Preliminary Reflections on Reflections in Student ePortfolios

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Authors’ Note:
Given the reflective nature of the experience that led to this article, we intentionally use more personal references to ourselves (first names, we, etc.) throughout this paper, asking forgiveness from those readers who might find it disconcerting, in the context of an academic journal article.

Additionally, Peter Pappas’s "A Taxonomy of Reflection: A Model for Critical Thinking" was used to direct and shape the student reflections we discuss in this paper. We felt it appropriate to also use Pappas’s Taxonomy to structure our reflective process throughout this article. Pappas’s model is explained in more detail in the next section of this paper.
Remembering, What Did I Do? / Introduction

In 2010 and 2011, Anne Milne conceptualized and designed an ePortfolio (electronic portfolio or eP) assignment for a third-year undergraduate Arts and Science course at the University of Guelph. The course, called “Community Project” (ASCI*3000) is a core course for students enrolled in the Bachelor of Arts and Science Program at University of Guelph.¹ For both iterations of the course (Fall 2010 and Fall 2011), Anne structured content around a course theme of ‘sustainability’ but the course really centred on the (approximately) 25 hours of community service required to complete the course. The community service is performed outside of class time. Class time is devoted to discussion of required readings, skills development, and student presentations. The community service opportunities are limited to six community partner organizations. Students select their preferred community partner and organize schedules and duties in consultation with the community partner.² Because much of the important learning takes place outside of the classroom and because the logistics of working with six community partners can be complicated, Anne required the students to use an ePortfolio (eP) for documenting their learning both inside and outside of the classroom. At Guelph, the ePortfolio is located within the Learning Management System³ and is

¹ Bachelor of Arts and Science Program (BAS) students study “both arts and science in a unique combination degree”. Students choose two minors from “over 50 humanities and science disciplines …[and take] a core set of interdisciplinary courses”. Typically, BAS students are high achievers “who are equally skilled in and passionate about the humanities and sciences, and plan to combine these interests in a career after graduation” (BAS).
² Both Student Life and The Research Shop at the University of Guelph offered invaluable assistance in liaising with the ASCI 3000 community partners. Anne Milne acknowledges the excellent support she received from Rachel Farahbaksh and Ingrid Mündel while teaching this course.
³ The University of Guelph uses the Desire 2 Learn (D2L) Learning Management System.
therefore readily accessible. It offers the potential for student eP presentations to be community-based or entirely public.4

The ePortfolio requirement in this course was structured as a scaffolded or guided assignment where students began to create the ePortfolio presentation early in the term and submitted it electronically three times through the LMS dropbox for grading. Students received extensive feedback following the initial submission as well as further feedback at each submission stage and were asked to show improvement each time they resubmitted. Anne required specific content to be inserted in the eP along the way (see Appendix 1). As well, the eP presentation enabled Anne to evaluate how well each student used the technology. In both 2010 and 2011, staff from the Centre for Open Learning and Educational Support taught a one-hour introductory ePortfolio workshop during class time in Week Two of the semester. Students were verbally encouraged by both the workshop leader and the course instructor to create their basic eP templates at this time.5 By a show of hands at the beginning of both the 2010 and 2011 workshops, students in both groups indicated that they had little or no previous experience with ePortfolios.6 The final eP submission at the end of the semester included a five-question survey designed by the course instructor in consultation with Teaching Support Services (see Appendix 2). With the approval of the Research Ethics Board at the University of Guelph, Anne Milne, Kyle Mackie, and Jason Thompson are able to access student

4 D2L ePortfolios can be made private or public and can be shared with specific viewers and groups of viewers at the user’s discretion. The system also allows the user to limit privileges to viewing only or the user can enable comments and editing by viewers. Social media tools such as Facebook and twitter can also be integrated. See http://www.desire2learn.com/products/eportfolio/features/.

5 Prior to Fall 2011, Teaching Support Services (TSS) provided support for eLearning at the University of Guelph. Kyle Mackie from TSS led the workshop for ASCI 3000 in 2010. In 2011, Jason Thompson from the Centre for Open Learning and Educational Support led the one-hour workshop with the class.

6 This situation is changing at the University of Guelph as more students are exposed to eP through course work and co-curricular activities. The BAS Program has also begun the process of incorporating eP assignments into all core courses.
ePortfolios from the Fall 2010 group. In 2011, Anne Milne and Jason Thompson, an Instructional Technology Specialist with the Centre for Open Learning and Educational Support, extracted and reflected on the five-question surveys drawn from the Fall 2010 student ePortfolios.

