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Article

Unintended Pedagogical Consequences of Emergency Remote Teaching at a Rural-Based University in South Africa

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Abstract In this empirical article, we argue that, while emergency remote teaching (ERT) may have achieved its goal of saving the academic years during the COVID-19 pandemic, it also constructed unintended pedagogical consequences that were possibly overlooked at the time of advocating it. The research question that the article attempted to answer is, what unintended pedagogical consequences did students and lecturers suffer because of the move to ERT at rural-based universities (RBUs) in South Africa? Drawing on students' and lecturers' lived experiences of ERT, this article foregrounds unintended pedagogical consequences that arose at one RBU in South Africa during the transition from face-to-face teaching to ERT. Underpinned by the tenets of critical realism philosophy, as well as student integration theory, in-depth interviews with three lecturers and six students were conducted. The findings of the study indicate that home conditions, individual characteristics, pre-COVID-19 blended learning experiences, university training and support, and teaching, learning, and assessment practices and policies altogether contributed to the construction of unintended pedagogical consequences of ERT presented in this article. These consequences include (1) exclusion of low-income students in active teaching and learning, (2) equipping middle-class students with better chances of success than working-class students. (3) distressing female students and lecturers more than their male counterparts, and (4) unproductive assessment practices. This study may be beneficial to academics and policymakers from similar contexts in their plight to continue with remote teaching and assessment (RTA) beyond the pandemic.

Keywords: COVID-19 lockdown; critical realism; emergency remote teaching; higher education; rural-based university; unintended pedagogical consequences

1. Introduction

South African universities shifted from face-to-face pedagogy to technology-based emergency remote teaching (ERT) because of the COVID-19 pandemic. Long before the pandemic, rural-based universities (RBUs) grappled with inadequate teaching and learning facilities [1]. Subsequently, students' access to learning resources and academic support was limited during the transition to ERT at RBUs. Furthermore, some lecturers teaching at RBUs lacked the technological [2] and pedagogical expertise required to teach online and/or in blended learning environments [3]. Although ERT was deemed to be the most viable pedagogical solution during the time of the pandemic, its implementation was unplanned and may not have been appropriate for RBUs. In this article, we argue that, while ERT may have achieved its goal of saving the academic years during the COVID-19 pandemic, it also highlighted unintended pedagogical consequences that were possibly overlooked at the time of advocating it. A qualitative understanding of students' and lecturers' experiences of the transition to ERT is therefore necessary to understand the unplanned pedagogical consequences that arose during the transition to ERT.

Special training programs on using the university's learning management system (LMS) were held at the onset of the pandemic at the research site to prepare lecturers to

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teach and assess students in remote settings. However, given that such training took place during a time of high uncertainty, frustration, and anxiety [4], its impact may have been less positive than it otherwise would have been. Whether lecturers achieved the learning outcomes of the online training programs or not, they were still mandated to teach and assess students remotely adopting the underlying principle of accommodating every student. The aim of this article, therefore, is to draw on the students' and lecturers' experiences of teaching, learning and assessments as they engaged with ERT in the context of a RBU. The research site is representative of a group of universities in South Africa with roots in the apartheid educational structures that deliberately limited the quality of educational opportunities available to Black social groups [5, 6]. Most of this group's institutions are located outside of South Africa's major cities [7]. In the South African higher education literature, there is a dearth of studies conducted in these institutions [8] due to the apartheid past. Therefore, this study is significant to contribute to this knowledge gap in the field of technology adoption by a RBU during the time of the pandemic.

From the early 1990s onwards, many Black students who had done well in their school-leaving examinations preferred to enrol in the better-resourced historically white institutions that were now available to them [9]. Research around the world suggests that young people who have the most access to and success in higher education are the children of middle-class, educated caregivers [7]. Since school leaving examination performance and conditions in the home of origin associate with the ability to access better schools, social class [4] is an increasingly important indicator in enrolment patterns across the South African higher education system [9]. As a result, many of the students enrolled at the research site are working-class, with many coming from homes in rural areas. Furthermore, most students enrolled are underprepared for higher education, a contested discourse [7] that is commonly referred to in South Africa.

As the pandemic spread, students were forced to leave university campuses and return to their homes of origin. The closure of university campuses had implications for teaching and learning [1], particularly in remote settings. A history of inadequate resourcing [10] and ongoing funding challenges [1] have resulted in difficulties in the provision and use of technology [4]. During the pandemic, the university, with the assistance of the Department of Higher Education and Training (DHET), provided laptop computers and data to nearly all its students. Furthermore, lecturers were trained to manage tuition in an online or blended learning environment and to administer formative and summative assessments online. However, given that students were forced to study at home [10], and that many of them come from rural areas, with some rural areas in the Eastern Cape lacking electricity, it is important to study the participants' experiences of ERT to understand the unintended pedagogical consequences that may have occurred because of the transition to ERT. The purpose of this article, therefore, was to highlight the unintended pedagogical consequences of transitioning to emergency remote teaching that arose at a RBU during the lockdown periods of the pandemic.

