APPRASING THE USE OF UBUNTU PHILOSOPHY FOR THE ENHANCEMENT OF DISRUPTIVE PEDAGOGY ADOPTION

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Traditional educational practices are changing to increase student engagement with course content, improve learning outcomes and engender the achievement of relevant competencies. The picture of students passively receiving information from a lecturer behind a pedestal is no longer representative of the contemporary scope and dimension of higher education. Ubuntu ideals and principles of solidarity, love, collaboration, respect, and compassion are at the heart of the Ubuntu philosophy. The Covid-19 pandemic disrupted the conventional teaching environments and methods thus forcing higher education institutions to adapt to e-learning practices for teaching and learning embedded in disruptive pedagogies. This paper evaluated how a Built Environment Department at a South African University of Technology adapted to the new norm of online teaching and learning, and whether these results can be associated with using disruptive pedagogy into its teaching practices. Furthermore, this study aims to suggest how the Ubuntu philosophy can be seen as means to improve disruptive pedagogy within the case study through the deployment of peer-to-peer learning among the lecturers. The research methodology that was used to collect data was qualitative research in the form of structured interviews and the data was analysed thematically. Results indicated that the lecturers were fairly prepared for online teaching and learning however, improvements can be made through peer-to-peer (collaborative) learning as a means for deepening the application of disruptive pedagogies by lecturers for maximal benefit (i.e., optimal levels of student engagement and active learning) can be achieved through the inclusion of Ubuntu principles. The study makes suggestions on how lecturers in the case study can further enhance their disruptive pedagogy approaches by creating communities of practice where peer-to-peer learning amongst lecturers can be used to demystify disruptive pedagogical approaches.

Keywords; Built Environment, Covid-19, Disruptive Pedagogy, e-Learning, peer-to-peer learning, Ubuntu philosophy.

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1. INTRODUCTION

1.1 Background and problem statement
The COVID-19 pandemic is the latest among a plethora of forces affecting universities in recent times. Prior to its advent, digital transformation, emergence of new kinds of knowledge, skillsets, and competencies, demands for life-long learning were some of the forces which have compelled

universities to reinvent themselves to stay relevant and competitive (Wangenge-Ouma & Kupe, 2020). The pandemic has transformed and reorganized the way people learn, resulting in the rapid and unplanned transition to online learning at higher education institutions (HEIs) (Khoza, et al., 2021). Accordingly, HEIs have adapted to the 'new normal' by integrating technology into extant teaching and learning practices to engender flexible scholarship and engagement of learners and teachers using relevant systems, remotely. The incorporation of these technologies into teaching and learning spheres has brought about disruptive pedagogies.

'Disruptive pedagogies' (DPs) have been advocated for a long time due to their potential to be 'pedagogically inventive' or to operate as 'change catalysts' (Conole, et al., 2008). Such pedagogies which mark a dramatic deviation from established teaching standards, have emerged because of the introduction of radical new technology (Bassendowski, et al., 2014). Teaching and learning practices remain processes through which students acquire new knowledge, attitudes, behaviours, and competencies (Nithyanandama, 2019). Incorporating technology into these practices exposes students to a variety of stimuli whilst encouraging them to participate in activity-based learning. Furthermore, universities should serve as a source of inspiration for new teaching-learning approaches that incorporate technology and novel didactic methodologies (Ramirez-Mendoza, et al., 2018). This is important within the built environment (BE) domain where activity-based learning is used to introduce students to actual construction and engineering practical challenges within the classroom, through simulations.

With the rapid changes in technology and industry requirements, the outcomes for engineering and construction education students need be aligned with required industry competencies. It is the responsibility of the lecturers to ensure that students gain exposure to these competencies through various teaching and assessment practices used in the classroom. However, the uptake of technologies required to engender disruptive pedagogies among educators remains a challenge. This is particularly the case in universities situated within the developing country context. Although scholars have identified peer-to-peer learning as a veritable platform for stimulating improved levels of technology adoption (Szymkowiak and Jeganathan, 2022), limited studies have attempted to understudy this postulation among educators in Universities of Technology (UoTs) within the developing country context. This is the gap which this study seeks to bridge through focusing on the ability of academics to foster optimal peer-to-peer learning for better adaptation to disruptive pedagogy implementation leveraging Ubuntu principles, using a BE exemplar.

