PebblePad

Taking their skills with them: Seeking to find out whether eportfolio skills transfer from degree programs to the classroom

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Abstract

ePortfolios are being used in Higher Education, not just for use in single studies, but are embedded into entire programs, so students can demonstrate the development of their skills and learning, and to value becoming a reflective practitioner. This paper describes a pilot research study that sets out to investigate the skills postgraduate students acquire and practice from producing an eportfolio as part of their degree program, and also if the skills continue to be used in the graduate's professional work. The participants in the pilot study are graduates of the Master of Education, since many of them are already practicing teachers. After completing their degree, graduates are invited to allow their eportfolios to be analysed, and agree to be interviewed regarding their eportfolio skills and learning. The eportfolios and interview transcripts are being analysed using qualitative content analysis. This paper discusses some early observations made during the data collection, including participants' attitudes to the final product, difficulties experienced by students in the design process, and the attributes of teachers more likely to carry their skills into the school classroom.   After the data analysis is complete it is expected the outcomes of the study will inform the improvement of pre-service teacher and graduate teacher preparation through the refinement of the eportfolio embedment in degree programs, and to provide more information about the professional teaching practice of graduates of Higher Education. The ultimate goal is to have more information about the transference of positive learning skills from graduates to their professional work environments, many of which are school classrooms.

Introduction

ePortfolios are increasingly used in teacher education to help develop students to become 21st century self-reflective practitioners. However, little is known about whether the skills students gain in the process transfer to professional or school contexts. The study that is the subject of this paper began an investigation into whether the skills gained in creating an eportfolio by students in a teaching degree program transferred to their professional suite of skills as a reflective teacher, as well as for their work in the classroom.

Background

A recent advancement in the learning and development of children and adults is the advent of eportfolios to replace hard copy or paper-based portfolio creation. Adult and child learners are increasingly required to create eportfolios to demonstrate understanding of learning content and showcase achievements of development. More and more, academic teachers in Higher Education are requiring pre-service teachers to engage in reflective practice through the arrangement and production of an eportfolio. Also, professional organisations are beginning to expect portfolio evidence of achievement for professional standards. ePortfolios are seen to be a vehicle by which the maker uses intellectual and organizational skills to arrange artefacts of self-understood achievement to convince a viewer of their successful development in teaching and learning.

Discussion about eportfolios is becoming far-reaching in Higher Education, and longitudinal studies of their use in degree programs are starting to be reported as students and academics recognize the value of collecting artefacts of learning and reflecting on practice over time (Wetzel & Strudler, 2006). Gerber, Lewis and Northover (2009) describe a study of student perspectives to the introduction eportfolios into a degree program in New Zealand, which will survey students six times over a three year degree. Their early findings reinforce that we know many students struggle with the technology of the eportfolio, and some find it difficult to understand the learning value attached to eportfolio as an assessment 'tool'. Chau and Cheng (2010) have warned similarly, that we should ensure we clearly state our theories of learning and the rationale for including eportfolios in our pedagogic practices.

At Charles Sturt University (CSU) in the Faculty of Education, two degree programs have intentionally embedded eportfolio into the stream of learning for the purposes of reflection, development, assessment, and ultimately, showcasing of learning (Stefani, Mason & Pegler, 2007):

1. An undergraduate degree, Bachelor of Education (Early Childhood & Primary), which is a four-year program, with the final stage of embedding the eportfolio into each year level nearing completion. There are graduates of the degree with the embedment at the end of 2013.
2. A postgraduate degree, Master of Education. This degree takes one to two years of study, with the embedment of eportfolio completed through compulsory coursework. Students begin an eportfolio as they begin their degree, and purposefully engage with it again at the end of the program. Students began graduating from this degree with the embedment during 2013, and current student evaluation surveys support the value of the reflective nature and interrogation of professional skills gained through the use of the eportfolio. The following quotation from a finishing student is an example of the type of feedback that prompted the research study:

The ePortfolio provided an excellent platform for reflection and I enjoyed the overall process. The learning was fabulous and I have shared many thoughts and moments with colleagues at work.

(Student communication, 4/06/13)

The degree programs use eportfolios to enable students to engage in a learning process that allows them to demonstrate their learning and achievement to peers, academic assessors, and the profession. The eportfolios used in the two degree programs are complex 'tools' in an online environment where students can do a number of different things:

- Create a plan for self-directed study
- Sustain a resume of study, skills and experiences
- Collect artefacts, supporting documentation and reflective statements about their achievements
- Manipulate the collection for various audiences
- Showcase the contents in a creative way

The program or online environment used at Charles Sturt University for students' eportfolios is PebblePad Classic – students are able to collect artefacts and create complex web pages during the length of their degree study, and for one year after graduation.

