

THE EFFECTS OF ONLINE TEACHING AND LEARNING ON LECTURERS DURING CORONAVIRUS DISEASE-2019 AT THE UNIVERSITY OF LIMPOPO, SOUTH AFRICA

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Abstract

This paper aims to explore the effects of online teaching and learning (T & L) on lecturers during Coronavirus-Disease-2019 at the University of Limpopo (UL) within the Department of Criminology and Criminal Justice. This study adopted a qualitative research approach, employing an exploratory research design. Non-probability purposive sampling was deployed. To collect data in this study, the researchers employed semi-structured Key Informant Interviews (KIIs). The semi-structured interview schedule, created using Google Forms, was emailed to the Ten (10) lecturers who provided their email addresses indicating their willingness to participate in the interview. The findings of this study presented significant negative effects that were encountered by lecturers in the shift to online T & L, including declines in student attendance, engagement, and participation. These issues were primarily due to technical difficulties such as internet connectivity problems, power outages, and the lack of provision of electronic devices. However, the university took proactive measures to lessen the impact of these issues, including providing electronic devices and data bundles, enhancing technology infrastructure, and offering workshop training. The researchers recommend the university to improve internet connectivity, provide ongoing support for lecturers and students, ensure access to necessary equipment, and make financial commitments toward improving digital facilities.

Keywords: *Online Teaching and Learning, Coronavirus-Disease-2019, Lecturers, Effects, Learning Management System, University of Limpopo, South Africa*

1. Introduction

The declaration of Coronavirus-Disease-2019 (COVID-19) in South Africa altered the nature of education, particularly in Higher Education Institutions (HEIs), as lecturers and students had to change the way they used to socialise and connect with each other (Daniel, 2020). When COVID-19 became more disruptive, the HEIs in South Africa urgently shifted towards online T & L to save the academic year (UNESCO, 2020). Therefore, the University of Limpopo (UL) was not an exception to these circumstances, as Malatjii, Masuku and Baloyi (2021) confirm by saying that UL because of COVID-19 had no choice but to shift the educational system from traditional face-to-face (F2F) T & L to online T & L. The methods of online T & L have been interchangeable to the following concepts: e-Learning, distance learning, emergency remote learning, online learning, and virtual learning to name a few, all these teaching methods pertain to an instructional approach that takes place between students and the lecturers who are situated in different settings, using various instructional materials connected to the internet (Minty, Brink, & Alao, 2022).

Nambiar (2020) states that the online T & L approach has become a 'new normal' of disseminating instruction and it is considered to be better, unique and moves with technology when compared to the traditional F2F T & L method. However, Pillay and Madzimure (2023) and Mahlaba (2023) showcase that although online T & L has had positive effects on lecturers, negative effects stemming from inadequate technology, lack of technical skill sets, internet connectivity issues, low quality of assessments and poor designation of content or curriculum and poor communication are prevalent. Similarly, Rudman (2021) also indicates the shortcomings of online learning which include the inadequate adaptation of the teaching practices, lack of interactions and engagements, and time constraints for lecturers in redesigning the curriculum to match the adopted approach. Literature at UL

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concerning the shift to online T & L amid the COVID-19 pandemic exists in different faculties, schools and departments. However, there is a scarcity of literature in the university specifically from the Department of Criminology and Criminal Justice exploring the effects of online T & L during COVID-19 from lecturers' perceptions. Hence, this study might present new perspectives on the experiences of lecturers in online T & L, precisely whether the quick shift had positive or negative effects. Therefore, recommend strategies that can be implemented to better online T & L for the present and future purposes.

2. Literature Review

This section discusses the effects of online T & L on lecturers during COVID-19 while consulting pertinent sources. The selected research imperative to this study are discussed below Lecturers' perceptions on online T & L during the pandemic were mixed. While some appreciated its flexibility and the ability to reach students remotely, others voiced significant challenges ranging from the lack of resources, such as laptops, data, and insufficient internet connectivity (Sayed & Singh, 2020). Additionally, the abrupt transition did not allow adequate time for training and preparation, leading to a sense of unpreparedness among many lecturers (La Velle, Newman, Montgomery & Hyatt, 2020).

Mishra, Gupta, and Shree (2020) assert that lecturers view online T & L as a productive method of instruction; however, they acknowledge that a lack of technological resources and equipment creates a challenging atmosphere. Moreover, Malatji, Masuku and Baloyi (2021) indicate that some lecturers faced difficulties in using learning management systems (LMS) like Blackboard Learn for instructional purposes. This discourse aligns with Baroudi and Shaya (2022) who assert that lecturers faced technical difficulties in using LMS and that negatively influenced the ineffectiveness of implementing online T & L. Mashau and Nyawo (2021) share that lecturers at the University of KwaZulu-Natal indicated a lack of technical skills in using the LMS. Furthermore, Zalat, Hamed and Bolbol (2021) reveal that 32% of lecturers reported signs of technical problems in utilising online platforms essential for online T & L approach.