2. RESEARCH METHOD

A qualitative research approach was utilized in the study. Interviews were deployed for data elicitation from a purposively selected sample of educators (n=10) working in the Built Environment Department, Faculty of Engineering, Information Technology and Built Environment at a South African University of Technology. These lecturers teach student cohorts enrolled in the Bachelor of Construction and Postgraduate degrees in Construction Management, Quantity Surveying and Construction Health and Safety programmes in the Department of Built Environment. Questions posed during the interviews were centred on their experience during the transition from traditional face-to-face teaching and learning to online teaching and learning.

Lecturers shared their own personal experiences of using technology and their readiness for online teaching and learning, and the utility Ubuntu principles in strengthening their online teaching capabilities. The issue of data saturation does not arise due to the small nature of the teaching cohort in the department. The interviews ranged from 20minutes to 35 minutes and were held virtually using on Microsoft teams- a form of computer-mediated communication platform which has become quite popular for such activities. The transcripts resulting from the verbatim transcription of the interviews were analyzed using thematic analysis. The thematic analysis has been identified as useful for instances where a comprehension of experiences, thoughts, or behaviours from a data set is imperative (Akinyode & Khan, 2018). Thematic analysis is a technique used for discovering, analysing, and reporting patterns (themes) in data. It organizes and describes your data set in detail at a high level (Braun & Clarke, 2006). Pre-set themes were used in carrying out the analysis (Awuzie, 2018) . The pre- set themes included Ubuntu, active learning, peer to peer learning and disruptive pedagogy. Ethical clearance was obtained from the faculty's ethical committee.

3. FINDINGS

This section articulates the findings from the structured interviews. The findings are presented according to the pre-set themes derived from the questions posed.

3.1. Degree of preparedness for engaging with disruptive pedagogies

The pandemic abruptly disrupted the conventional teaching and learning practices, resulting in a rapid transition to online teaching and learning practices. Whereas most scholars have detailed the unpreparedness of educators for this transition, findings from the interviews indicated that on a scale of 1-5, most of the educators interviewed considered themselves to be adequately prepared for this impromptu transition to online teaching and learning practices.

This level of preparedness remains evident from their successful attempt towards introducing disruptive pedagogies to achieve above average levels of student engagement in and outside the classroom during this time. Accordingly, all interviewees made use of discussion boards on BlackBoard during and after class to keep students engaged. Moreover, 2 lecturers admitted to using emojis in class to ascertain students' comprehension of the content, highlighting that it was an innovative way to sustain students engagement during online classes to stay engaged in class.

The use of social media platforms (WhatsApp) for effective and fast communication with students was highlighted. Class cohorts were divided into smaller more manageable groups of 10 students in each group considering that first year and second-year cohorts ranged between 150-180 students. Furthermore, most interviewees acknowledged that these WhatsApp groups enhanced their ability to observe student participation with ease. The introduction of flip classes, whereby a specific learning unit would be taught online initially, with follow-up face-to-face sessions to provide clarifications on any grey areas, by the interviewees was another disruptive pedagogy with immense merits. Furthermore, the Blackboard learning management system played a pivotal role, providing a virtual learning environment for designing and delivering online sessions. It allowed lecturers to provide teaching and learning materials, recordings of lectures, group assignments, reflective journals, videos, quizzes, and tests for asynchronous engagement by students.

Interviewees opined that students learnt new skills such as how to prepare and render PowerPoint presentations, using either Collaborate Ultra via Blackboard, Microsoft teams or Zoom for communication.

3.2. Perception of impact of DP on fostering active learning:
Interviewees indicated that they made use of peer learning strategies to foster active learning in the classroom during online lectures. For instance, reciprocal teaching was implemented as an instructional activity. Reciprocal teaching is an instructional method for enhancing reading comprehension by explicitly teaching metacognitive skills. It is also recognized as an example of a practice that is inclusive. Reciprocal teaching is a reading technique, which promotes students' reading abilities and comprehension (McAllum, 2014).

The interviewees also admitted to making use of tutorials to facilitate active learning. Other approaches postulated include the use of knowledge cafes to break down difficult concepts during class, group presentations, case studies based on real-world scenarios, classroom pooling and short 1-page summaries.