The embedment has been carefully and thoughtfully designed: students submit a representation of their collected artefacts and evidence at specific points in the degree to convince an academic assessor of their achievements for different purposes. There is an expectation by the academic designers that by embedding eportfolios in their study program, the composite skills of the creators will continue into professional practice and, ultimately, into classrooms with young children.

Theoretical framework

The research paradigm overarching the pilot study is constructivist, positing "change is a nonlinear process that involves the infusion of new information and increased sophistication in its use into the constructions of involved human constructors" (Guba & Lincoln, 1989, p.109). The research study data collection and analysis comprise the "discovery" phase of constructivist evaluation, since eportfolios as well as the interview transcripts of the creators, the graduate students, will be interrogated to answer "what's going on here" (Guba & Lincoln, 2001, p.2). The "assimilation" phase will have the outcomes of the study inform the improvement of pre-service teacher and graduate teacher preparation, enhance professional teaching practice, and identify the transference of positive learning skills to the professional learning environments of the graduates.

The eportfolio embedment at CSU is based on Constructivist theories of meaningful learning (Howland, Jonassen & Mara, 2012), since students are required to consider the development in their own learning, organize and demonstrate what they have achieved, and design a way to showcase the evidence through higher order thinking and reflective practice. The undergraduate degree is a four-year program and eportfolio has been purposefully embedded at each year level considering the four main purposes (Stefani, et al, 2007):

- 1st year purposes: Development/Showcase/Assessment – Students look forward to the graduate attributes and assess the abilities they bring to their University studies; they devise an Action Plan or Learning Contract to plan for experiences and learning beyond the University; they reflect on Course Outcomes and their first year progress towards accomplishment.
- 2nd year purposes – Reflection/Assessment – Students are engaged in their first practicum with teaching responsibilities, so they document their observations of the children and the classroom, and articulate their planning and evaluation; they reflect on the progress of their Action Plan and other self-directed learning.
- 3rd year purpose – Development – Students are provided with an interactive form which lists the National Standards for Graduating Teachers. They take responsibility to collect evidence and artefacts of their learning and achievement over the final two years of their degree.
- 4th year purpose – Showcase – Students select evidence and artefacts to create a webfolio that demonstrates their potential for leadership and to convince academics, peers, and prospective employers of their suitability as a professional teacher.

Currently, there is an assumption that, since the skills of creating eportfolios for different purposes within the degree program has great benefit for the student whilst they are studying, that the student will recognize the skills they've learned, continue to use these skills, and because their profession is, or will be, education, they will teach the skills to young children.

The need to bridge the gap between undergraduate study and the profession has been noted in studies on attitudes towards the use of eportfolios by students and staff (Challis, Holt & Rice, 2005). In a description of the implementation of an eportfolio over a 3-year course, Wylie (2005) has emphasized the need for graduating students to ensure they can measure themselves against professional standards and demonstrate themselves to be "work-ready". A report by the Australian Learning & Teaching Council (ALTC, 2008) on the Australian ePortfolio Project notes "the development of initiatives that focus on the goals of employability skills and lifelong learning, not only to support workforce participation and mobility, but also to encourage the ongoing development of knowledge and skills within specific professions" (p.48), as a key context for the use of eportfolios.

The embedment of eportfolio in the Master of Education program is in a first compulsory subject, where students are required to demonstrate their acquired skills in higher degree study, including using ICTs and other technologies to facilitate their own learning and their current or future students. They also need to demonstrate their abilities to critically reflect, and they prepare and showcase their learning in a webfolio produced from a selection of their collected artefacts. Depending on the study specialization of the student, they may be required to continue to use the eportfolio in successive subjects, but all students know they will return to the eportfolio for assessment in the final compulsory capstone subject. In the final subject students engage in substantial reflection on their studies within the M.Ed and consider the contribution of this learning to their thinking as a professional educator and their progress and development within their career. They are particularly asked to consider any changes within their own practice and the profession more widely, and critically assess the issues that have contributed to these changes. Research studies for eportfolios have usually collected data through surveys, semi-structured interviews, and case studies, and communities of practice have been organized through conferences and the national eportfolio project (ALTC, 2008). Although the embedding of eportfolios into degree programs at CSU is at an early stage, it is important to question whether the implementation is effective and providing valuable learning for students. We need to ask ourselves if we have developed appropriate methods to support learning, and can this learning be continued beyond the University degree (Dalziel, Challen & Sutherland, 2006).