Another negative effect is raised by Ungwuanyi, Okeke and Shawe (2021) who provide that poor attendance and participation, or engagement is prevalent in online learning as a result of internet connectivity issues, insufficient technical skills and content that does not foster interaction. With regard to interaction, Adnan, and Anwar (2020) report that lecturers and students feel disconnected in online T & L when compared to traditional F2F T & L mode, consequently leading the approach to be ineffective. Bozkurt, Jung, Xiao, Vladimirsch, Schuwer, Egorov, Lambert, Al-Freih, Pete, Olcott, and Rodes (2020) highlight that the vast shift to online T & L requires significant time for lecturers to adapt to the approach, which is resulting in an unmanageable increase in their workload.

Pillay and Madzimure (2023) surmise that data costs in South Africa are significantly higher compared to other nations, creating challenges for lecturers and students to engage effectively in online T & L. Additionally, the researchers note that although universities in South Africa have negotiated favourable deals with internet providers, offering low-rated websites and discounts on data bundles, some students misuse these benefits by watching or downloading non-academic materials. Consequently, they later complain about not being able to attend online sessions because their data bundles have depleted. However, Odeku (2021) admits that UL has been providing monthly data bundles and laptops every year since the COVID-19 outbreak to help needy students and improve online T & L approach.

On the positive effects, under the unfavourable environment that was brought by COVID-19, the online T & L approach has grown, embraced by institutions of higher learning and its academic progress remains pivotal in rural-based universities like UL (Selelo & Manamela, 2022). Despite the fact that the performances of students in online T & L have been questioned, Gonzalez, De La Rubia, Hincz, Comas-Lopez, Subirats, Fort and Sacha (2020) mention that online pedagogies carry substantial benefits related to the improved high performance of students. Gonzalez et al. (2020) further assert that, compared to previous years, student performance increased during the COVID-19 pandemic. Likewise, some students were able to do very well despite the circumstances of online T & L because of their knowledge, technical proficiency, and technological confidence (Cao, Fang, Hou, Han, Xu, Dong & Zheng, 2020).

Daniel (2020) and Ngwacho (2020) stress that the adoption of online T & L had a positive effect on the enhancement of technology in under-sourced rural universities in South Africa. Moreover, the researchers further reveal that universities with a history of inferiority when it comes to infrastructure such as the University of Limpopo (UL), University of Fort Hare (UFH), Mangosuthu University of Technology (MUT), and the University

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of Venda (UNIVEN), to name a few, gained immensely from the usage of technology for online education. Ngwacho (2020) and Tonguero (2020) also share that the pandemic gave these institutions a chance to improve their modern T & L methods by leveraging the ICT infrastructure. Bekker and Carrim (2021) concur with Odeku (2021) on the universities' response to the effects of online T & L by sharing that South African universities did the best they could in making sure that essential electronic devices such as laptops were made available to the needy students and staff for online T & L to be productive. Makhoba (2023) also reports that South African universities addressed the issue of the provision of electronic devices by issuing computers, laptops, tablets, and training to lecturers and students for academically effective online T & L.

3. Research Methodology

In this study, a qualitative research approach was employed. Denzin and Lincoln (2005) define qualitative research as a comprehensive method that embraces an interpretative, naturalistic perspective toward the subject matter. Moreover, qualitative research aims to immerse the researchers into the phenomenon by ensuring an in-depth comprehension through observation or interaction with selected participants (Denzin & Lincoln, 2005). This study employed an exploratory research design due to the limited literature available regarding the effects of online T & L on lecturers during COVID-19 at UL, South Africa. In support, Grinnell, Unrau and Williams (2009) state that when there is little existing knowledge about a phenomenon, exploratory research should be considered. Therefore, the aim of the study is to explore the effects of online T & L on lecturers during COVID-19.

Moreover, non-probability: Purposive sampling was employed. This sampling method enables the researchers to select suitable participants who can provide detailed information on their experience with the online T & L approach (Msisinyane & Maluleke, 2024). Strydom and Delport (2011) indicate that when a researcher employs purposive sampling, intentionally selects a sample based on judgment or because the participants fall under a certain category of the researcher's interests. Purposive sampling was chosen by the researchers in this study for several reasons, which include its practicality and the researcher's ability to select participants who are pertinent to the research study. The targeted sample was the staff members, specifically lecturers. Out of the Thirteen (13) lecturers, only Ten (10) lecturers formed part of this study, excluding the contracted Research Assistants (RAs).