Although the interviewees admitted to being sceptical concerning the introduction of technology based or innovative tools in their classes, they did so, nonetheless. Interviewee, L1 indicated:

> *"In 2021, I introduced the use of podcasts in my classes as an assessment to allow students that are not strong in academic writing an opportunity to share and express what they have gathered from the subject content"*

The use of augmented and virtual reality platforms in fostering active learning was mentioned by the interviewees. Most of the interviewees indicated that they had either completed or were still busy with the EON XR training. Interviewee L6 identified the benefits of this platform as including:

> *"EON XR will be basically for example in my health and safety subject; students need to know how to check health and safety factors on construction sites daily. So, you can just connect the device, go to a site virtually and then whatever that I will be seeing virtually there it will be projected on the screen and then students can see actually the good and the bad, different good practices of health and safety practices on site and the different examples without having to physically go to site".*

Based on the foregoing, the utility of these disruptive technologies in facilitating active learning within online learning environments can be discerned.

3.3. Challenges faced in deployment of DPs
The implementation of the DPs mentioned in the preceding sections were not without challenges. This much was attested to by most of the interviewees who posited that they were confronted with significant obstacles. The challenges were mainly attributed to the selection of the type of teaching and assessment practices to use to overcome issues associated with instructional immediacy for example. The lack of instructional immediacy within online learning environments made

sustaining optimal levels of student engagement as well as active learning. Also, most interviewees highlighted the difficulty in applying active learning practices initially until relevant trainings were proffered by the institution's e-Learning unit. These training sessions focused on appropriate instructional strategies, and assessment strategies for online teaching and learning. Interviewees further stated that due to time constraints and trying to finalize the curriculum timeously, they were unable to infuse other active-learning tools such as gamification e.g., kahoot into their courses. Furthermore, interviewees expressed beliefs that they would have mastered the craft of online engagement if they had engaged more with their colleagues who had fared better or if they had opportunities to compare notes with their peers in the form of peer to peer learning from the lecturer's perspectives.

3.4. Perception of ubuntu's utility in eradicating or ameliorating the challenges encountered
The term "Ubuntu pedagogy" refers to a humanizing approach to teaching and engaging students in the learning process. In the classroom, the Ubuntu maxim 'umuntu ungumuntu ngabantu' (a person is a person through other people) comes to life (Letseka, 2013; Ngubane & Makua, n.d.). In other words, life revolves around teamwork and brotherhood; a person is linked to others and brings life with them (Walt & Oosthuize, 2021). When teachers understand and embrace Ubuntu values, they are more likely to be empowered to combat exclusion and use pedagogies that aim to reach all learners in the classroom (Adigun, 2021). Therefor the fundamentals of Ubuntu lie in the emphasis of teamwork and collaborative engagements which this study associates with peer to peer learning. The use of indigenous knowledge is an important strategy to create a solid foundation for new teaching practices. Therefore, this study aims to demonstrate how the Ubuntu nexus can be used to enhance peer to peer learning in order to demystify disruptive pedagogy within engineering education, zooming into the built environment as alluded to in the research methodology section.

Table 1 below indicates some of the respondents' answers when they were asked to explain their understanding of Ubuntu as a philosophy and how it can be used to strengthen their online teaching and learning practices.

Ubuntu Principles/philosophy	*Integrating Ubuntu into online T&L*
"you are or the I am because we are"	*"Teamwork-you know students are able to collaborate with each other"*
"idea that all humanity is connected"	*"Problem based & integrated projects to develop skills from teamwork"*
"sense of community"	*"peer learning to help build little groups, students have the opportunity to engage more with each other"*
"communality, acceptance, social justice, fairness, morality, love"	*"you shouldn't be about tricking students or trying to make it misery for them or confuse them or so"*
"consideration, understanding a person's circumstances"	*"Students might not have data to access classes then we record those classes for them to use later"*

