

**Conflicting Functions:  
Eportfolios as a Source of Reflection in one Education Program**

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### **Conflicting Functions: Eportfolios as a Source of Reflection in one Education Program**

With the objective of understanding how eportfolios serve as tools of reflection for preservice teachers, I conducted a literature review and a small-scale survey. For my literature review, I looked at recent research about the need for teacher reflection, portfolios in general, the differences between portfolios and eportfolios, and recent studies of preservice teachers' reaction to eportfolio use. I then emailed a request to fill out a survey to all the preservice teachers enrolled in an education program at a major university in western Canada where eportfolio creation was a requirement for graduation. The survey asked students how they felt about making eportfolios, what they mainly used them for, and how eportfolios encouraged teacher reflection. 55% of respondents indicated that eportfolios helped them reflect. The other 45% provided comments identifying eportfolio creation as a waste of time. Two possible reasons for this negative view include students' disregard of course objectives and the requirement to use WordPress (cf. Boren et al., 2009), a pre-designed publishing platform.

#### **The Need for Teacher Reflection**

Reflective practice teacher educator, Thomas S. C. Farrell (2007) suggests, "experience is not enough for effective teaching... we learn [more] from reflecting on that experience" (pp. 1-2). Through reflection, Lazaraton and Ishihara (2005) suggest teachers can make "informed or analyzed instructional decisions, which should lead to new practices" (p. 539). For early educational reformist, John Dewey (1910), the definition of "reflection involves not simply a sequence of ideas, but a consequence - a consecutive ordering in such a way that each determines the next as its proper outcome" (pp. 2-3). In other words, reflection results from an ordering of thoughts that share the same objective of trying to understand something. When teachers try to understand the reasons behind their "ready-structured experience" (Silcock, 1994, p. 278), they can achieve "differently

organised knowledge” (p. 282). Professor Emeritus of adult education, Jack Mezirow (1990) calls this differently organised knowledge *transformative learning*. In his words, transformative learning occurs after “reassessing the presuppositions on which... beliefs are based” (p. 18). Schön (1986) presents two ways to reassess presuppositions.

Professionals can initiate reflection “*on* action, [which means] thinking back on what we have done” (p. 26, his emphasis), or they can initiate “reflection-in-action, [which means] the rethinking of some part of our knowing-in-action leads to on-the-spot experiment” (p. 28). Reflecting in or on action (Schön, 1982) in order to gain transformative learning (Mezirow, 1990) and “differently organised knowledge” (Silcock, 1994, p. 282) can be accomplished in a number of ways, including the creation and maintenance of a teaching portfolio.

### **The Functions of Teaching Portfolios**

Teaching portfolios can serve both product and process functions (Loughran & Corrigan, 1995, p. 567). As a product, or “a vehicle for the presentation of... ‘best work’” (Spendlove & Hopper, 2006, p. 179), teachers can showcase their model lesson plans, credentials, and “compliance with local, state, and national certification requirements” (Stansberry and Kymes, 2007, p. 488). Farrell (2007) suggests teachers can include “anecdotal records, student projects, class newsletters, videotapes, annual evaluations and letters of recommendation” (p. 24). With the inclusion of artifacts, Farrell (2004) adds, portfolios can tell a “story of the teacher’s efforts, skills, abilities, achievements, and contributions to students” (p. 82). One more artifact to include, Barrett (2005) suggests, is the rationale for why certain artifacts were chosen and how they “constitute evidence of achieving specific goals, outcomes or standards” (p. 7). This ‘rationale as a product’ also stems from the portfolio’s other function – portfolios as a process. As a process, the portfolio becomes “a developmental tool allowing for the development and refinement of

ideas” (Spendlove & Hopper, 2006, p. 179). As a “space for honest self-reflection and personal growth” (Stansberry & Kymes, 2007, p. 488), the portfolio can serve as a mirror and map (Farrell, 2007) that allows “teachers to ‘see themselves’ over time” (p. 23) and chart a path for development (p. 24). Mansvelder-Longayroux et al. (2007) even labeled the types of processes that occur during portfolio creation: recollection, evaluation, analysis, critical processing, diagnosis, and reflection - they concluded, however, that most mental processing consists of recollection and artifact evaluation, not reflection (p. 60). Even still, when portfolios function as a process, teachers can foster “learning about teaching, as well as learning about learning” (Loughran & Corrigan, 1995, p. 568). This range of portfolio functions, from “repository” (Spendlove & Hopper, 2006, p. 179) to “dossier” (Lin, 2008, p. 194) to “tool to bring about self-awareness” (Barrett, 2005, p. 14), transfers over to the electronic medium as well.

