Chapter 26
No Student Left Behind: Enabling Cognition of Scientific Knowledge Through Multilingual E-Learning Pedagogies

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ABSTRACT

The end of 2019 was punctuated by the emergence of an infectious disease spread through human-to-human transmission. This resulted in the suspension of contact classes as countries tried to contain the widespread virus. institutions were thus left with only one option: e-learning. E-learning entails the electronic delivery of learning experiences through the use of electronic mail and can either be synchronous or asynchronous. Through sociolinguistic lens embedded in the funds of knowledge and Paulo Freire's critical pedagogy, this chapter reports on a qualitative study that sought to delve into the pivotal role language play in the e-learning of multilingual undergraduate science students at a university in Zimbabwe. The students received e-learning lessons in the form of videos and narrated slides in English with subtitles in Shona and Ndebele languages. Data was collected through focus group interviews held via Microsoft Teams. This study suggests commendatory cognitive and socio-cultural benefits of multilingual e-learning pedagogy and espouses its use in higher education.

INTRODUCTION

"This online thing yakangoita chiriporipotyo (…was sudden). It was like being thrown into the deep end. We are grateful to Dr Mbudzi who turned a challenge into an opportunity vakatipa ma (…he delivered…) lessons in English, Ndebele, and Shona. He made sure hapana anosara (… no student is left behind). Imagine the stress of having to work on your own at home with no support from lecturers and fellow students, things could be worse", says Ruvarashe, a second-year undergraduate science student.

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Despite the fact that the popularity of e-learning continues to rise, and it accounted for nearly 40 percent of formal learning hours used in 2017 (ADT, 2018), there are students like Ruvarashe who had not been exposed to online learning prior 2020 when all contact classes were indefinitely suspended. An infectious disease spread through human-to-human transmission, was detected in Wuhan, China towards the end of the year 2019 before spreading to Zimbabwe and more than 150 other countries in the following few months (WHO, 2020). The disease, COVID-19, with an incubation period of between 1 and 14 days, is a continuous epidemic of the coronavirus disease caused by severe acute respiratory syndrome coronavirus 2, also named SARS-Cov-2 (CDC, 2020). To curb the spread of the epidemic, the World Health Organization, among other measures, recommended social distancing and travel restrictions leading to the immediate suspension of contact classes for Ruvarashe and over 400 million other students the world over (UNESCO, 2020).

In trying to save the academic year and mitigate the effects of the epidemic on students' future, Ruvarashe's university and millions of other institutions of education were left with one option: endorsing and resorting to electronic learning (e-learning). This resulted in the transmutation of pedagogical practices and a new experience for students like Ruvarashe who had not been subjected to such a learning model before. Elements that can constitute an e-learning curriculum include synchronous lessons, asynchronous lessons videos, quizzes, activities, and other interactive strategies (Allo, 2020). Also referred to as live-online learning, synchronous e-learning is usually lecturer-led with all students getting instruction at the same time regardless of their geographic locations (Orakcı, 2020).

Synchronous content delivery can be in the form of web-conferencing or can make use of virtual classroom platforms (such as Sakai; Google classroom; or Microsoft Teams) that offer interaction tools such as chat, and screen annotation. The lecturer sets the learning pace. Asynchronous e-learning on the other hand gives the student the power to pace their own learning. This model makes use of approaches such as pre-recorded lectures, videos, texts, and other interactive elements as the lecturer and student do not interact in real time (Gaba, Ashok & Sethy, 2010). Whereas in synchronous e-learning interaction takes place in real-time and the lecturer and student can verbally and non-verbally communicate with each other through audio and visual modes (Hrastinski, 2008).

Both frameworks (synchronous and asynchronous) enable students to record the e-lessons for repeated future use. Some e-learning platforms such as Microsoft Teams also enable the transcription of voice to word. In Zimbabwe, the only university that had been offering distance and e-learning sessions to its students before the COVID-19 pandemic was the Zimbabwe Open University (ZOU). This therefore meant for students like Ruvarashe e-learning was a completely new instructional approach they had little or no experience with. The circumstances surrounding COVID-19 in this Fourth Industrial Revolution era (4IR) presented an irrefutable need to embrace e-learning regardless of the universities' levels of preparedness and the numerous challenges this presented to Ruvarashe and other students, as Durnalı, Orakcı and Aktan (2019, p.228) suggest that "for thousands of years, education and training that manifested within a triangle of school-teacher-student has now used new, multifaceted, multi-channel alternatives with the use of technologies in the education system". However, with the use of technology in education, comes the linguistic challenges if the lessons and other instructional materials are delivered through a language the students have low proficiency. This is the situation in Zimbabwe, where most students are taught through a foreign language, be it during contact classes or through e-learning.