2. Materials and Methods

This article employed a case study research approach and purposive sampling [11] to recruit the participants (3 lecturers and 6 students). One of the authors works as a lecturer at the research site and therefore access to the participants was easy. The recruitment strategy involved an open invitation to 150 students and 17 lecturers in a selected department. Gatekeepers' permission was sought and granted for the study. Anonymization was applied to all data. In-depth interviews with three lecturers and six students were conducted, recorded, and transcribed.

Drawing on critical realism philosophy, the study adopted a critical realist lens to identify structures and mechanisms [12] that influenced students' and lecturers' lived experiences of ERT. According to [12], three layers of reality exist: the empirical domain, the actual domain, and the real domain [7]. The empirical domain captures participants' experiences and observations, the actual domain is the layer of events from which these

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observations and experiences emerge. The real domain captures structures and mechanisms that are understood to exist independently of human action and thought [12]. This contrasts with events in the actual domain and experiences and observations in the empirical domain, which are understood to be relative [7]. The concepts deconstructed from student integration theory [13] were used to analyze participants' interview data and are understood in this study as the main structures and mechanisms that influenced the lived experiences of both students and lecturers (see Figure 1 below).

Data were then subjected to a process of analysis involving abduction to identify the structures and mechanisms operating at the level of the real, in accordance with the tenets of critical realism [12] and student integration theory [13]. Abduction is the process of using theory to infer the existence of structures and mechanisms, as well as the interplay between them [14]. The concepts of student integration theory [13] were deconstructed as the explanatory theory in this abduction process, with the elements of the theory understood as structures and mechanisms located at the level of the real [7]. Critical realism acknowledges the existence of independent reality while also acknowledging the influence of human thoughts and actions on how we know and interpret that reality [4]. Critical realist researchers investigate the interaction of structures and mechanisms at the level of the real through the deductive process of abduction [15]. In moving from observations and experiences reported by participants to identify the enduring structures and mechanisms at the level of the real, critical realist researchers acknowledge their potential fallibility [7]. Any study based on critical realism must therefore check for fallibility using strategies like member-checking and triangulation [7], and these processes were carried out during this study. The transcripts were sent back to the participants to verify the accuracy of the transcription conducted.

3. Results

The purpose of this article was to foreground the unintended pedagogical consequences of transitioning to emergency remote teaching that transpired at one RBU during the lockdown periods of the pandemic. While many other concepts may exist, this study deconstructed concepts from student integration theory [13] to explain the findings of the study. The results of this study are discussed according to the following five concepts, i.e. (1) Students' and lecturers' home conditions, (2) Students' and lecturers' individual characteristics, (3) Students' and lecturers' pre-COVID-19 blended learning experiences, (4) University training and support, and (5) Teaching, learning and assessment practices and policies. These concepts are understood as structures and mechanisms that triggered the emergence of participants' perspectives (i.e., perceptions, practices, and experiences) from which the unintended consequences are drawn. It is important to note that these concepts are interlinked even though they were discussed separately. For instance, it is impractical to separate students' individual characteristics from their home conditions because of their interdependence. Figure 1 below depicts these concepts.

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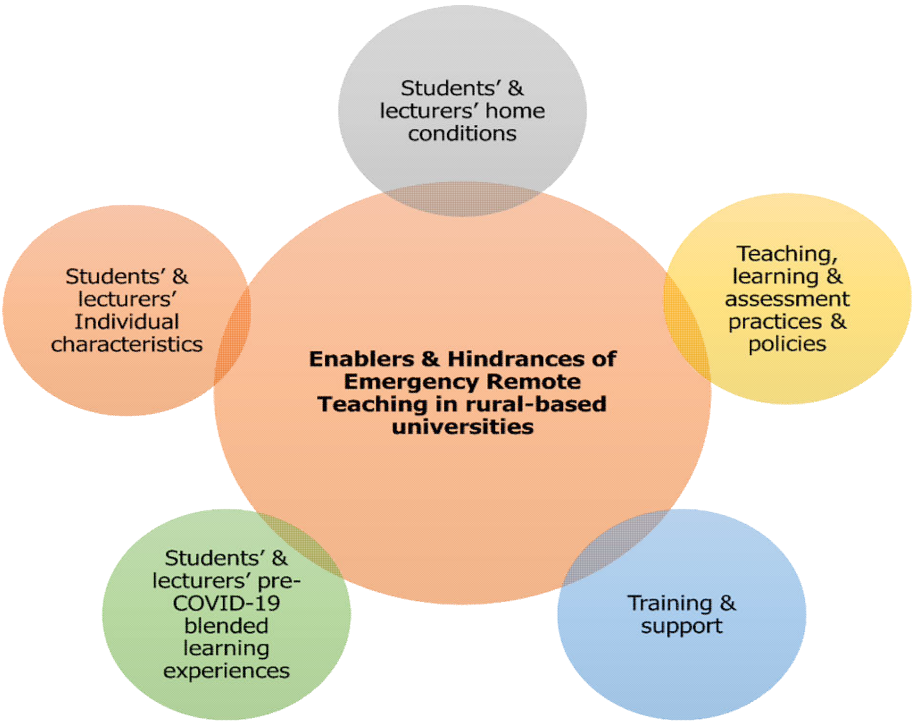