### **Eportfolios**

When teachers transfer their portfolios from hardcopy to digital, positive and negative changes occur. Regarding positive changes, teachers may notice what Former Chief Strategist of the McLuhan Program, Mark Federman (2004) refers to as a McLuhan message, i.e. the message gets, “enabled, enhanced, accelerated or extended by the new medium” (p. 2). Lin (2008), for example, reports that the students in her eportfolio study

added personal touches such as their pictures, short videos of their teaching and wave files of themselves stating their ideas and values concerning education. Some candidates chose to state their philosophies of education orally, allowing them to emphasize words and use intonation to highlight their intended message (p. 198).

More improvements could include a new ease in altering content, duplicating, navigating, displaying different media, and linking. With hyperlinks teachers can more easily “connect evidence to appropriate outcomes, goals or standards” (Barrett, 2005, p. 5). This new ease in updating content and beliefs fits well with Farrell’s (2004) view that reflection “is a lifelong endeavor and not a one-off workshop” (p. 12). Eportfolios can also facilitate the

use of “weblogs’ as means of writing a teaching journal for publication” (Farrell, 2007, p. 117), as well as the use of critical friendships, in order to “develop collegiality between teachers” (p. 151). To understand more fully the changes that occur when switching mediums, Barrett (2005), a leading proponent of eportfolios, provides a table comparing some of the processes of traditional and technologically enhanced portfolios (see Figure 1).

Traditional Portfolio Processes include:	Adding Technology allows enhancement through:
<ul style="list-style-type: none"> <li>• Collecting</li> <li>• Selecting</li> <li>• Reflecting</li> <li>• Projecting</li> <li>• Celebrating</li> </ul>	<ul style="list-style-type: none"> <li>• Archiving</li> <li>• Linking/Thinking</li> <li>• Storytelling</li> <li>• Collaborating</li> <li>• Publishing</li> </ul>

**(Figure 1, Barrett, 2005, p. 5)**

On the other hand, changes in the “medium through which [portfolios are] enacted” may worsen the experience for teachers (Klecka et al., 2008, p. 86). Technical issues, the addition of advertising in the case of freeware, and unfamiliarity with web design may cause teachers’ eportfolios to “not fully represent the identities that they were intended to construct” (p. 86). Another frustration may be increased production times. Acquiring a folder or binder to hold artifacts takes no time at all, but creating a digital platform can take hours and require adjustments every time something gets added. The use of readymade publishing platforms, such as WordPress (cf. Boren et al., 2009), may assist in this regard, but individuality can get compromised. As can be seen above, the transition from hardcopy to digital portfolios inevitably causes improvements, alterations, and degradations; by reviewing results from the literature, teachers can gain a better understanding of what those changes may be.

### **Reaction to Eportfolios in Teacher Education**

There is a growing body of research regarding preservice teachers’ reaction to eportfolio creation. In Wang’s (2004) case study of seven M. Ed students in a computer

education course who chose to produce an eportfolio instead of a research paper, students reported that they liked how eportfolios were open-ended so they could follow their creativity (p. 159). Students stated that eportfolios provided evidence of “technical skills and knowledge and showed their growth over time” (p. 159), and that they were able to learn by doing, viewing samples, collaborating with peers, synthesizing their final products, and solving problems (p. 160). In Pecheone et al.’s (2005) survey of 50 teacher candidates from three California universities, most respondents reported that “completing the portfolio electronically was either slightly or much more valuable than completing it on paper and by videotape” (p. 172), but also more “time consuming” (p. 172). “The feature found most valuable... was the capacity to get supervisor feedback online while still working on the portfolio” (p. 173). Negative aspects mostly involved time-consuming technical problems, such as difficulties with file formatting, updating, uploading, compressing, digitizing, navigating, and viewing documents (p. 173). In Beck et al.’s (2005) study of four different types of eportfolios created by 207 American pre-service and beginning teachers, subjects preferred formative-summative hybrid development eportfolios, collaborative learning / metacognitive understanding eportfolios, and student-teacher dialogic eportfolios over summative accountability eportfolios. In Spendlove and Hopper’s (2006) interview and survey of twelve design and technology trainee teachers’ creation of eportfolios, feedback was mostly positive. As a tool for reflection, “the portfolio was something that ‘forced’ them to ‘keep adapting’ as it was something that ‘makes you choose quality’ and ‘where you can be selective’” (p. 186). Negative points included the amount of time it required and “misconceptions over the availability of ‘digital images’” (p. 187). In Bartlett and Sherry’s (2006) survey of 23 non-technology undergraduate education students and 14 educational technology graduate students, the graduate students “reported fewer difficulties with the technology... than did the