Method

The study that is the subject of this paper is a small qualitative study collecting data from graduated students from the Master of Education degree. The data collection includes:

- eportfolios of students after completing their degree;
- interview transcripts of consenting participants, after the conclusion of the degree program.

The eportfolios and interview transcripts are being analysed using qualitative content analysis, which involves analyzing the content and text to understand the "motives, goals, intentions, or values" of the student authors (Gray et al, 2007). The data analysis aims to determine how the contents of the eportfolio shed light on the skills and learning of the students.

The participants are 10 graduating students who have completed the final subject of the Master of Education degree. As part of their final subject, Reflecting on education as a profession in the 21st century, the graduates were required to produce an eportfolio as a "capstone" collection and reflection of their learning throughout the degree program. Texts and images are also being analysed using qualitative content analysis method (Berg, 2001; Brandes & Boskic, 2008; Krippendorff, 2003).

Results

The analysis of the data is still underway and a deeper discussion is planned in a future publication. Early themes that are emerging are regarding participants' attitudes to the final eportfolio; difficulties experienced by students explaining their design process; and, the attributes of teachers more likely to carry their skills into the school classroom.

Attitudes

The participants are extremely positive about the final product created as a showcase eportfolio at the culmination of their studies. This includes the process undertaken to develop the eportfolio from an early reflective tool at the beginning of their degree, which documents their development through to capstone eportfolio.

> ...it was really nice to have something else that I could put down my ideas [in] and bring everything together and I was quite happy with bringing this together and showing it in a different way and showing a different side to who you are... you get a different picture to [show] what your understanding [is] and it's a different way to... express yourself and I was quite happy with using this medium... to be assessed on. I felt quite good about it...

(Graduate, A Personal communication, 18/10/13)

> Look I think it's a really good way... to demonstrate your learning... 8 subjects, there were often subjects there you'd do and you'd say "oh yea I've got that done", this e-portfolio allowed me to go back and actually look at what I'd done and what I'd learnt and where the changes had occurred. So in terms of assessing my progress through the Masters I think that it was an excellent way to do that...

(Graduate B, Personal communication, 04/09/13)

Both graduates were reminded at the beginning of the interview that the study sought to find out their true feelings about the eportfolio itself, as well as the process students engaged in to create the final product.

As part of the first cycle of analysis the student's emotions and feelings are being identified to "tap into the inner cognitive systems of participants" (Saldana, 2013). This is in order to go beyond the academic contents of the eportfolio. Yancey (2009) describes the use of eportfolio by Seton Hall University to focus on students' development of noncognitive factors in an aid to retention. In this pilot study, graduates have used terms like "inspirational theorists", "love to teach", and "exciting avenues for learning" in their Introductions to the ePortfolios, which correlates to the measures of feelings of success and satisfaction referred to by Yancey.

Difficulties in expressing meta-reflection on design

During their study and the creation of the final eportfolio, the students are not given templates to fill, rather they are required to reflect on various aspects of their learning over the entire degree and provide evidence and artefacts to support their perceived development. They are provided with guidelines, a model of previous student work, and online tutorials on how to assemble a webfolio, the web eportfolio tool in PebblePad Classic required for submission. Students are encouraged to think about how best to present their work, and presentation has equal weighting with other criteria for assessment of their eportfolio.

Some participants have difficulty explaining their design process, since it requires meta-reflection during the interview. One of the questions being asked of participants is to talk about their process of designing their eportfolio. The responses to this aspect of the eportfolio are variable, with some students giving great detail regarding the plan, practice, research and design they did, while others struggle to articulate any ideas they recalled having when at the design point of creating the eportfolio.

In a recent study on meta-competence in Social Work students undertaking fieldwork practice, interviews were undertaken after students were engaged in a practice scenario (Bogo et al, 2013). The study found there was a great variation in students' meta-competencies on three dimensions of their practice, which could be "described as exemplifying different levels of reflective capacity that ranged from in-depth, rich, textured discussions to those that were more superficial, scant, and concrete (p.268)." Similarly, the graduates in this small eportfolio study are showing variable abilities to meta-reflect on their decisions regarding the design process and aesthetic choices made in the planning of the eportfolio, even when meta-reflection on other aspects of the eportfolio are deep and thoughtful.