Figure 1. Enablers and hindrances of ERT at a rural-based university (*Source*: Concepts drawn from Student Integration Theory [13] and interview data).

3.1. Students' and lecturers' home conditions

The interview data revealed that the student participants prioritized their choice of universities based on their family's affordability to pay for such university costs. Some student participants deliberately chose to study in RBUs because they could not afford to pay for tuition, accommodation, and other related costs in urban-based historically advantaged universities. Some students enrolled at the studied university because it was closer to their homes. This was deemed necessary to save money on transportation to and from the university as evidenced in the extract below from student participant 3:

> *I am the only child who passed grade 12 in my family. We all live here in the Eastern Cape at Ncise. I did not apply in other universities because they are far from home, and nobody is working at home. So, where would I get the money to travel when I wanted to see my child and my family? Accommodation is expensive. So, the NSFAS stipend would not be enough to provide for all my needs in other universities. At least now I can visit my family when I need to and support them financially with my NSFAS stipend when necessary.*

The extract above suggests that the student participant 3 sometimes used her National Student Financial Aid Scheme (NSFAS) funds to support her family. This case may not have been unique to this participant, there could be many other students in a similar situation. This implies that NSFAS funds may, in some instances, be used to cover some unintended expenses as the student participant 3 has shown. The critical realist lens allows us to see that student participant 3's family background and her home's socioeconomic conditions influenced her decision to enroll in the studied university and to spend the funding in this manner.

In addition, some student participants indicated that they could not afford to buy extra data when the data provided by the university was depleted. Student participant 5 stated,

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Data finishes before the month ends. Once that happens it becomes difficult to attend online classes. We can't even send emails or communicate with classmates on WhatsApp. It becomes worse when we must submit assignments or write online tests. We are forced to wait for the following month for the data to be reloaded

Similarly, student participant 1 stated,

Sometimes we could not download notes, voice-over PowerPoint presentations, videos, and lecture recordings because data is not enough, it finishes before the month ends. We use the night data for downloads because it is more than the day data. But you can't use it to attend online lectures; I wish the university could increase the day data as well.

To save data, students had to watch or download online videos or lecture recordings at night. This may have impacted on their concentration levels on live lecture sessions during the day. Other challenges reported by student participants 2, 3, 4, and 6 included poor network connections, lack of electricity in some cases, and overcrowded households that made the environment detrimental to learning. Student participant 4, attested to this statement as follows,

There is no electricity at home, and we are many. Sometimes I helped my younger brothers with their homework because I am the only one with a computer at home. As a result, the battery and data do not last long. Even at res. (student residences) there is a lot of noise. Some students speak out loudly and some play loud music when they do not have classes. So, we do not hear properly sometimes during live online classes. Given a choice, I would prefer to attend face-to-face classes. Online classes are not good for me in many ways.

The extract from student participant 4's interview data is the empirical evidence of the participant's reasons for his frustration with online classes and his preference for face-to-face classes. The critical realist lens allows us to see that students who come from low-income homes are likely to have experienced online teaching differently to students who come from middle-class families. This finding indicates that laptops and data provided to university students to learn remotely may not have been sufficient to enable efficient ERT. More needs to be done to extend battery life and network access for students who live in rural areas without electricity. The finding also proposes the need for the revision of students' allocation practices to residences. For instance, students registered for common qualifications and accommodated together are likely to attend at the same time and work together fittingly. This arrangement could not only improve the efficiency of online classes but also improve the sense of belonging and related social aspects of students' life.

Some student participants 1, 2, and 3 indicated that they spent much time doing household chores and ended-up not getting enough time for their studies. For instance, student participant 2 asserted,

Studying from home was not easy for me. I had to use abnormal working hours to finish different activities. I had to strike the balance between domestic work activities and academic activities by waking up early and sleeping late at night. My typical day would start with making breakfast and cleaning, cooking during the day and preparing supper. These were the activities I would not be doing if I were on campus. Sometimes I would be too tired that I could not complete the academic work in the way that I would if I were not at home.

