidence from Bangladesh," *Asian Journal of Empirical Research* 8, no. 10 (November 26, 2018): 352–60, https://doi.org/10.18488/journal.1007/2018.8.10/1007.10.352.360.
[13] A Assareh and M Hosseini Bidokht, "Barriers to E-Teaching and e-Learning," *Procedia Computer Science* 3 (2011): 791–95.
[14] Xianghan (Christine) O'Dea and Julian Stern, "Virtually the Same?: Online Higher Education in the Post Covid-19 Era," *British Journal of Educational Technology* 53, no. 3 (May 4, 2022): 437–42, https://doi.org/10.1111/bjet.13211.

THEORETICAL FRAMEWORK

Piaget's cognitive development theory provided a lens to the study as it promotes the concept that the mind has a significant role in learning and sought to emphasize what happens between the occurrence of environmental stimulus and student response.[15] In the occurrence of the environmental stimulus include the Covid-19 pandemic, lockdown and online learning. On the other hand, students' responses refer to assimilation. Assimilation is how students adapt to new concepts and accept them to replace the old concepts.

METHODOLOGY

The study employed a mixed-method approach guided by an explanatory design. The questionnaire was used to collect data from 247 students who were randomly selected from the cohort of 400 Bachelor of Education students at various years of study. Data was collected using a questionnaire that had both closed and open-ended questions. The collected descriptive statistics quantitative data was analysed using the Stata v.6.0 statistical package while textual qualitative data were subjected to thematic content analysis. The study tested the four null hypotheses each at a 0.05 level of significance.

Ethical Issues

Ethical issues are of a main concern in research. Confidentiality needs to be assured and the participants must not be harmed by the research. When they become upset or uneasy, then interviews with them or their responses to the questionnaire must be stopped. To ensure privacy and confidentiality, students and teachers in this study were assured that their names and any information would be kept confidential. To ensure that participants were not recognised anywhere the codes have been used in place of names, for example, S1, S2 and S3 denote student 1, student 2, student 3, etc. The researchers informed the participants that they had the right to withdraw from the study at any time and they were not forced to share information if they were not comfortable. Lastly, the students were informed that participating in the study had no monetary value for them or the researchers.

PRESENTATION OF RESULTS AND DISCUSSION

This section presents Chi-squared test analysis results which aimed to confirm if there is no significant association between the following: gender and access to laptops, gender and access to internet, gender and access to data, gender and who provides data to access internet for learning purposes. The sample of 247 students is a valid number that participated in the study. In some sections of the study, the participating number is below 247 as some decided to abstain from responding to the questions for the study.

Table 1. Chi-squared test analyses the association between gender and access to laptops for learning purposes

Gender	No	Yes	Total
Female	45 29.22	109 70.78	154 100.00
Male	17 18.68	74 81.32	91 100.00
Prefer not to say	0 0.00	1 100.00	1 100.00
Total	62 25.20	184 74.80	246 100.00

Pearson chi2(2) = 3.7088 p = 0.157

From Table 1 above, it can be noted that the values Pearson chi-squared = 3.7088; p= 0.157.
The results of descriptive statistics revealed that there is no significant association between gender and access to laptops for learning purposes, since $p > 0.05$, therefore, evidently, for this reason, we accept the null hypothesis:

H_0: There is no significant association between gender and access to laptops for learning purposes.
The results reveal that the university where the study was conducted provides laptop access to all the students regardless of their gender. The provision of laptops is a response to research claims by some researchers who suggest that for effective e-learning in the university, the availability of high-speed computers is a must for all the registered students' learning post-Covid-19 pandemic.[16]

[15] Jean Piaget, "Part I: Cognitive Development in Children: Piaget Development and Learning," *Journal of Research in Science Teaching* 2, no. 3 (September 18, 1964): 176–86, https://doi.org/10.1002/tea.3660020306.
[16] Ali, Hossain, and Ahmed, "Effectiveness of E-Learning for University Students: Evidence from Bangladesh."