While much more work can be done to fully and/or further analyze the other aspects of the student ePortfolios, we found this initial reflective activity based on the five-question surveys to be enlightening and valuable. Almost immediately and simultaneously, we realized that engaging in the process of reflection, even at this initial stage was significant. We realized that as much as the institutional structure of our research project encouraged us to think systematically about this body of student work, what really mattered had much more to do with our ability to reflect on our experiences using the student materials to help us. Without engaging in ongoing critical reflection about how we teach and how we offer support to faculty we might be able to ‘analyze the data’ and ‘complete the project’ but we would not be able to adequately “hunt our assumptions” and “have some real effect on those we teach [and support]”.8

This realization had a liberating effect on both of us, neither of whom is particularly experienced with or comfortable with institutionalized research protocols that have their roots in the sciences and social sciences. What we are both comfortable with is our real interest in ‘making a difference’ in using educational technologies to support and enhance learning. We hope that ePortfolio can serve as a space for student self-discovery and for honouring process-based over product-based learning. In the design of the specific, scaffolded ePortfolio assignment for this course, Anne encourages students

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7 Approximately thirty students signed consent forms to allow access to their ePortfolios.
to mingle both product and process. For example, she asked students to include their formal essay and presentation slides in the eP. Simultaneously, she asked that several reflective writing exercises be included, that students create and refine a ‘mission statement’, and that they fumble with the technology itself and try to utilize and demonstrate their understanding of specific functions of the ePortfolio such as uploading artifacts, enabling sharing and comments, etc.

In offering and delivering support to faculty, Jason wants to synchronize his support with the particular teaching style and pedagogical philosophy of the individual instructor even as his deeper understanding of the LMS facilitates a ‘matching process’ or enables a reconceptualization of a faculty member’s desired pedagogical goal(s) within the e-technologies available to them (whether the faculty member is aware of these technologies or not). Having already engaged in this process of teaching and support and as a part of a series of ongoing discussions, we developed central questions about eP that we want to pursue as part of our own critical reflective practice. These questions (“Is ePortfolio an inherently reflective tool?” and “Does eP support reflection?”) intertwine and certainly remain unanswered. But probing these questions allows us to engage in a reflective process that reveals and enables us to question some of our own underlying assumptions. These assumptions include Anne’s belief that students are adventurous, like to be creative and try new things and Jason’s presumption that students are fully attentive during his workshops and that they see the opportunity to build an eP template during the workshop as a ‘gift’ for which they can ‘earn’ up to 5% of their grade (since submitting a template is the first of the scaffolded assignment requirements).9

9 Other assumptions include Anne’s belief that students are generally uneasy about writing and would be irritated by the number of small writing exercises included in the eP assignment; Jason’s sense that students
To structure our own reflections, we used a six-level “Taxonomy of Reflection” developed by Peter Pappas. This was the same model Anne used to assess student reflections in her Community Project course. We felt that it was appropriate for us to use this rubric and hoped that the structure would support our inquiry process. Pappas’s taxonomy proposes an ascending series of questions intended to move the reflective subject to increasingly sophisticated (and deeper) levels of reflection. The taxonomy is reproduced here as Figure 1.

![A Taxonomy of Reflection](image)

**A Taxonomy of Reflection**

- **Creating**: What should I do next?
- **Evaluating**: How well did I do?
- **Analyzing**: Do I see any patterns in what I did?
- **Applying**: Where could I use this again?
- **Understanding**: What was important about it?
- **Remembering**: What did I do?

*Model developed by Peter Pappas*

**Fig. 1**

Understanding: What was important about it?

While some of the reasons for adopting eP for use in this course were strictly practical and allowed the instructor access to the students’ experiences in their community would use the online help files; and Anne’s assumption that it was ‘okay’ that she did not fully understand the technology herself, that the students would find eP easy to learn, that ‘muddling through’ is a good way to learn – a form of experiential education. Jason also assumed generally that instructional technology makes Anne’s job easier and enhances student learning.
projects, there were other reasons why eP was specifically chosen as the medium for
displaying these experiences. In 2010, these ‘other reasons’ mostly related to personal
pedagogical preferences and Anne’s previous experience in using ePortfolio in a fourth-
year English seminar course the previous year (Fall 2009) as an aid to teaching students
the rudiments of archival research. Anne’s commitment to creating opportunities for
students to understand learning as a process led her to believe that the ePortfolio
possessed the inherent qualities to make it an ideal container for the kind of evidence she
wanted students to display, revisit and reflect upon. For example, in the Fall 2009
course, collective brainstorming around one student’s essay topic in a class discussion
period enabled the student in question to receive immediate help with her topic. Being
asked to reflect on the experience and display that reflection in the ePortfolio,
theoretically at least, extended and deepened the value of the experience. As the student
reported in her eP reflection, “[t]he session with [University of Guelph librarian] Dave
[Hudson]... [gave me] the opportunity to volunteer my...topic as an example for the
class....Not only were [my peers’] suggestions helpful and creative, the support of my
classmates reaffirmed my original confidence in [my] topic”.10 Without the required eP
reflection, Anne was certain that the student would not have extended her classroom
experience into a deeper assessment of her own learning.

Though Anne did not realize it at the time, she had placed what Light et al. call
“folio thinking” at the centre of her scaffolded, process-based ePortfolio assignments.
Folio thinking involves the use of ePortfolios to help create coherence and encourage
meaning-making across a curriculum or throughout a student’s educational program.