In a study specifically looking at the design practices for eportfolio by undergraduate teachers, Hartmann & Calandra (2007) describe a process where the pre-service teachers improved their design abilities by sharing work and seeing how other students solved problems of presentation and communication. Since students create the eportfolios in this study by studying at a distance and online, no consideration has been previously given by the academic teachers to providing opportunities to share work during the assembling period of the webfolio.

Teacher attributes for transfer of skills

Teachers more experienced in using technology in their teaching appear to be more aware of the higher order thinking afforded through the more complex online or mobile technologies or environments, and are already transferring those skills to their classrooms by having children use similar forms of learning in their daily work.

> *... those big powerful skills and behaviours like... what does it mean to be a collaborator or what does it mean to be a good thinker... we do set goals in terms of that kind of model... what does it mean to be a self manager, what does it mean to be a good neighbor, what does it mean to be a researcher, those types of things are really important... and they self assess themselves on that for sure. So yeah... they are using those critical thinking skills and we're trying to bed it into the majority of our units... through that enquiry... process.*

(Graduate A, Personal communication, 18/10/2013)

This participant demonstrated a high level of accomplishment with the use of technology by embedding videos, images, and audio clips into the submitted eportfolio – including videos created with classroom children engaged with technology. The quotation shows the participant draws parallels between their own learning and the learning of children in the classroom.

> *Through online meetings, forum discussions and chat room dialogues, I have been engaged in informal learning opportunities and have gained very rich knowledge that will remain with me forever. More importantly, this learning will benefit my practice in teaching and leading, ultimately providing students with an enhanced opportunity to be successful.*

(Graduate C, Student ePortfolio, 13/9/13)

This participant quotation reinforces the findings of McNair & Marshall (2006) that the process of construction and the eportfolio itself develops confidence. Now that the graduate has experienced different forms of technology in their own learning and recognized their value, they have the intention to bring more of these teaching strategies to their own classroom.

Discussion

Even though the eportfolio takes a lot of work and effort by the students throughout the Masters degree program, early indications are that the students believe it is worthwhile and have a positive attitude towards expending the time and energy to produce a high quality product. The two quotations from the two participants in the section on 'attitudes' above are representative of the views of other interviewees. Mildly negative attitudes have been noted from one or two participants with regard to limitations afforded by the format or virtual environment in which students are required to submit their eportfolio, but the process and product have been regarded in an overwhelmingly positive way.

The difficulty some participants demonstrated in meta-reflections on the design process of the eportfolio may have been due to the length of time elapsed between the creation of the eportfolio and the interview, since other aspects of the reflection in the interview yielded deep thought and articulation. If this outcome proves to be more prevalent throughout the remainder of the data analysis process, consideration may be given to re-interviewing some of the participants to seek more knowledge regarding this anomaly. The research study by Boga, et al. (2013) does suggest that students may have different depths of meta-competence and meta-reflections on different aspects of their learning and experience, and this may indeed be the explanation for this early outcome of the data collection. Academic teachers of the M.Ed students will also seek ways for students to share their progressive work in eportfolio creation – more models of possible design and sharing of ideas may affect future participants' abilities to reflect on this aspect of the eportfolio.

With regard to the transfer of skills, early indications are that the more experienced the graduates have become with using the tools of technology in their own work, the more aware they are of the affordances for deeper learning with young children in their classrooms. The responses shown in the data reinforce the findings of Yancey (2009) that it is now a "research-based claim: that creating, evidencing, connecting, and reflecting involved in electronic portfolios engage students in new and beneficial ways", and this current study is beginning to show that the skills gained do indeed transfer to graduate teachers work with young children in the classroom.

Conclusion

The contribution of this project is in advancing the success in learning and teaching at three levels: in pre-service and graduate teacher preparation; in the professional teaching practice of graduates of Higher Education; and the provision of more dynamic learning for children in classrooms. The final outcomes of the study will shed light on the skills gained in more complicated authentic and enriching tasks like eportfolio creation and design, and whether and how teachers recognize what they know will enable children in their classrooms to learn in a similar way.

Because this study engages participants who have been students, and are teachers, the outcomes of this study will provide an opportunity to inform practice in the near future. A more comprehensive and longer-term view will be possible when the current graduates of the undergraduate degree have moved into the teaching profession - a similar study with these participants may provide broader and more varied responses due to the longevity of the embedment of the eportfolio into their study.

As Doig et al (2006) remind us, "...we cannot expect that the mere availability or provision of an eportfolio within a structured environment will enable all students to write reflectively." Likewise, we cannot expect that graduates of undergraduate teaching degrees will necessarily transfer the skills of creating an eportfolio for different purposes into their teaching with young children, and this needs to be explored.

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