The results of this study reveal that the university under the study has policies on access to technology which ensure that every student has access to a laptop. Upon receiving the laptops all students are trained on how to effectively operate the gadgets. The provision of laptops to all students, regardless of gender, signals a commitment to equality and inclusivity. This is a measure to bridge the digital divide that may exist based on socio-economic or gender-based factors.

The provision of laptops empowers students by giving them a tool for independent learning and research. This empowerment contributes to a more self-directed approach to education. Laptops offer opportunities for developing digital literacy and skills essential in today's workforce.

The study's results contribute to the need for educational equity and inclusive practices in all institutions. The study may influence educational policies, encouraging other institutions to adopt similar practices. In addition, the study advocates for policies which promote gender-neutral technology access.

Understanding the impact of technology provision on academic outcomes helps institutions prepare students for the demands of a technology-driven future. This can inform institutions to make a shift in curriculum development and pedagogical approaches.

Table 2. Chi-squared test analyses the association between gender and access to the internet for learning purposes

Gender	No	Yes	Total
Female	40 26.32	112 73.68	152 100.00
Male	27 29.67	64 70.33	91 100.00
Prefer not to say	1 100.00	0 0.00	1 100.00
Total	68 27.87	176 74.13	244 100.00

Pearson chi-squared = 2.9175; p= 0.233

From Table 2 above, it can be noted that the values Pearson chi-squared = 2.9175; p = 0.233. The results of descriptive statistics revealed that there is no significant association between gender and access to the internet for learning purposes. For this reason, since p>0.05, therefore, evidently, the researchers accept the null hypothesis: **H_0**: There is no significant association between gender and access to the internet for learning purposes. The results reveal that when students are on campus or in their private residences, they all have access to the internet despite their gender orientation.

However, the difference is when they are in their various home areas where the access to connectivity differs from one place to another. In this case, 72% of the students have access to internet connectivity easily at home while 28% of the students experience difficulties with connectivity.

The results presented in this section suggest that, regardless of the gender of the student, the likelihood of having internet access in their residences is comparable. The study results do not reveal any statistically significant relationship between gender and the availability of internet connectivity. The lack of a significant association is indicative of equal access initiatives, improvements in infrastructure, or policies that have successfully minimized gender-based disparities in internet access among students in their residences.

This shows that efforts to bridge the digital gender divide have been effective, at least within the context of student residences. This shows a positive trend towards equitable access to technological resources, regardless of gender. However, caution should be exercised, as these results only pertain to the specific population studied and may not be generalizable to other demographics or regions.

The significance of these results lies in the implications for educational policies and initiatives aimed at ensuring equal opportunities for students. If gender is not a significant factor in determining internet access, it suggests that resources and interventions may need to be directed towards addressing other potential inequalities. Policymakers and educators can use this information to refine strategies and allocate resources more effectively, ensuring a more comprehensive and targeted approach to promoting digital inclusivity.

Table 3. Chi-squared test analyses the association between gender and access to data for learning purposes

Gender	No	Yes	Total
Female	11 7.14	143 92.86	154 100.00
Male	5 5.56	85 94.44	90 100.00
Prefer not to say	0 0.00	1 100.00	1 100.00
Total	16 6.53	229 93.47	245 100.00

Pearson chi-squared = 0.3046 p = 0.859

From Table 3 above, it can be noted that the values Pearson chi-squared = 0.3046 p = 0.859. The results of descriptive statistics revealed that there is no significant association between gender and access to data for learning purposes, for this reason, since p>0.05, therefore, evidently, the researchers accept the null hypothesis: **H_0**: There is no significant association between gender and access to data for learning purposes. The provision of data to all the students by the university is a response to suggestions by researchers that for effective online learning the provision of data to all the students is a must so that no one is left out of learning.[17]

The results of this study suggest that providing data bundles to all students, regardless of gender, has a positive impact on accessibility, academic performance and gender equality in digital learning. The initiative contributes to a more inclusive educational environment, ensuring that all students have equal opportunities to leverage digital resources for their academic success. The results also underscore the importance of addressing digital equity in higher education, emphasizing the potential of such initiatives to enhance overall student satisfaction and engagement. This study contributes valuable insights for universities and educational institutions aiming to create more inclusive and technologically advanced learning environments. The findings encourage further exploration and discussion on the role of technology in promoting educational equity and fostering positive learning experiences for all students.