undergraduates” (p. 247), and felt more strongly that making eportfolios was “reflective, inclusive, inquiring and dynamic” (p. 248). “Overall... both groups were satisfied with their completed portfolios... and the way in which the portfolios presented them as professionals” (p. 250). In Lin’s (2008) survey of 38 preservice elementary teachers at an American college, students reported considering themselves as “hands-on learners... learning by doing” (p. 196). “A majority of the students (87%) felt that the process of reflecting on their work over time, as well as seeing their experiences in the final e-portfolio helped them revisit their learning experiences in more specific and complex ways” (p. 196), and 73% “mentioned how the reflection helped them self-assess their learning acquisition” (p. 197). Negative reactions included “increased time commitment, uncertainty regarding purpose and audience, and limited knowledge about the content and organizational strategies” (p. 198). According to the above studies, preservice teachers of several types were mostly satisfied with eportfolios as a creative tool for reflection, and dissatisfied with time requirements and technical problems. Results from the current study indicate similar dissatisfactions; however, regarding eportfolios as a tool for reflection, results disagree.

### **Purpose of the Study**

With a knowledge of the need for teacher reflection, the functions of portfolios, the differences between hardcopy portfolios and eportfolios, and how preservice teachers in previous studies have reacted to eportfolio creation, I am now able to set the goals for this study:

1. What are preservice elementary and secondary education students’ positive and negative reactions to eportfolio creation?
2. How can eportfolios serve as tools for teacher reflection?

With descriptive evidence to answer these questions, hypotheses regarding the reasons

behind teachers' feelings can be arrived at and variables to control for in experimental research can be suggested.

### **The Context**

The research took place at a large university in western Canada within the faculty of education. As a condition for graduation, all preservice elementary and secondary teachers were required to make an eportfolio in their end-of-the-year capstone course that linked program and provincial college of teachers' standards to teaching experiences, artifacts, and reflections. In this way, education students could synthesise and reflect upon what they learned, review goals, development, and accomplishments with peers, and demonstrate understanding of the standards. Based on previous years' student feedback, WordPressMU (cf. Boren et al., 2009) was installed on the faculty's server, and as a result, all eportfolios had to be made with WordPress. Before this, eportfolio design tools were not standardised. To assist in creation, the education program provided students with instruction, e-coaches, other technical support, lab time, guides, feedback, and opportunities to discuss and assess their eportfolios with colleagues. As this was just one of several courses throughout the year, students had to budget their time in order to finish their eportfolios in a timely manner.

### **Methodology**

In this exploratory research, a letter of invitation with a survey attached was sent as a mass email to all the program's secondary and elementary education students (See Appendix A for a copy of the survey). Respondents were guaranteed anonymity and response was voluntary. Survey items included questions about students' area of teaching, perceived technical ability, purposes for building an eportfolio, and how building one encouraged teacher reflection. After the surveys were collected, data were categorised and

analysed until trends and common themes emerged. No more correspondence with the respondents or participating institution took place after that.

### **Participants**

In total, 20 elementary and secondary education students responded to the survey, 75% female and 25% male. 85% were between the ages of 21 and 30 and 15% were between 31 and 40. Respondents came from various educational backgrounds, including social sciences, mathematics, science, and business. 80% felt they had at least an above average ability to use technology compared to teachers in their age range and no one felt they were below average. They had all created an eportfolio as part of their requirements for graduation.