Simplelearn (2021) describes data collection as a technique involving selecting, assessing, and analysing precise information from various sources or participants to address research problems, evaluate results, and estimate patterns and probabilities. To collect data in this study, the researchers employed semi-structured Key Informant Interviews (KIIs). The semi-structured interview schedule, created using Google Forms, was emailed to the Ten (10) lecturers who provided their email addresses indicating their willingness to participate in the interview, in order for the researchers to gather qualitative data. Only Nine (09) participants out of 10 completed the semi-structured KIIs interview questions.

Inductive TCA was employed to analyse the collected qualitative data. This data analysis tool is defined as a process of distinguishing, assembling, and discerning themes from a data set (Braun & Clarke, 2006). Therefore, in this study, the Six (06) phases of thematic analysis proposed by Braun and Clarke (2006) were applied to analyse data: Familiarising yourself with your data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. Most significantly, ethical clearance to conduct this study was sought to ensure that the study adhered to ethical considerations from the following ethical committees: Departmental Research Ethics Committee (DREC), School of Social Sciences Research Committee (SSrec), Faculty of Higher Degrees Committee (FHDC), and Turfloop Research Ethics Committee (TREC).

4. Study findings, themes identification and discussions

When participants were asked the following two questions: *what effects of online T & L have you experienced? Were these effects addressed by the University? Elaborate your answer.* The study findings, identified themes, verbatim responses and discussions based on those two questions are recorded herein:

4.1 Theme 1: Poor attendance, engagement and participation

When the participants were asked about the effects of online T & L, they reported that there was a significant decrease in attendance during online classes compared to contact classes prior to COVID-19. Here are some verbatim responses, **P3**: *"There was a lack of student attendance and minimum participation of students in the class session"* **P8**: *Internet connectivity resulted in less attendance"* and **P9** who also states that: *"online T & L*

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limited the engagement between teachers and students... students could log on and not attend the class". In support of the assertion, Ungwuanyi, Okeke and Shawe (2021) provide that poor attendance and participation, or engagement is prevalent in online learning as a result of internet connectivity issues, insufficient technical skills and content that do not foster interaction.

4.2 Theme 2: Technical difficulties

Participants in this study highlight how technical issues or difficulties had an immense effect on the online T & L approach. For instance, P1 states that "Many of our students come from rural areas that lack the necessary internet connectivity networks", P8 also asserts that "loadshedding created technical difficulties in online T & L amid COVID-19". To substantiate these responses, Baroundi and Shaya (2022) assert that lecturers faced technical difficulties in using LMS and that negatively influenced the ineffectiveness of implementing online T & L. Sayed and Singh (2020) and Ungwuanyi, Okeke and Shawe (2021) also agree that internet connectivity problems were one of the negative effects that lead to lecturers and students facing technical issues.

4.3 Theme 3: University response to the negative effects of online teaching and learning

It has been indicated that despite the negative effects of online T & L on lecturers, there are some positive outcomes. On that note, P5 indicates that "The University of Limpopo ICT are doing what they can with limited resources to offer online T & L courses. This a commendable gesture from them", P6 says that "Yes. The university encourages creative and novel online teaching practices", P8 also report that "The University keep addressing such, and of the important move, the percentage of class attendance has increased with a great number". A literature by Gonzalez et al. (2020) mentions that, compared to previous years, student performance increased during the COVID-19 pandemic.

4.3.1 Sub-theme 1: Provision of electronic devices, data and technology enhancement

Some of the participants in this study acknowledge the contribution of the University, the government, and the private sectors in the provision of electronic devices and data bundles and enhancement of technology to ensure the smooth operation of the online T & L approach. In support of the discourse, P1 says that: "Yes, the University provided laptops and data bundles to the needy students to enhance online teaching and learning", P1 further assert that "Secondly, the lessons on Blackboard are recorded and the students can have access to the lessons in their own convenience, even after the class". P2 concurs that "Criminology lecturers were pleased about the rise in the number of attendances and the performance of students because of the university's dedication to providing laptops and data bundles and enhancing ICT technology". Daniel (2020) and Ngwacho (2020) stress that online T & L enhanced technology in universities with a history of inferiority when it comes to infrastructure such as UL, UFH, MUT, and UNIVEN, as they gained immensely from the usage of technology for online education. Bekker and Carrim (2021) and Odeku (2021) on the provision of devices, admit that South African universities did the best they could in making sure that essential electronic devices such as laptops were made available to the needy students and staff for online T & L to be productive.

