Chapter 12

Promoting Competence-Based Learning and Assessment Through Innovative Use of Electronic Portfolios

Joyce W. Gikandi
Mount Kenya University, Kenya

ABSTRACT

This chapter focuses on how innovative use of electronic portfolios (e-portfolios) can contribute towards meeting the needs of 21st century learners by promoting competence-based learning and assessment. The author explores various strategies and functionalities of e-portfolio application in higher education. Further, fundamental issues that relate to successful implementation of student academic e-portfolios are examined. Specifically, the relevance of congruent theoretical perspectives and teacher’s involvement in the process of e-portfolio development are articulated among other key issues. Based on the emergent perspectives elucidated through this chapter, best practices to inform innovative and effective uses of e-portfolios are identified. The chapter illuminates how the effective use of e-portfolio can promote meaningful learning experiences and development of core competences including interactive collaboration, creativity, critical thinking, digital literacy, problem solving and self-efficacy.

INTRODUCTION

Empirical research has shown that synergy between learner and assessment centeredness is antecedent to knowledge and competence development in higher education (Gikandi & Morrow, 2015; Gikandi 2015). In the same vein, assessment is one of the most influential factors that affect learning in formal educational settings (Bransford, Brown, & Cocking, 2000). Competence-based learning and assessment focuses on nurturing learners to actually engage in real-life scenarios and demonstrate relevant skills and knowledge within similar contexts or contexts that mimic workplace (Mcclarty & Gaertner, 2015). Proliferation of e-portfolios in higher education has led to increased interests among researchers and

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practitioners to closely examine the role of e-portfolio in teaching, learning and assessment. Previous research has demonstrated how multiple purposes of e-portfolio have co-existed and to some extent competed especially in relation to being used for both formative and summative purposes.

This chapter focuses on use of e-portfolios in higher education as a pedagogical strategy that can support meaningful learning and assessment of desirable competences. While research on e-portfolio functions have been previous documented as introduced above, gaps still exist in regard to adequate understanding on how e-portfolios can be applied to best support 21st century learners in development of relevant competences and lifelong learning skills. Following this viewpoint, application of e-portfolio from an interactive collaboration approach can foster sustained engagement, critical thinking and reflective learning. It can also promote shared responsibility among learners and the teacher in ways that nurture creativity and self-efficacy. Based on review of available literature, there is limited research on e-portfolio application that is based on such an approach. This chapter therefore explores application of e-portfolios from this perspective. The chapter also explores appropriate level of teacher’s involvement in the process of e-portfolio development by the learners. More importantly, fundamental issues that relate to successful implementation of student e-portfolios are examined. These issues include elucidation of congruent theoretical perspectives which forms a key contribution of this chapter.

Concurrent to the identified theoretical perspectives, the author further attempts to illuminate a number of relevant perspectives in the 21st century higher education. Firstly, the author’s viewpoint is that emphasis on continuous assessment while leveraging on potential of e-portfolios can promote digital literacy which implies increased use of ICT to search for, analyze, integrate, manage and evaluate information. Digital literacy is a fundamental core competence in the modern information-based society and is instrumental to efficient and effective communication. More importantly, it is precursor to interactive collaborations between the teacher and learners and among learners. These in turn, increase opportunities for active learning and formative feedback. In these ways, use of e-portfolio can synergetically promote digital literacy and stimulate meaningful learning experiences in ways that nurture learners’ capabilities and stimulate them to progressively focus on mastery of knowledge and valuable skills, hence competence-based education. However, these opportunities have not been fully explored in many higher education settings.

Secondly, the chapter articulates how e-portfolios can contribute towards shifting from high stake examinations to continuous assessment with emphasis on formative assessment in ways that provide a framework for departure from rote learning to deep and authentic learning. This is particularly essential to support learners hone skills and core competences that involve creativity, decision-making and problem solving. Engaging learners with activities that relate to real-life situations and experiences stimulates situated learning that is relevant to the societal needs and aligns with Sustainable Development Goals (SDGs).

Thirdly, in order to achieve the expected continuum between continuous (formative) assessment and summative assessment that characterize formal education in many countries, continuous assessment achievements through use of e-portfolios can be collated to serve summative purposes. In such contexts, innovative use e-portfolios assessment system can promote objectivity, fairness, inclusivity and transparency in assessment. This is mainly because e-portfolios, as it will be exemplified in this chapter, can efficiently and effectively support progressively documentation and monitoring of learner’s progress, enable sharing or openness, unlimited and cumulative sources of formative feedback and facilitate multiple assessors.