### **Results and Analysis**

In addition to fulfilling program requirements, students responded that their purposes for making the eportfolio were mostly to assist in gaining employment, storing and presenting ideas, practicing web design, and no purpose at all. Not one respondent mentioned teacher reflection, or a synonym thereof, as an individual objective even though the purposes set out by the program's capstone course – the course where eportfolios were made - included reviewing with peers, synthesising experiences, and consolidating ideas. In terms of perceived benefits of eportfolio creation, 35% answered they did not benefit, 20% mentioned they improved their technology skills, 15% said their eportfolio helped them reflect, 10% said it helped them learn the teaching standards, and 10% said it helped them with employment. Regarding how respondents wanted to improve their eportfolios, 65% responded that they had no interest in improving it and 25% wanted to improve its design. Regarding future plans for their eportfolios, 75% had no plans to use it and 15% intended to do a similar project in their classrooms. Regarding the use of eportfolios as a tool for reflection, 55% responded that making an eportfolio had helped them reflect on

their teaching, and 45% responded that it had not. There seemed to be no relationship between students' reaction to eportfolio creation and gender, age, technical ability, educational background, or subjects taught.

Responses to short-answer questions regarding purpose, benefits, and teacher reflection can be categorized into positive and negative reactions. Positive comments revolved mostly around the ability to reflect and learn technology and negative comments mostly related to the views that eportfolios served little purpose and were not useful for gaining employment.

### ***Positive Comments***

Regarding reflection, some comments included, "It's a great, easy, and fun way to document valuable experiences"; "It started out as a tool/requirement for the program, but through its use I've realized its potential to look at myself, my practice, and the near future"; "It's been a great avenue for reflecting on my practice through the duration of my education program, especially my practicum"; "Through the process of writing the reflections I gave myself the time to reflect on my own teaching practices. Going through this personal thought process helped me to better identify my teaching beliefs and in turn helped me to prepare for interviews," and, "When writing my reflections I had the chance to ask myself if I truly practiced what I preached." This last comment addresses Farrell and Lim's (2005) conclusion that "teachers do indeed have a set of complex belief systems that are sometimes not reflected in their classroom practices" (p. 10).

Regarding the ability to learn technology, some comments included, "Working on portfolio helped improved web design and computer skill sets"; "Forced me to become more adept with on-line technology so that I will now more likely teach students to create their own blogs/websites," and, "Employers wanted proof of web design projects, something to show I have experience in that area." One response, in particular, sums up all

the positive responses: “I enjoyed the e-folios... because it was a student-focused activity, meaning, I was able to demonstrate my creative abilities, express my individual learning experiences, as well as ‘play’ on the computer.” If students had provided comments only like these, then, there would be less impetus to initiate change; however, as can be seen below, many students remained frustrated.

### *Negative Comments*

Regarding the view that eportfolios serve little purpose for reflection or learning, some comments included, “It was unnecessary because much of the reflection was done as soon as the practicum was over, as well as during courses”; “I always reflect, and having to use the e-folio simply creates more useless work”; “I keep a journal with my [sic] and find it easier to jot things down as I go, rather than wait until I am at my computer,” and finally, “I don’t think we should’ve paid \$... for a class where we just had time to work on it.”

Regarding the view of the eportfolio as a tool to gain employment, some comments included, “The school districts I am applying for do not use it, they prefer a paper copy”; “My e-portfolio has not benefited me. I have not used it since I graduated as School Districts do not accept it”; “I’ve tried to show it to teachers/principals, but people prefer to see paper copies”; “The admin and school boards do not look at them, and they are due AFTER our interviews”; “I personally don’t feel it needs to be a requirement at... it can be an optional tool, as all interviews I have been on, no one has seemed to be thrilled by the idea”; “I have never been asked to share a portfolio (electronic or print) at an interview,” and, “Found it extremely time consuming and not worth it because in my experience, it is not heavily used after... profs look at it.” These last comments point to the belief that the eportfolio is mainly for viewers, not for the creator.