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Female participants reported this constraint more than their male counterparts. Only one male student participant, participant 5 indicated to have missed afternoon classes because of household chores. He asserted,

> *Domestic work did not affect me that much. It was only Monday and Wednesday classes that were affected. They ended late at 16:30 pm and I had a responsibility of looking after cattle when I was at home. So, I had to leave at home around 16:00 pm more especially during Winter to look for cattle in the veld. Other than that, no other household chores affected my studies.*

The critical realist lens allows us to see that the social construction of gender roles by the rural communities where the student participants lived resulted in differing experiences of ERT among male and female participants.

Similarly, the home conditions of lecturer participants also contributed to the experiences that emerged in the adoption of ERT. One lecturer indicated that she has a study room that every family member respects. So, she makes time to prepare and record video lectures to share with students with ease. Lecturer participant 2 asserted,

> *It really helped to make my husband and children understand and respect my privacy as a lecturer during ERT. For instance, I would tell my children not to disturb me once I was in the study room. I would then record my lecture videos peacefully. Even when I conducted live lecture sessions, my children would not disturb me. I don't know if I were to stay with my parents or in-laws at home; maybe I would be narrating a different story now. But my husband also respected my preparation and live lecture times.*

On the contrary the other two lecturer participants, participants 1 and 3 reported to have been struggling to secure a quiet space at home to record lecture videos and/or offer live lecture sessions. As a result, preferred to go to their offices to record videos or conduct online sessions. Lecturer participant 1 stated,

> *The challenging part of ERT was that all my children were at home. I had to assist them in searching for information online to complete their assignments while I also had a task of preparing for my lectures. Balancing the responsibilities of being a mother and a lecturer was challenging. You could not run away from the household chores such as preparing food and cleaning, more especially when you have young children, you know! And hiring an assistant was risky at that time. The only viable solution was to use my office at work to record and conduct online sessions or use the quiet times at night to record videos while children were asleep.*

It could be observed from the finding presented above that lecturer participants' home conditions influenced the way they experienced ERT. The findings imply that the home conditions did not only influence the student participants, it exposed lecturer participants to similar challenges also.

3.2. Students' and lecturers' individual characteristics

When reviewing the set of transcripts of both the student and lecturer participants, a variation in the levels of technological skills and abilities was noted. Student participants attributed their level of skills and abilities directly to their basic education experiences. This may be evidenced by what student participant 6 shared as follows, *"I was fortunate to be introduced to computer applications subject in my matric. The computer literacy skills that I had were improved as the result of online learning"*. The critical realist analysis of this finding

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suggests that student participant 6 was likely to come from a middle-class home and attended in one of the better resourced schools that is likely to be a private school.

On the contrary, many student participants indicated that they had no prior experience of using computers. For instance, student participant 1 stated,

> *It was very difficult for me to learn how to use a computer on my own without any previous experience. I had to spend much data watching YouTube videos on how to perform certain tasks using a computer and I was not good in searching for the relevant videos. I could not submit assignments on time because I was slow in typing and sometimes, I did not know how to perform certain tasks.*

The extract from the student participant above suggests that the perception of the adequacy of the data provided by the university to students could also be subject to the computer literacy skills of students. Computer literate students could have spent the data differently; obviously not watching the same YouTube videos that the computer illiterate student participants claimed to have watched. This finding confirms that students from low-income homes experienced ERT differently to students from middle-class homes.

Some students perceived online lectures as uninteresting compared to traditional face-to-face classes. They reported online teaching to lack debates, discussions, and demonstrations as learning strategies. Student participant 6, for instance, stated,

> *I found online teaching to be limiting the development of students' social skills. Some of us are talkative and understand the subjects better when we debate topics among ourselves as students. We need to improve our presentation skills because we need them in the workplace. For a lecture to be enjoyable, it needs to combine teaching methods that allow students to participate in learning; sometimes in teaching our peers and learn from one another. Online tests require us to answer multiple-choice questions most of the time. We are not given enough chance to explain our answers. This encourages us to memorize answers and I am not good in doing that. I prefer to express myself. But I do understand that some of us are not good at typing…*

The above extract suggests that online teaching may have been inadequate in engaging all students effectively in learning. The move to ERT seems to have supported students who preferred rote learning approaches and deterred students who adopted deep approaches to learning. Likewise, students who were computer literate were better-off than students who were computer illiterate. Students attributed to the extract such as the one presented above are likely to be students who had developed active learning skills in their prior schooling. Similarly, students who studied through rote learning in high school are likely to have enjoyed the assessment practices adopted in online tests unless they were stimulated otherwise.

