

Chapter 7

Digitising Standardised Educational Assessment in Africa Using Computerised Adaptive Testing: Transdisciplinary Framework for Action

Jumoke I. Oladele

University of Johannesburg, South Africa

Mdutshekelwa Ndlovu

University of Johannesburg, South Africa

ABSTRACT

The experience of the COVID-19 pandemic has revealed a need for the educational sector in Africa to adopt innovative ways for assessment by leveraging technology with the increasing number of student enrollments at all levels of education. A systematic approach is also required to circumvent the challenges faced by developing countries transdisciplinary. Transdisciplinarity is still evolving and has been proved to be a viable tool for engagement, societal impact, new partnerships, fresh ideas, reality checks, new capacities, and systemic thinking leading to new career possibilities. This study conducted a documentary analysis of standardised examination administration in Africa and proposed a framework for action adopting a transdisciplinary approach to research for problem-solving. The study used a qualitative approach for collecting and analysing data from reports and documents supported by empirical findings from existing literature. The study created a framework for action through which the gains of the transdisciplinary approach can be translated to practice.

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INTRODUCTION

Education has been regarded as a key indicator of development. Nations worldwide are now gearing efforts at increasing access to quality education for citizens. Quality is reflected in the teaching and learning process, human capital development, instructional resources and support facilities. Didham and Ofei-Manu (2015) stressed that education has a long history as an international priority, and the right to education was first enshrined in the Universal Declaration of Human Rights in 1948. Therefore, improving education and ensuring all people are afforded a high standard of education has been reaffirmed as a key global goal of development under the post-2015 development agenda.

In 2015, the international community, through the efforts of the United Nations and Heads of states of the 193 Member Nations, launched the Sustainable Development Goals (SDGs) as a new developmental strategy for 2030. This strategy, which is otherwise known as Agenda 2030, is framed into 17 Goals, with Goal 4 being targeted at ensuring inclusive and quality education for all while promoting lifelong learning as well as building and upgrading educational facilities that are child, disability and gender-sensitive and to provide, safe, non-violent, inclusive and effective learning environments for all (Ugwuegbe et al., 2018). SDG Goal 4 is pivotal to the other 17 Sustainable Development Goals (Oladele et al., 2021).

The synthesis report of the United Nations Secretary-General (UNSG) on the post- 2015 development agenda stated that “high-quality education and life-long learning” and the capacity of teachers are key factors in empowering youth as a “globally connected engine for change”. World Economic Forum (2015) have also adduced a high level of importance to education as a strong system that broadens access to opportunities, improves health, and bolsters the resilience of communities; while fueling economic growth in a way that can reinforce and accelerate these processes. As such, there is a consensus on the relevance of education in the SDG agenda.

According to Ghavifekr and Rosdy (2015), integrating information and communication technologies (ICT) in education generally means technology-based teaching and learning process that closely relates to utilising learning technologies in schools. ICT is a backbone for teaching, learning and assessment, considered a key component in the pedagogical process (Githiru, 2018; Majid, 2019). The use of ICT in assessment is now common where it utilises digital devices which help construct assessment tasks. It could be delivered as computer-assisted assessment, computer adaptive testing, e-portfolio, and digital rubrics. These delivery forms provide immediate grading and feedback to students (Bethany Christian Institute, 2018). As such, technology is transforming learning and assessment through enhanced question types, real-time feedback, increased accessibility, adapts to learner ability and knowledge, embedded with the learning process and assessment for ongoing learning (Thomas, 2016).

Pedagogical processes in developing nations suffered considerable setbacks with the Covid-19 Pandemic due to non-access to technology support for teaching-learning with assessment as an integral aspect of this process. Educational assessment has a range of predicted effects on learners’ attainment to indicate the extent to which educational objectives are achieved (Mons, 2009). It also serves as a link between schools and national-level administrators. Educational assessment can either be teacher-made or standardised. The teacher normally prepares teacher-made tests to measure the classroom teaching outcomes in line with a specified curriculum. With standardised assessment, candidates are presented with the same questions scored consistently, comparing the relative performance of students usually practised with large-scale tests administered to large populations of students (Hodder Education, n.d.).

Some formats for administering standardised tests include multiple-choice, true-false questions, short-answer questions, essay questions, or a mix of question types. While standardised tests were traditionally

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