

**Investigating an ePortfolio-based  
learning environment for  
developing reflection with pre-service teachers**

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## DECLARATION

I declare that this dissertation is my own work and contains as its main content work that has not previously been submitted for a degree at any tertiary institution.

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## ABSTRACT

The term *reflection* has been part of the vocabulary of pre-service teacher education for many decades. During this time, many strategies have been created and implemented to encourage the development of reflective abilities in future teachers. Recent literature has highlighted that many of these approaches are largely unsuccessful in developing reflection, or that reflection in such contexts is superficial.

Concurrent with recent developments in methods to encourage and support reflection has been the improved affordances of technology and its increased use in higher education. These developments include both the range of platforms available and the opportunities for these platforms to be used as learning environments. Within electronic platforms, students can access resources and learning tasks in a range of modes that they complete to demonstrate their understanding.

This doctoral thesis explored the two areas of reflection and electronic learning environments to inform the development of an ePortfolio-based learning environment designed to scaffold the reflective abilities of pre-service teachers. The purpose of the research study was to examine: *In what ways can an ePortfolio platform provide an environment for scaffolding reflection in pre-service teachers in a university environment?*

Through cycles of implementation and review specifically designed for electronic learning platforms, the study developed an environment to scaffold and promote reflection. The implementation was based on a model of teaching that comprised: examples of good practice; the provision of an area within which students could interact with one another; and specific activities developed from literature to target the enhancement of reflection. These activities were selected and developed based on research into reflection and how best to support the development of reflective practitioners.

The learning environment was developed within the PebblePad ePortfolio system. A multiple methods approach was undertaken with Bachelor of Education students completing action research projects. Data collected in the study included an online survey, the examination of usage statistics, focus group and individual interviews, and document analysis to answer the

research questions. The majority of the data were analysed using a constant comparative approach, however, work samples were examined against a hierarchical model of reflection to identify if there was evidence of a range of levels of reflective writing.

The research found that the ePortfolio-based learning environment was an effective platform for the scaffolding of reflection to a limited degree. In terms of the research sub-questions, the students were able to access the prompts within the ePortfolio-based learning environment and utilise them in completing assessment tasks for their action research projects (Research Question 1). The students also highlighted reflective discussions as being valuable in the development of reflection, although these interactions were generally occurring outside the ePortfolio environment (Research Question 2). Students also reported that the provision of a strong model of reflective writing was extremely useful, and the prompts that were provided helped them to learn some of the skills of reflection (Research Question 3). There were, however, limitations to the research that impacted on the level of effectiveness of the environment. These were identified as: the timing of the research implementation; the lack of contextualized scaffolding from the tutors within the action research project; and the reduced sample size of participants.

A number of design principles were identified from the research for future iterations of ePortfolio-based learning environments. These were identified in the areas of the embedding of electronic learning environments in an integrated manner through higher education courses; changes to the way the interaction was facilitated within the environment; and the utilisation of strong models of reflective writing to scaffold pre-service teachers' reflective development.

The model trialed and reviewed in this research study shows promise as a systematic framework for the development of programs for broader implementation within teacher education courses with ePortfolios and other electronic platforms. These principles could be applied to develop not only reflection, but other equivalent processes in a range of discipline areas in higher education.

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