Lecturer participants agreed that online summative tests were developed mainly using objective question types such as multiple-choice questions, true or false questions, fill-in the blank, and matching columns. Lecturer participant 1 asserted,

> *In ideal situations, a lecturer would want students to express themselves openly in online assessments by asking them open-ended questions. But given that some students were computer illiterate, that would mean that most of them would not finish writing assessments on time. They would spend much of the time trying to type their answers, which might lead to anxiety and poor performance, not because they don't understand the subject content, but since they are not competent in the new assessment platform. So, I limited the number of open-ended questions I posed in summative assessments.*

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The above extract suggests that the design of assessment tasks by some lecturers might have fallen short in assessing higher-order thinking and critical thinking skills depending on the lecturers' perceptions of what it means to assess computer illiterate students online and lecturers' competencies in formulating good assessment questions. This is another aspect that could be addressed through pedagogical training of lecturers as assessors in online environments.

The general observation by both lecturer and student participants was that students' participation was restricted during online classes even if they were encouraged to speak. Lecturer participants attested that because of students' unwillingness to speak it was difficult to engage them meaningfully in class discussions. Student participant 3 stated, *"I could not speak during live lectures because I am a shy person"*. In contrast, student participant 5 stated that he participated better in live online lectures because he was shy. He said, *"…the fact that lecturers and classmates cannot see me when talking makes me confident to speak during online classes because I am a shy person*". The language of instruction was reported as a barrier by many student participants. They were not confident in speaking English. Student participant 5, for instance stated,

> *I struggle to speak in public whether I speak in face to face or in online environments. Ndiyathintitha (a phrase in IsiXhosa that means, I stutter). I become worse when I speak English. I can't speak English vocally; I prefer to write it. I am worried that I can make mistakes in my speech. I think about the class recording that will be shared with me having made the grammar mistakes. Yhoo! That does not sit well with me. So that is why I can't speak when the session is recorded. I don't want to embarrass myself.*

The above extract suggests that some students could have preferred to participate only when the virtual sessions were not recorded. Failure to record live sessions, though, disadvantaged students who could not attend live lectures because of network glitches and any other reasons. This finding also suggests that some student participants could have deliberately excluded themselves in class discussions because they could not express themselves confidently in English although they were encouraged to code switch.

3.3. Students' and lecturers' pre-COVID-19 blended learning experiences

The interviewed lecturer participants indicated that they did not use blended learning in their classrooms prior to COVID-19 except for one lecturer participant who indicated to have fair knowledge of the learning management system and used it few years before the pandemic. Lecturer participant 3 asserted,

> *I started using Blackboard in 2015 after attending a training that the university organized. I used it mainly to share learning materials with students and to conduct formative and summative assessments. I conducted summative assessments in a controlled lab environment to avoid plagiarism. During the pandemic I didn't struggle much, instead I was one of the e-learning champions who assisted in training colleagues in their departments to use the Blackboard for emergency remote teaching. I never used a video conferencing software before the pandemic… I don't think the time for the training we had at the beginning of 2020 was enough. I was fortunate that I already started using blended learning way before the pandemic, but for someone who had no prior experience, I don't think they would have grasped all the ideas presented in the training in that short space of time.*

The extract from lecturer participant 3 confirms that lecturers' prior knowledge of LMSs influenced the ways they transitioned and adapted to ERT. Lecturers who had no prior knowledge of blended learning were likely to struggle to adapt to the new ERT environment.

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Sharing the same sentiments, lecturer participant 1 asserted,

Even though the training sessions prepared me to understand how Microsoft Teams, Blackboard and Moodle work, I found it difficult to understand practical ways of involving students in discussions during live lectures. Also, I could not use enough discussion questions in assessments because most students were slow typists and could not finish writing timed assessments on time.

The extracts from lecturer participants' interview data confirm that the training was not enough to prepare inexperienced lecturers to manage online classes effectively in the beginning of ERT. As a result, after the training, the common approach that some lecturers adopted was to upload ebooks, handouts, voice-over PowerPoint presentations, self-made videos, lecture recordings, and YouTube videos to the university's LMSs. Students had to download the uploaded learning materials and read or listen to them offline to save data. Subsequently, students could not engage meaningfully with learning materials as they would in a traditional face-to-face class.

Student participant 4 attested,

All university students were trained in using Blackboard and Moodle, but the time was not enough. I used Blackboard for the first time in 2020. When I started to understand it, the university shifted to Moodle. The time the university spent training us was not enough, but I managed to understand both apps by educating myself and watching YouTube videos.

The extracts from both students and lecturer participants above suggest that the training that was provided at the beginning of 2020 that attempted to prepare both students and lecturers technologically to use the university's LMSs was not enough.