Other negative comments included, “The course for [students] was far too late in the program and presented in a very ‘slap it together’ fashion”; “We were required to use

Wordpress to construct our e-portfolios; there was no opportunity to use any other vehicle for the information in the portfolio”; “[not enough] tech support”; “There was very minimal (almost none) support when making it at... yet we all had to make one”; “Extra unneeded work”; “Busy work”; “Time could be better spent planning, locating resources, working on other projects, etc.”; “I just did it to pass the program”; “I won’t look at it again after I graduate,” and “No interest in improving [it] - useless tool for me.” To sum up these ideas, one respondent commented, “Several colleagues frequently complained about having to complete an e-folio because it doesn’t particularly aide student-teacher’s with future prospects of finding a job, nor does it have any use after completing the program.” With such a wide variety of negative comments, an attempt to consider the root of the problems could lead to ideas on how to improve the creation process for many students.

### **Discussion**

Many student comments indicate a disregard for the capstone course objectives, i.e. synthesis, reflection, review, collaboration, and application. For example, a common response to, “How has your eportfolio benefited you?” was, “It hasn’t,” because, “Districts don’t accept them.” The reason for this discord may be that the course objectives stated above promote portfolio development as a function of process (Loughran & Corrigan, 1995); students, on the other hand, nearing the end of their program and looking for employment, may be expecting their portfolios to function as products. With this view, it is understandable that they feel frustration, since districts do not look at them when considering applicants’ employability. One respondent’s complaint illustrates clearly the conflict between program and student objectives: “Several members of my cohort were extremely discouraged w/ the e-portfolio experience because they didn’t feel as though it would ‘get them that job.’” Another reason students could feel frustration from viewing their eportfolios as products may be their limited opportunity to incorporate individualised

and creative design. As a result of the program's use of WordPress (cf. Boren et al., 2009), a prefabricated publishing platform, students' ability to personalise their portfolios and represent themselves through design decreases. Thus, to change students' views and ease frustration, the education program could further promote the eportfolio as a process, i.e., a tool for life-long reflection, as well as allow students to follow their creativity during the design process.

To ease student frustration the education program could emphasise more strongly the eportfolio as a life-long process. One way to emphasise reflection, could be to rename the course. Instead of calling it the 'Capstone', a synonym for culmination, they could change it to something more in line with the reflection-based course objectives. Learning outcomes may be more realizable when students complete their eportfolio assignments within their 'reflection class', than when students complete their reflections within their capstone class. Another way to emphasise reflection could be to provide students with reflection coaches who happen to be good with technology, instead of e-coaches who happen to be assisting in a reflection project. In these ways, and possibly many others, students may begin to prioritise their eportfolios as processes instead of as products.

Another way to help preservice teachers ease their frustration could be to raise their opportunity for creativity. The publishing platform, WordPress (cf. Boren et al., 2009), although varied in its templates and appreciated by many for its ease of use, has a distinct structure that facilitates the display of content within provided frames. This may restrict teachers' creativity and ability to formulate identity. Although the five eportfolios that were voluntarily provided are all personal, user-friendly, and extensive in their content, they all fit into the same-shaped boxes and direct viewers in the same way to the same categories: Welcome, About Me, Artifacts, and Standards. In the words of one student, "It's kind of bloggy." Another student comment, "I wasn't good at laying out pictures to

the degree I wanted,” also shows stifled expression. A reversion back to nonstandardised eportfolios, although likely more challenging, may allow students to develop their creativity more fully and result in a stronger feeling of ownership and connection to the process.

In eportfolio creation, a balance between creativity and content must be reached. Spendlove and Hopper (2006) noticed the opposite imbalance in their own observation: “Pupils spend too much time on superficial work associated with the presentation of their design portfolios at the expense of the main core of designing and making activities” (p. 181). This lack of focus may result in “a collection, haphazard and without structure” (Barrett, 1998, p. 2). Barrett suggests that without standards as the organizing basis for a portfolio... the purpose is lost in the noise, glitz and hype” (p. 2). The eportfolios provided in this research handled their content obligations swimmingly; however, as mentioned above, they lacked individualised creative design, and thus, a major advantage to digitizing hardcopy portfolios (Lin, 2008) was missed. To summarise, in order for students’ eportfolios to facilitate more easily a balance of evidence, reflection, and open-ended creativity, and thereby, bring about transformative learning (Mezirow, 1990), students need to view their portfolios as a process and be allowed and encouraged to explore their own unique expression.

