Professional Development ePortfolio Project: Candidates' Use of Technology in Teaching Practice

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Abstract: *Creating an ePortfolio throughout an elementary teacher education program supports candidates in reflecting on their knowledge of teaching and the integration of technology in their teaching practice.*
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Introduction

Electronic portfolios are implemented to support teacher candidates with documentation of artifacts that include reflection on their growth and learning (Batson, 2010). In an elementary teacher education program in a large university in the Southwest, candidates develop an ePortfolio as a capstone of their program. One requirement of this ePortfolio is for teacher candidates to document their students' use of digital tools. The researchers sought to examine the digital tools candidates selected to demonstrate for this requirement

Literature Review

The recently released 2016 National Educational Technology Plan (NETP), Future Ready Learning: Reimagining the Role of Technology in Education (U.S. Department of Education, 2016) identifies a growing "digital use divide" that separates students who use technology in active, creative ways to transform their learning and students who mainly use technology for passive consumption of content (p. 5). To address this growing divide, NETP recommends teacher preparation programs provide: "…professional learning opportunities that are aligned specifically with technology expectations outlined within state standards and that are reflective of the increased connectivity of and access to devices in schools. Technology should not be separate from content area learning but used to transform and expand pre- and in-service learning as an integral part of teacher learning" (p.87).

Strudler and Wetzel (2011) studied the phenomenon of the dual aspect of portfolio creation – assessment of learning and assessment for learning - and posited that by providing specific parameters, portfolio development could serve as a record of professional growth and as a form of assessment to evaluate teacher education programs.

Previous research has demonstrated that ePortfolios can provide opportunities for candidates to connect their practice to professional standards (Grove, Quinn, Paretti, McCarthy, Riddoch & Wang, 2016; Darling-Hammond & Baratz-Snowden, 2007) and nurture their professional growth as reflective and effective practitioners (Quinn, Grove, Paretti & Grandy,

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2015; Batson, 2010; Wetzel et al., 2010). This study attempts to extend the research by examining the types of digital tools teacher candidates are documenting in their ePortfolios.

Research Design and Methodology

This case study was situated in an elementary teacher education program in a college of education in the Southwest. During a series of three semester-long practica, each teacher education candidate developed an ePortfolio documenting their growth in becoming teachers. One of the required criteria for the ePortfolio was to demonstrate their students' use of digital tools.

Quantitative data were collected from a content analysis of the artifacts included in 41 ePortfolios presented by four cohorts of candidates in their final semester from Fall 2014 through Spring 2016. Additional analysis examined the ePortfolio artifacts and identified specific digital tools. Qualitative content analysis was used to identify the digital tools cited most frequently and their use.

Findings

In the final analysis, 29 ePortfolios were examined for evidence of digital tools identified in the artifacts (Table 1). Of the 29 ePortfolios examined, nine did not indicate any use of digital tools in their artifacts. Of the remaining 20 ePortfolios, 16 included artifacts indicating teacher use of digital tools (i.e. presenting information), 16 included artifacts indicating student use of digital tools (i.e. using iPads to work on reading or math programs), and 10 included artifacts indicating collaborative teacher and student use of digital tools (i.e. Edmodo, Smart Boards)

Technologies cited most frequently included: ClassDojo, iPads, and Smart Boards. Nine of the candidates cited use of ClassDojo for behavior management software. Each student has a profile avatar in the ClassDojo to which the teachers can assign positive and/or negative points (or 'dojos') throughout the day. Six candidates cited student use of iPads, and five candidates mentioned Smart Boards for both teacher instruction and student active use.

Table 1. *Number of ePortfolios examined by cohort*

Semester	Number of ePortfolios
Fall 2014	10
Spring 2015	3
Fall 2015	4
Spring 2016	12

Conclusions

An investigation of the ePortfolios yielded insights into candidate use of digital tools. One observation was that candidates may be using technology in their practice, but may not document its use in their ePortfolios. For example, one candidate attached her PowerPoints to the ePortfolio but did not list them as artifacts. Another candidate included photos showing Smart Board projection in the background but did not list this as an artifact demonstrating use of technology. Technologies cited indicate mainly teacher use or student passive consumption. The study indicates that there is a "digital use divide" that separates students who use technology in active, creative ways and students who mainly use technology for passive consumption of content**.**

It was assumed by the developers of the ePortfolio requirements that teacher candidates would know how to use a variety of digital tools for active student learning or would be able to facilitate student use of technology for their own learning. Findings indicated that this assumption was incorrect.

Discussion

Learning to teach is a complex and complicated process. The ePortfolio, as a capstone experience for the candidates provides a way for them to demonstrate growth as reflective and effective practitioners. Though candidates may be competent in using a variety of digital tools, they may not always understand how to guide their students' use of digital tools in active, creative ways to guide and transform their learning.

When designing requirements for ePortfolio development with a specific goal in mind (such as requiring artifacts that must demonstrate student use of digital tools) it is important to provide targeted support to help clearly define the desired results. If candidates do not understand what a specific instructional strategy looks like (i.e. helping students use digital tools in active, creative ways to improve their achievement) they cannot implement it.

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