Table 1: Ubuntu principles used in the classroom- results from case study

4. DISCUSSION

The key findings from this study indicated that educators in the Built Environment Department at the CUT are willing to adapt to change and embrace disruptive pedagogies. Studies (Bassendowski, et al., 2014) stated that when it comes of introducing or using disruptive teaching practices, it is important to keep in mind what the curriculum aims to achieve. The introduction of technology and innovative teaching strategies should be used to merely improve on student engagement models and tools that are used by lecturers during online teaching and learning. It is evident that educators were able to swiftly shift towards online teaching and learning when the COVID-19 pandemic emerged in 2020. Moreover, based on the findings, lecturers indicated that grasping the use of disruptive pedagogical approaches would have been easier if they had teamed up and educated each other on the various tools which they used for online teaching and learning. Essentially, this then leads to the Ubuntu aspect for peer-to- peer learning among educators on how to properly deploy disruptive pedagogies for the desired effect. Communities of practice (CoPs) which are discipline orientated could be a possible solution for academics to exercise peer-to-peer learning where they could work together as suggested by the principles of Ubuntu and share knowledge on how to excel in the use of various disruptive pedagogical approaches. CoPs are understood as groups of people who share a common interest or passion with something they do and as they interact regularly, they learn how to improve it (Arthur, 2016).

Based on the data gathered, lecturers were to make use of a variety of tools to keep students actively engaged in class whilst also remembering that they have a diverse group of students that all learn in a different manner. Educators were also able to state how it is important to make use of indigenous knowledge such as the Ubuntu nexus into their online teaching and learning practices. In this way they are able to remember that not all students are technologically inclined and students require data and Wi-Fi to attend online classes. Considering them, lecturers were able to for instance record the lecturers and use multiple tools for revision and reflections in order to make sure all students were up to date with the each subject content.

Since it is still uncertain when this pandemic might end, it is important for lecturers to constantly take on trainings and workshops to improve their online teaching and learning practices. For instance, lecturers can introduce other innovative approaches to enhance the teaching learning process, which are more technology friendly such as gamification, which is lacking in the findings. Thereafter, lecturers can teach each other as a team (collaborative effort) on how to use introduce such approaches into their teaching practices. For instance, the lectures that stated in the findings that they had completed the EON XR training, they should assists other lecturers within the department on how to use that platform in order to enhance online and learning practices which would then led to improved student engagement. Lecturers that use emoji's to enhance student engagement in class can teach other colleagues on the effectiveness of this tool and how to use it within this community of practice centred around demystifying disruptive pedagogy. These can include tools mentioned by (Nancy, et al., 2020) in their study on innovative practices used in a modern world such as: blogging, webinars, kahoot, Evernote or even digital storytelling.

(Nithyanandama, 2019) further states additional frameworks to improve the quality of teaching processes by using tools such as mind maps, dividers pedagogy which assists the teacher in determining the student's readiness for topics covered in class, roles plays, flip flop classrooms, Blooms taxonomy and SMART. Any one or a combination of these tools/frameworks can be used depending on the students' strengths and backgrounds. When they are employed in the classroom, the lecturer should monitor the students' progress throughout the first two weeks of class and make any adjustments. The use of social media either than WhatsApp can also be used to explore an educational form of social media. Applications such as tik tok or you tube for assessment types can also be used to strengthen the department's use of technology and innovation during and online setting. However, the study recommends that through collaborative efforts buttressed in the Ubuntu nexus, lecturers should use peer-to-peer learning for disrupting normalities of conventional teaching and learning practices and work as a team to deepen the application of disruptive pedagogies.

5. CONCLUSION

Disruptive pedagogical teaching practices should be seen as opportunities to embrace change and the current shift towards 4IR and the fourth industrial revolution. The engineering and construction industries rapidly adjusting across the globe and it is therefore important that engineering lecturers are able to ensure that students are able to leave higher education institutions with the relevant skills and competencies that are required. Lecturers should embark on peer-to peer (collaborative) learning as a means for deepening the application of disruptive pedagogies by lecturers for maximal benefit such as optimal levels of student engagement and active learning. This can only be possible by lecturers introducing innovative teaching and learning practices into the classroom that will be able to prepare students for the future but also encourage collaborative student engagement in the class. The creation of communities of practice centred on the application disruptive pedagogies, where peer-to-peer /collaborative learning occurs as embedded in the Ubuntu principles can assist lecturers in deepening their application of disruptive pedagogies for the enhancement of active learning and improving student learning during online classes. The idea of using the Ubuntu philosophy was something that lectures were using in their teaching however after participating in this study they were able to see its benefits for peer-to-peer learning. Although this might not always be an easy transition for all parties involved however using indigenous knowledge such as the Ubuntu philosophy as a guide, then moving away from conventional teaching and learning practices can be a fun and interesting step for lecturers if they do so collaboratively.

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