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A Review of How Online Learning Platforms and Digital Tools Are Bringing Unique Learning Affordance to ESD In Southern Africa

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Abstract

This study investigates the unique learning affordances of online Environmental and Sustainability Development (ESD) programs, focusing on Amanzi [Water] for Food in Rural Agriculture and Sustainability Starts with Teachers Education as case studies. These programs transitioned from face-to-face to online formats, offering transformative social learning experiences that promote sustainability knowledge, competencies, and values. Utilising both qualitative and quantitative research methods, the study applies the Value Creation Framework to assess the immediate, potential, applied, realised, and reframing value generated by these online learning initiatives. Findings reveal that the programs' innovative design conventions and successive research-led refinements shape online platforms into dynamic digital learning ecosystems. Findings reveal that the programs' innovative design conventions and successive research-led refinements shape online platforms into dynamic digital learning ecosystems. This research contributes to the design of future ESD-oriented platforms and the evolving role of digital ecosystems in addressing Southern Africa's socio-environmental challenges. It demonstrates their potential to enhance collaborative engagement and learning outcomes. By reviewing the design innovations of these early online ESD initiatives, the study informs the development of next-generation online learning platforms that prioritise accessibility, transformative pedagogy, and sustained community engagement. This work advances the academic field by deepening the understanding of ESD learning affordances and guiding the creation of digital ecosystems that support social learning for sustainability.

Keywords: learning affordances; Education for Sustainable Development; teacher training; online learning platforms; digital ecosystems