Table 4. Chi-squared test analyses the association between gender and who provides data to access the internet for learning purposes

Gender	I buy myself	My bursary	My institution	My parents	Total
Female	32 21.48	41 27.52	72 48.32	4 2.68	149 100.00
Male	19 22.62	22 26.19	38 45.24	5 5.95	84 100.00
Prefer not to say	1 100.00	0 0.00	0 0.00	0 0.00	1 100.00
Total	52 22.22	63 26.92	110 47.01	9 3.85	234 100.00

Pearson's chi-squared = 3.7088 p = 0.157

From Table 4 above, it can be noted that the values chi-squared = 3.7088 p = 0.157. The results of descriptive statistics revealed that there is no significant association between gender and who provides data to access the internet for learning purposes. For this reason, the researchers accept the null hypothesis: Since p>0.05, therefore, evidently, they further accept the null hypothesis: **H_0**: There is no significant association between gender and who provides data to access internet for learning purposes.

Statistically Table 4 shows that 21.48% of females and 22.62% of males buy data by themselves; 27.52% of females and 26.19% of males get data from their bursaries; 48.32% of females and 45.24% of males receive data from their institution; 2.68% females and 5.95% males get data from their parents. These figures reveal that all the students get data from e-learning regardless of who provides the data. The support of students with data for access to the internet is a response to a research call that suggests that for an inclusive online learning environment, there is a need to enhance quality communication and social interaction between students and lecturers.[18]

The results in this section reveal that the distribution of data providers does not differ significantly between male and female students. This result suggests that, at least in the studied population, gender does not play a decisive

[17] Ali, Hossain, and Ahmed, "Effectiveness of E-Learning for University Students: Evidence from Bangladesh."
[18] O'Dea and Stern, "Virtually the Same?: Online Higher Education in the Post Covid-19 Era."

role in determining who provides the data for internet access. This implies that both male and female students have relatively equal access to data for learning purposes, regardless of whether it is provided by family members, educational institutions, or other sources. The lack of a significant association between gender and data providers is attributed to several factors. It indicates that efforts to bridge the digital divide and ensure access to online learning resources have been successful in creating an equitable environment for both male and female students.

Understanding that there is no significant association between gender and the provider of data for internet access is significant for policymakers, educators, and researchers. It implies that efforts to enhance digital access and educational resources should be focused on broader socio-economic factors rather than solely on gender-specific interventions. This knowledge can guide the development of more inclusive policies and initiatives aimed at ensuring equal opportunities for learning among all students, irrespective of their gender.

Even though the world is in the post-Covid-19 era, the type of teaching that institutions of higher learning have adopted is that of hybrid learning and teaching approach which is a combination of face-to-face and online learning.[19] The students do not only learn online while in their residences, but even when in their various homes they are sometimes asked to attend online lessons. This is when they experience some challenges as outlined below.

Challenges that Students Encounter

Students mentioned that they experience challenges such as poor or no network connectivity, lack of adequate knowledge on the use of the university's Learning Management System, lack of peer support, no electricity and too much noise, and being overloaded with house chores while learning online in their homes.

Poor or no Connectivity

Some of the students mentioned poor or no connectivity as a challenge when they are to attend lessons when at home. Their views are presented below:

S6: *There is no place to study. Electricity is a problem in my village since I have to travel at least 2km every time I have to charge my phone.*

S9: *The environment that I'm living in is not effective towards my studies. The main issue it's the network. It's hard to get connected since I am in a village which is not supported enough by the network.*

S26: *Learning from home is hard for me because of the network. I get updates from social media later than I was supposed to. It is hard for me to attend online classes or download anything the network is not allowing me.*

This finding agrees with the premise which states that students' lack of access to technology infrastructure and internet connection is a student-level barrier.[20]

Lack of adequate knowledge on the use of Learning Management System

The views of some of the respondents are presented below:

S54: *I don't understand some things, they need to be clarified by a professional*