When prompted to comment on the underlying reasons for the preferred invisibility by students during live lectures, student participants mentioned saving data as the main reason for deactivating live videos. They also indicated that they were not comfortable in subjecting their home conditions to the public. Student participant 5 reported,

Lecturers share live lecture recordings with all students after the class. In most cases the videos are not edited. This means that my home conditions may be exposed. As I am being recorded, whoever watches the recording will see me and the home environment during the time of the recording… There are certain things about my home condition that I would not like the public to see…

The practice of maintaining anonymity in live lectures made it difficult for lecturers to see students who were listening attentively during lectures even though they were allowed to deactivate their videos. Sometimes students would sit in one place and share one computer to save data. This practice discouraged lecturers in their teaching because they would think that few students had attended the lecture whereas there might have been more students attending than what the videoconferencing system showed. The opposite was true in some cases; lecturers would teach few students thinking that those who had not logged on were sharing computers with friends. This implies that students' attendance was difficult to monitor and control during ERT because of the reasons stated above.

3.4. Training and support for both students and lecturers

The student participants acknowledged that the university had support structures in place to provide smooth transition to ERT during the pandemic, however, they believe that it was not enough to support them both academically and socially during ERT as student participant 6 attested,

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> *…Sometimes the phone numbers that we were given for academic support were not picked up and at other times as students we did not have airtime to phone them. Where email addresses were given, there was a challenge of delayed responses. Maybe that could be because of the large number of students requesting for the same services or because of the network challenges... Access to online library was also difficult because it needs data, network connection, and electricity. The location of my home in rural areas made it difficult to access learning materials from the library.*

Due to insufficient data and increased network challenges, some students struggled to collaborate with their peers and to communicate with their lecturers while they were studying from home. Subsequently, some students felt isolated and depressed and ended up deregistering some courses that they believed were problematic. Student participant 1 attested to this claim by saying,

> *I don't want to lie. I was tempted to cancel the registration of some of my modules as some of my friends did. I had no hope that I would manage studying so many modules independently because I am used to studying in groups with my friends. Thank God, I did not cancel them because I managed to pass all of them through the support that I received from the Writing Centre of the university and the WhatsApp support group that my classmates created.*

It could be seen from the analysis of participants' interview data that the availability of network connection and data were critical in all participants' lived experiences of ERT. Their availability correlated to better experiences of ERT while their unavailability related with worst experiences. The socioeconomic conditions of students' homes strongly emerged as structures at the level of the real that influenced students' home conditions and the availability of data.

3.5. Teaching, learning, and assessment practices and policies

As evidenced in the studied university's website, the university revised its teaching, learning and assessment policies to accommodate ERT. When ERT was adopted, the policies encouraged the adoption of any educational technologies that could assist lecturers in their teaching endeavors. However, summative assessments were restricted to the university's approved learning management systems (LMS), Blackboard and Moodle. Lecturer participant 3 stated,

> *Blackboard was the LMS that the university used since 2009, but when the university shifted to ERT the version of Blackboard that the university used became overloaded and difficult to maintain, triggering the move to its cloud-based platform that became much expensive. Subsequently, the university adopted a new LMS, Moodle, that was much cheaper than Blackboard. However, the shift to Moodle necessitated another training to equip both lecturers and students. Then again, the training provided was not enough to prepare lecturers to engage students meaningfully in learning and assessing higher order thinking and critical thinking.*

The problem with online exams was that the integrity of assessments could not be verified. Students may have shared their login passwords with acquaintances who may have been asked to write on behalf of enrolled students, or students may have written individual exams in groups, according to lecturer participants. Respondus Lockdown Browser and Respondus Monitor were used as proctoring tools by the institution to prevent cheating during online assessments. Due to network issues and restricted bandwidth, the quality of Respondus Monitor clips was occasionally poor, making it difficult for lecturers to ascertain whether students had cheated or not. In such circum-

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stances, lecturers have the discretion to allow students to repeat online examinations in a controlled setting in the lecturer's presence if they were suspected of cheating in the prior online assessment. Although the accuracy of Respodus in avoiding cheating cannot be guaranteed, it has been considered to assist in lowering students' probabilities of cheating, thereby contributing to enhancing the integrity of online exams.

4. Discussion

The critical realist analysis of student participants' empirical data suggests that students who register in RBUs are low-income students who deliberately choose to study in RBUs because they cannot afford to study in other universities. This finding coincides with [16]'s assertion that low-income students do not afford studying in expensive universities. Many students in RBUs are thus working-class students. The student body is, generally, diverse [16] in all institutional types. Students possess different attributes such as learning styles [2], attitudes, perspectives, values, and goals [16]. In addition, students' personal, religious, and cultural values underpin their behaviors. Student participant 1, for instance, asserted, *"…as a child born and bred in a Christian family of moral values, I cannot cheat in tests and examinations… even if my classmates cheat*". The extract shows how the student participant drew on the family values to abide by the university's academic integrity policy during online summative assessments. It would be inappropriate to assume that all students who come from the Christian background would respond to cheating in the same way. Generally, individual's habitus can thus be understood to reflect their demographic characteristics as well as cultural and social capital [5, 17]. Students' personal characteristics influence the way they behave, perceive and experience university life and ultimately the way they integrate with the university culture [6, 18]. Students whose personal values are aligned with the available university structures [6] whether political or religious are likely to feel more connected to the university compared to students who do not find their associates [18]. The way students perceive and experience the integration with the university is directly linked to how they perform in their studies.