4.4 Study themes, sub-themes and descriptions

Table 1: Study themes, sub-themes and descriptions

Themes	Sub-themes	Description
4.4.1 Poor Attendance, Engagement and Participation		This theme addresses the decrease in student attendance, engagement and participation in online classes. Which according to the participants, was attributed to a lack of electronic devices and internet connectivity issues.
4.4.2 Technical Difficulties		This theme explores the technical issues faced during the shift to online T & L at UL. Participants highlight that poor network connectivity was caused by the

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		power outages (Load shedding). These technical problems were noted to hinder both students' access to online classes and lecturers' ability to effectively deliver content.
<p>4.4.3 University response to the negative effects of online Teaching and Learning</p>	<p>Provision of electronic devices and technology enhancement</p>	<p>This theme and subthemes highlight the university's efforts to address the negative effects of online T & L. Participants acknowledged that UL, the South African government, and the private sectors made strides by supplying electronic devices. Additionally, the ICT is commended for the enhancement of LMS (Blackboard Collaborate).</p>

Source: Researchers' illustration (2023/2024).

4.5 Discussions

Based on the findings of this study it can be deduced that there were a lot of negative effects in the shift to online T & L as highlighted by participants and some positive effects made by the university. For instance, the findings noted a decline in student attendance, engagement and participation in online classes when compared to contact sessions. The literature shares that these negative effects arose because of internet connectivity, technological barriers and technical skills. Therefore, these findings showcase the need for more engaging and accessible online learning strategies. As outlined, technical difficulties emerged as another significant barrier to effective online T & L. The findings of this study identified problems associated with technical issues such as inadequate internet connectivity, and technical challenges caused by power outages.

The literature also supports these findings by noting that technical issues were prevalent in the transition to online T & L because of the COVID-19 pandemic. However, it can be inferred that reliable technology and infrastructure are essential for the success of the online T & L approach. In response to these negative effects, as highlighted in the study themes and the table, participants reported that UL implemented several measures to mitigate the negative effects encountered by lecturers in online T & L. The provision of electronic devices, such as laptops, and data bundles, as well as the enhancement of technology infrastructure, were seen as positive steps towards supporting students and improving class attendance. Literature corroborates these findings, suggesting that such support measures were crucial in addressing the digital divide and enhancing the effectiveness of online education. Therefore, these findings acknowledge the university's proactive approach in trying to adapt to online T & L and improving the educational experiences of lecturers and students during that devastating period.

5. Recommendations

Based on the study findings, themes identification and discussions, the researchers recommended the following aspects:

The University should address the poor attendance and participation issues by implementing strategies that can improve internet connectivity, promote student engagement and create incentives that promote active participation in online classes, the university is recommended to support students to overcome technical challenges through promoting workshops on using online platforms. Furthermore, the university is recommended to continuously upgrade LMS (Blackboard Collaborate). On that note, the university is also recommended to continue and expand initiatives to provide electronic devices and enough data bundles to students and staff and make it their responsibility to ensure that all individuals involved in online learning have access to necessary equipment.

The researchers further recommend the university to enhance the ICT support staff and student support. To combat power outages, the university should explore alternative power solutions such as generators or uninterruptible power supplies (UPS). The institution should invest in digital infrastructure and ensure reliable internet access at least across all university's affiliated locations. To foster interaction, lecturers should create live polls, quizzes and discussion forums into the online curriculum. Providing training for lecturers on how to

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effectively use these tools can also enhance student participation. Professional development for lecturers through workshops and training sessions on best practices in online teaching methods is recommended.

6. Conclusion

This study was conducted to explore the effects of online T & L on lecturers during COVID-19 at the University of Limpopo in South Africa. The literature review discussed both positive and negative effects encountered by lecturers amid the pandemic and how these influenced online T & L. Negative effects included technical difficulties, inadequate resources, and lack of preparation. Additionally, issues such as poor student attendance and engagement, stemming from internet connectivity problems and insufficient technical skills, were highlighted. To achieve the aim of this study, the researchers collected data through semi-structured Key KIIs distributed using Google Forms. For analysis, the researchers employed Inductive Thematic Content Analysis (TCA) employing Six phases of data analysis by Braun and Clarke (2006): Familiarising yourself with your data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. For ethical considerations, ethical clearance to conduct this study was sought to ensure that the study adhered to ethical considerations from the following ethical committees: DREC, SSrec, FHDC, and TREC.

The findings of this study align with the literature, indicating that the decline in student attendance, engagement, and participation was primarily attributed to technical difficulties such as inadequate internet connectivity, power outages, and the lack of provision of necessary electronic devices. However, despite these negative effects, the university's proactive measures, including the provision of electronic devices and data bundles, the enhancement of technological infrastructure, and the organisation of workshop training sessions, were commended. The researchers concluded by providing recommendations to better online T & L approach. The university should further improve internet connectivity and provide continuous support for both lecturers and students. Ensuring access to essential equipment and investing in digital infrastructure are also pivotal in enhancing the effectiveness of online T & L. Additionally, the university should focus on expanding initiatives that offer technical support and training to lecturers and students, thereby fostering a more engaging and participatory online learning environment.

Conflict of interest: The authors confirm that no conflict of interest exists in this paper that would compromise the integrity of the study and its findings.

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