S223: *Because it is difficult to adapt to this online learning.*

S208: *It's not easy to learn online because it's my first time learning online, but I will get used.*

These findings confirm the results of a study conducted by Mailizar, et.al., which found that e-learning barriers are real because most students do not have sufficient knowledge and skills in using e-learning applications.[21]

Summary of Findings

- There is no significant association between gender and access to laptops, gender and access to the internet, gender and access to data, and gender and who provides data to access the internet for learning purposes.
- The current use of e-learning in South Africa faces huge challenges that result in students' failure to learn effectively during the pandemic and even beyond. The issue of connectivity and electricity load-shedding are some of the hindrances of online learning. Teaching online when students are in their homes disadvantages those who regularly experience connectivity challenges.
- There is a need to ensure that all students are well trained on the use of LMS so that when alone they can be able to navigate and work confidently on the LMS.
- Not all students can learn effectively while at home because of the different challenges encountered while they are learning online.

[19] Munir, "Reshaping Sustainable University Education in Post-Pandemic World: Lessons Learned from an Empirical Study."
[20] Assareh and Bidokht, "Barriers to E-Teaching and e-Learning."
[21] Mailizar et al., "Secondary School Mathematics Teachers' Views on E-Learning Implementation Barriers during the COVID-19 Pandemic: The Case of Indonesia."

RECOMMENDATIONS

Based on the findings, the paper potentially contributes significantly to the scholarship as a result, the following recommendations have been made:

Gender Disparities in Online Learning: The paper sheds light on the specific challenges and opportunities that different genders may face in the context of online learning, particularly in the aftermath of the Covid-19 pandemic. Understanding these disparities is crucial for developing inclusive and effective online education strategies. eThe lecturers must not conduct classes when students are at their homes assuming that every student has access to internet connectivity. This study has shown that not all South African rural areas have reliable internet connectivity. The provision of necessary support for online learning be strengthened by all the parties who have the responsibility to support students with relevant equipment for online learning so that no student is left behind when blended learning is implemented

Post-COVID-19 Education Landscape: The paper contributes insights into how education systems have adapted and evolved in the wake of the pandemic. This is essential for informing future educational policies and practices.

Case Study Methodology: The use of a case study approach provides an in-depth understanding of the situation at a specific South African university. This methodology can serve as a model for similar studies in different contexts, offering guidance on how to conduct and analyze research on the effects of gender on online learning.

Practical Implications for Educational Institutions: By examining the effects of gender on online learning support, this paper provides practical recommendations for universities and educational institutions to enhance their support systems, ensuring that they are responsive to the diverse needs of students.

Policy Recommendations: The findings of the paper inform the development of policies and interventions aimed at addressing gender-based disparities in online education. This can contribute to creating a more equitable and inclusive educational environment.

Global Relevance: The lessons learned from a South African university case study have broader implications for other regions and countries, especially those facing similar challenges in transitioning to online learning post-Covid-19.

CONCLUSION

Based on the findings, the present researchers have drawn the following conclusions:

Connectivity Issues: If students face challenges related to poor or no connectivity and limited access to a stable internet connection, it may hinder their ability to engage in online learning activities. Therefore, addressing connectivity issues should be a priority to ensure equitable access to educational resources.

Lack of Knowledge of Learning Management Systems (LMS): If many students lack adequate knowledge on how to effectively use Learning Management Systems, the following needs to be done: The provision of proper training and support mechanisms should be implemented to enhance students' proficiency in utilizing the LMS.Improving digital literacy and providing resources for students to understand the LMS can contribute to a more seamless learning experience.

Implications for Educational Institutions: Educational institutions need to invest in infrastructure and support systems to improve internet connectivity for students. Training programs or workshops should be conducted to educate students on the effective use of Learning Management Systems. Institutions should consider implementing alternative methods of content delivery for students with connectivity challenges, such as offline resources or hybrid learning models.

Equity and Inclusivity: Addressing these challenges is crucial for ensuring that: All students, regardless of their location or technological proficiency, have equal opportunities in accessing and benefiting from education. New strategies should be implemented to bridge the digital divide and promote inclusivity in the learning environment.

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