Chapter 27
Adoption of Open Education Resources at a Higher Education Institution Using Explanatory Sequential Mixed Methods Research Design

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ABSTRACT

The chapter is a walkthrough of a practical application of the explanatory sequential mixed method research design to investigate the adoption of open educational resources at a higher education institution in Zimbabwe. This is a complex phenomenon that required both quantitative measures to establish the nature and extent and precise qualitative explanations and justifications, an inherent precondition of mixed methods research. Justifiably explanatory sequential mixed method research was the appropriate research design to unpack the complex research problem due to its unique nature that permits flexible ontological, epistemological, philosophies, and analytical perspectives. The chapter illustrates how the quantitative component is complemented by the qualitative component to explain the complex phenomenon through integrated analysis and interpretation of research findings leading to valid conclusions and recommendations. In contribution to the development and use of explanatory sequential mixed methods research design, a new framework is proposed based on the lessons learned.

INTRODUCTION AND BACKGROUND

The chapter presents a practical application of explanatory sequential mixed methods research (MMR) in information science. The practical example used is based on case study research on the adoption and use of open educational resources (OER) at Africa University, a higher education institution in Zimba-

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bwe. OER are generally used for teaching, learning, and research and are stored in the public domain with creative commons and licence permission to retain, reuse, remix, redistribute and repurpose. OER include complete course curricula, textbooks, videos, course content, modules, evaluations, software platforms, tools, materials, and techniques used to support teaching and learning (Ally & Samaka, 2013; Hewlett Foundation, 2013a; Hewlett Foundation, 2013b; Hewlett Foundation, 2013c; UNESCO, 2016; Wiley, 2017).

The motivating factor for this research was the unavailability of university curriculum textbooks because of high costs in Zimbabwe (Shizha & Kariwo, 2012). In response to the textbook shortages, Econet Wireless Zimbabwe officially launched its nationwide EcoSchool OER project at Africa University on 28 February 2014. Mainstream adoption and use of EcoSchool OER resources by Africa University students was widely expected by all stakeholders. The research questions were constructed based on the statement of the problem. Research questions and hypotheses precede and influence the selection of the appropriate research methodology and methods (Tashakkori & Teddlie, 2015).

Econet's university learning platform was realised for the registered university students in Zimbabwe on 28 February 2014. The platform would enable both learners and educators to access local and global learning material. The EcoSchool platform, which had been pilot tested at the University of Zimbabwe's Faculty of Science, was finally rolled out to students in all universities in Zimbabwe after six months of testing. The EcoSchool platform was meant to alleviate the problem of acute shortages of textbooks and course material in higher education institutions in Zimbabwe. In addition, the EcoSchool product enables university students and lecturers to access over 50 educational websites for free. The main shortcoming of this initiative is that the platform is only for registered Econet mobile line users and those registered on the EcoSchool platform. Thus, one does not have to pay to access these websites on their computer, smartphone, or tablet.

EcoSchool also introduced 90% of textbook titles or equivalents via the e-library platform, where users can access softcopy textbooks on their smartphones, tablets, laptops, and computers. It does not only offer reading and studying but also introduced a CHAT platform where educators and learners can chat about their findings in their studies. Furthermore, students can access modules from other universities in the country or anywhere in the world free of charge for a whole year. Moreover, the issue of devices was also addressed by introducing an EcoSchool tablet equipped with the EcoSchool resources. However, the EcoSchool platform is not completely free. The charges are USD 2 per month for personal smartphones, tablets, and laptops, and the EcoSchool tablet costs USD 6 per month for 24 months. Every university student who registers with EcoSchool will have access to this learning platform. Registration processes and procedures were put in place at every university in Zimbabwe. The EcoSchool OER project is a commendable effort from Econet Wireless Zimbabwe and marks the formal OER implementation at Africa University and all universities in the country.

OER interventions have been reported both in the Global North and South. Through the Massachusetts Institute of Technology (MIT), OpenCourseWare (OCW) project of 2001, OERs became the starting model for open sharing of educational content (MIT, 2008). According to MIT (2013) site statistics, both Publication Metric and Site Traffic Measures have surged to high levels since 2002. The Site Traffic Metric measures, as of March 2014 indicate 199 298 131 total visits including affiliates; 152 347 350 unique visits; 2 175 425 visits to the MIT education site; 3 685 784 visits from learning institutions; 9 538 154 visits by OCW scholars; 9 538 154-page views; 220 885 OCW e-newsletter subscribers. Similarly, the publication metric measures indicate 2 206 courses published; 71 full video courses; 1018