During the pandemic, students were forced to study at home. This meant that what would have been done at the university had to be done at home because of the pandemic. Students' home conditions were completely different [19, 16]. Many students could not access the internet [2] when they were at home because of unavailability of network connection [20] and electricity [2], and sometimes unaffordability of data [19] after what was offered by the university was depleted. The findings suggest that the early depletion of data could be attributed to computer illiteracy of the student and inefficient pedagogical approach of the lecturer. The computer illiterate student could spend a large portion of the data watching "how to…" videos on YouTube because they are computer illiterate. Alternatively, the lecturer could use an unproductive live lecture method that requires long time attendance to address an issue that could possibly be addressed in less time.

The critical realist lens allows us to connect the unaffordability of data to the socio-economic status of students' homes. Students who come from low-income homes are likely to experience this limitation more than students who come from middle-class homes. Social class can thus be seen to play a role in shaping students' experiences of ERT. Early depletion of data coupled with unaffordability of data would mean that the student is excluded in the teaching and learning process. In such cases students use night data to download lecture recordings. The disadvantage of relying on downloaded lecture recordings is that students do not have the opportunity to engage in the discussion. They passively observe what took place during the class and learn from that. Perhaps if they were part of the discussion, they could have experienced the class differently. ERT could be seen to benefit students who can afford to buy data while disadvantaging those who cannot afford to. The subsequent unintended pedagogical consequence of ERT in this case is lack of adequate epistemological access by low-income students. This implies that the underlying principle of not leaving any student behind was not adequately ob-

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served since middle-class students could be seen to benefit in class attendance more than working-class students. ERT thus intensified the digital and educational divide between the low-income and middle-class students.

Working-class students who stay on campus are likely to have more chances of accessing resources such as the library and the computer labs compared to students who stay off-campus [21]. In addition, students who stay on campus are more likely to know senior students who studied the same courses, and subsequently have better chances of peer support and integration into the university culture [18]. Moreover, they are likely to be involved in extramural activities, in so doing expanding their social network. Students are social beings [5, 7], so the sense of belonging is critical in their wellbeing. During the pandemic, students returned to the university campuses only after the lockdown restrictions were relaxed. During the hard lockdown social media played a major role in linking peers from different geographical areas and the availability of data and network were crucial.

ERT was thus rated lower than traditional lectures in relation to students' engagement in class activities [2]. Students who study at home report less positive university experiences; lower levels of engagement in academic studies, student social life, and extracurricular activities; and fewer opportunities to develop social and cultural capital and learning through informal interaction [17, 16]. Academic and social integration during the pandemic were essential to determine whether students continued pursuing their goals in the university or gave up the academic years [18]. Restrictions on gathering and travelling prevented physical collaboration between students, lecturers, and research and conference attendance. This resulted in students and lecturers feeling alienated and suffered from mental health issues such as depression and anxiety arising from increased stress [2], workloads, and isolation [20]. Ultimately lecturers took sick leave and students ran the risk of dropping out [2]. It is for this reason that the university's counselling facility was critical to assist students and academics emotionally. However, some students, more especially the first-year students, were not aware about the existence of such facilities, while others preferred not to use them because of the stigma associated with it. In many respects, COVID-19 exacerbated inequality in varying levels of family support for their students during the pandemic [22]. Again, the critical realist lens allows us to associate the differentiated family support of students to their family's socioeconomic standing where middle-class families were seen to support students significantly than working-class families.

Different lecturers' pedagogical approaches influenced the way students experienced ERT [16]. Lecturers began to use media or teaching methods that they were familiar with and perceived as useful and appropriate. Some lecturers had no idea of transforming their existing learning materials into online learning environments [19]. Subsequently, such lecturers taught in online classes in the same way they would teach in a traditional lecture [2]. The lecturer would spend almost ninety minutes of teaching trying to engage students in discussions that most of the time were not successful because students could not participate in them. This pedagogical approach consumed a lot of data. Regarding assessments, some students stated that online assessments were much easier than traditional venue-based assessments. This finding is also directly linked to the pedagogical expertise of lecturers. Some lecturers found it challenging to assess students authentically online [20]. For instance, while they could be aware of assessment practices such as open-book examinations [2], they might not have been equipped on setting questions for that kind of assessment. The underlying principle of setting open-book assessment is that students should not be able to find the direct answers online if good questions are asked. Lecturers need training on designing and developing good assessment questions. Alternatively, some lecturers would use discussion forums to minimize the amount of data consumed during live sessions. Again only a few students participated in online discussion forums.