### **Limitations of the Study**

Several limitations exist in this study. A broader study of teacher reflection and how portfolio creation encourages it would allow for a clearer understanding of the benefits and drawbacks of shifting mediums. A more extensive review and deeper analysis of similar studies would facilitate the creation of more pertinent survey questions. For example, questions about how eportfolios assist in building and understanding teacher identity (cf. Hallman, 2007; Klecka, 2008) could lead to more answers. Barrett (2009), as

well, offers a database of eportfolio surveys that can be adapted. Also, with so few responses, the results can hardly be generalized to the population of a large teacher education program. These surveys only speak for the student teachers who filled them out. This being said, the comments provided do resemble the comments made by students in similar studies (cf. e.g. Spendlove & Hopper, 2006; Stansberry & Klyme, 2007). Since this study's survey was voluntary, it is also difficult to tell if students' compulsion for responding had more to do with benevolence or with strongly-held positive or negative positions. As a result, respondents' answers may not typify average student feelings. Also, without conducting an experiment that controls for variables, it is difficult to tell which aspects of eportfolio creation were so unacceptable to respondents. Future experiments could control for variables such as type of portfolio function, as in Beck et al.'s (2005) study of four different types of eportfolios, course objectives, or type of publishing platform. Even though the above limitations reduce understanding and generalisability, the individual voices of the survey participants may offer insight into the feelings of students regarding eportfolios as a tool for reflection.

### **Conclusion**

Communication philosophers, Marshall McLuhan and Quentin Fiore (1967) stated, "there is absolutely no inevitability as long as there is a willingness to contemplate what is happening" (p. 25). When teachers reflect in and on action (Schön, 1986) in an attempt to understand why things occur, they become more able to formulate new conclusions and "differently organised knowledge" (Silcock, 1994, p. 282). An increasingly popular way to reflect on practice is with an eportfolio (Strudler & Wetzel, 2005, p. 412). With both process and product functions (Loughran & Corrigan, 1995), eportfolios enable students to establish lifelong reflection (Farrell, 2004), ownership of learning (Stansberry & Kymes, 2007), and "a vehicle for the presentation of... 'best work'" (Spendlove & Hopper, 2006,

p. 179). Teacher education programs, therefore, should ensure that students' objectives match course objectives and encourage students to choose the design platform that best allows them to express their identity. Otherwise, students may view eportfolio creation as a "jump through one more hoop" (survey response) instead of as a chance to create a life-long living document, online presence, and vehicle for reflection and philosophy renewal.

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## Appendix A

If you teach and have made an e-portfolio, please answer the following questionnaire:

Copy **(ctrl-c)** this check mark ( ✓ ) and paste **(ctrl-v)** it to mark your answers;

With the short answer questions, please type as little or as much as you wish.

Questionnaire for Teachers who have made E-Portfolios						
<b>Age:</b>	21-30	31-40	41-50		51-and older	
<b>Years of teaching experience:</b>	0-1		1-5	5-10	10 or More	
<b>Question:</b>		<b>Answer:</b>				
<b>Professional Qualifications:</b>		(e.g. B.Ed with concentrations in English and Math)				
<b>What grades and subjects do you mainly teach?</b>		(e.g. grades 8-10 ESL)				
<b>How would you rate your ability to use technology compared to teachers in your age group?</b>		Much better than Average	Better the Average	Average	Worse than Average	Much Worse than Average
<b>What do you use your e-portfolio for? (Check all that apply)</b>		To Gain Employment				
		To store and present your ideas				
		To teach students				
		To practice Web design				
		Other:				
<b>How has your e-portfolio benefited you?</b>						
<b>What areas of your e-portfolio do you want to improve?</b>						
<b>What are your e-portfolio plans for the future?</b>						
<b>Does your e-portfolio help you reflect on your teaching practice? If so, how?</b>						
<b>How has your e-portfolio helped you think about your teaching?</b>						
<b>Would you provide a link to your e-portfolio? (Optional)</b>		Paste link here:				
<b>What other experiences (positive or negative) have you had with e-portfolios?</b>						

Thank-you very much !

Please email this questionnaire to David Penner, MA Student (Applied Linguistics TESL),  
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