The overall finding thus was that some lecturers lacked pedagogical knowledge and experience of teaching online [20, 2]. This implies that pedagogical training is essential

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[2] if lecturers must teach and assess effectively in online environments. Lack of adequate engagement in learning and limited authentic assessment practices that encourage deep approaches to learning would mean that the epistemological access of students' learning is questionable during the era of ERT.

The findings and discussion provided above show how personal attributes of students and lecturers enabled and constrained their academic and social integration into the university during the pandemic [16]. Lecturers who used blended learning before the pandemic transitioned to ERT differently to lecturers who used blended learning for the first time [21] during the pandemic. In addition, the way lecturers managed their classes could have been experienced differently by students depending on students' prior experiences of blended learning. For instance, the technologically experienced lecturer reported to use discussion forums to engage students and tried innovative ways to minimize data consumption whereas the less technologically competent lecturer was not so effective in engaging students and saving data.

We could see through the critical realist lens that socioeconomic conditions of students emerged as the conditioning structures for the experiences and observations that emerged for both students and lecturers. For instance, poor attendance of virtual classes by students was seen to have been triggered by infrastructural and socioeconomic constrains such as the unavailability of network connection, unavailability of electricity, and unavailability of data [2]. The cultural constraint associated with the social construction of gender roles in students' home, such as looking after cattle by male students and doing household chores [21] by female students also surfaced in the study. These technological and social structures are enduring and are likely to constrain future adoption of remote teaching beyond the pandemic if students continue to study from home. The critical analysis lens has allowed us to go beyond observations and experiences reported by student and lecturer participants to understand the underlying structures from which the events emerged. For instance, the event of recording live online sessions was reported to have caused some students to stop participating in discussions. This might be because they were not confident in speaking the language of instruction or because they were not given the freedom to speak in their home language in the case where both lecturers and students understood students' home language. Lack of confidence to speak in public could be attributed to students' prior-schooling and personal attributes that were discussed earlier in the article. Such events, observations and experiences are linked to the structures at the level of the real such as family's socioeconomic conditions.

The findings of this study resonate with the findings recorded in earlier studies (see [19] and [23]) that found the implementation of ERT to mistreat the working-class students further. The working-class students missed out on opportunities to engage meaningfully with learning materials because, for a variety of reasons, they were unable to attend all live sessions [23]. As a result, their epistemological access may be rated lower than their counterparts' [7]. Lack of adequate assessment practices in online environment by some lecturers, though, may fall short in identifying this gap in epistemological access. Additionally, the digital divide [16] that existed prior to the pandemic was exacerbated by the shift to ERT [19]. While some working-class students used their bursary funds to support their families, middle-class students purchased more advanced educational technologies. Furthermore, insufficient lecturer training could have resulted in lower quality standards of teaching and assessment than could have been possible in traditional face-to-face classes. Another troubling finding was that the legitimacy of online assessments could not be guaranteed. It might be possible that students in some courses assisted one another in completing online summative assessments. The availability of proctoring software does not eliminate academic dishonesty completely. These are some of the unintended pedagogical consequences that participants' interviews revealed. Future research should be designed and developed to address these issues. The study found that lecturers require more training not only to be technologically competent, but also to be pedagogically competent for the online environment. Furthermore, universities especially rural-based universities should have plans in place to accommo-

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date students who are unable to engage with online materials due to home circumstances, as discussed in the study.

5. Conclusion

The key findings drawn from participants' interview data presented above are that 1) Students' and lecturers' home conditions inclined the way students and lecturers perceived, practiced, and experienced ERT. 2) Students' and lecturers' individual attributes influenced how students and lecturers perceived, practiced and experienced ERT. 3). Students' and lecturers' blended learning experiences before the pandemic determined the way lecturers perceived, practiced, and experienced ERT. 4) The training and support that the university provided to students and lecturers were connected to the way students and lecturers perceived, practiced and experienced ERT, and 5) The teaching, learning and assessment practices and policies of the university affected students' and lecturers' perceptions, practices, and experiences of ERT.

Although ERT was meant to save the academic years during the pandemic and accommodate every student, the way it was implemented may not have been completely productive in RBUs. As a result, it constructed the unintended pedagogical consequences such as (1) exclusion of low-income students in the process of active teaching and learning, (2) equipping middle-class students with better chances of success than working-class students. (3) distressing female students and lecturers more than their male counterparts, and (4) unproductive assessment practices that may have fallen short to assess students' learning comprehensively.

To confront these challenges, university policies should concentrate on responding to the concerns of digital divide [16], give lecturers more autonomy to be innovative in their teaching and assessment practices, and provide flexible methods of assessing students' learning. Furthermore, because technology is not always a viable solution in all contexts, less technological pedagogical models that may be better suited to areas lacking a reliable internet connection should be explored.

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