Tracy Penny Light, Helen L. Chen, and John C. Ittleson suggest that applying folio thinking counters the increasing fragmentation of the student experience through the use of “experiential learning, metacognition, reflective and critical thinking as well as mastery orientation to learning”. In this way students are encouraged to “reflect on the growth of [their] knowledge and capabilities over time”.  

Applying: Where could I use this again?

Our reflections on the experiences of using and supporting the use of ePortfolio in the Fall 2010 community project course provided us with an opportunity to pause and be more thoughtful about the structure of the assignment, the way in which the teaching and support was delivered, and how the students actually responded to the assignment and the process of completing the assignment. The scaffolded or guided nature of the assignment with its emphasis on building the ePortfolio throughout the term, submitting it at various stages of progress during the term and responding to instructor feedback was a model that we instinctively felt (without much reflection) is appropriate and works well. We both would use this structure again. We believe that the ePortfolio needs to be assessed two to three times during the semester, that the instructor must be prepared to provide extensive feedback on the first submission, that each submission needs to be graded, and that ongoing support for students must be made available throughout the semester. We acknowledged that staff support would not be available at each submission stage and speculated that this would restrict the use of scaffolded ePortfolio assignments to faculty who feel competent with the technology and can generally support the class themselves.

We learned from the student survey that one student wanted all aspects of the assignment laid out at the beginning of the term rather than in increments and that most (if not all) students found the technology frustrating and the assignment much more time consuming than they initially assumed. This led us to reflect more deeply and develop several questions that explicitly demonstrate for us the intertwined nature of teaching, learning and support for teaching and learning. While we believed that the eP model and mode were sound, we worried about how to engage students more thoroughly (including having them buy-in to the idea of folio thinking) and how to move the focus away from the technology per se and into the reflective/folio thinking mode. The students’ reflections on the weakness inherent to the technology were generally valid (slow loading times for larger files, difficulty sizing photographs, limited template and font choices, etc.) but the student comments and the difficulty they had learning the eP technology surprised us and this reflects our false assumption about the level and stability of digital and computer literacy within this age-cohort.12

Analyzing: Do I see any patterns in what I did?

At the analysis stage it is important to acknowledge that Anne’s belief in process-based learning is deeply embedded in her pedagogical practice and in her own learning-style. This pattern of pauses, debriefings, brainstorming sessions, reflection also permeated the collaborative process she and Jason engaged in through his support of the Community Project course and in the creation of their presentation for the Teaching and Learning Innovations Conference in 2012 (not to mention this article). The student responses to the survey indicated that many of the students appeared to understand the

12 In the 2010 Community Project class, the overwhelming majority of the students were 20 or 21 years old.
purpose of the assignment in terms of seeing the process and progress of their own learning even as the process allowed the instructor to receive ongoing feedback about student learning, skills development and progress. But when one student reported that “I learned more because I had to reflect”, what did he really mean? Perhaps our question needs to be followed up by a course exit interview or another kind of interactive forum. The comment that it was “good to see your work in a different context” gestured towards Anne’s implicit learning objective to improve visual literacy and the student’s understanding of her/himself as a burgeoning professional but, again, perhaps such objectives need to be explicitly communicated. More encouraging were the student comments that “eP helped remind me that I should be learning from all my experiences”, that eP “reminded me that all the small pieces [are] connected…[they were] more worthwhile and interesting when all put together into the ePortfolio”, and that “I had to reflect on how to make [the eP] both cohesive and attractive and…connect…all the various parts of my learning and reflection”. Though these comments from the student make us ‘feel good’, it is important to foreground the criticisms, the overall goals of the course, and the question of available support.

Evaluating: How well did I do?

In reflecting at this stage of the process, we decided that it was important to consider both how well we had done and how well the students had done. Generally, the students valued how the ePortfolio assignment forced them to improve their organizational skills because they had to be attentive to the task throughout the term. The scaffolded nature of the assignment interfered with their usual pattern. They also valued
the feedback they received and the respect implicit in the process of rewarding demonstrated improvement(s). A number of students also reported that they learned that it was okay to ask for help. We found this comment very interesting especially when a corresponding number of students reported “having to ask for help” as a negative aspect of the experience. Reflecting further on the tricky culture of “asking for help” will be a very important part of our learning – particularly as Jason develops a more sophisticated understanding of the underlying meanings of support for both faculty and students in the higher-education context. Students also correspondingly complained that the scaffolded ePortfolio assignment made their time management more challenging and that there was too much trial and error involved in learning to use ePortfolio. Many of them wished that they had paid closer attention during Jason’s workshop at the beginning of the semester.

In examining our performance, we also felt that we had done well overall but needed to improve in some areas. We worried that the institutional and corporate support for this kind of teaching and learning is not yet in place and this makes it more difficult for us to elicit the support we need to address our own shortcomings. On the positive side, Jason refined a creative, concrete, conceptual overview of the eP that he uses in hands-on introductory workshops for both faculty and students. The pitfall here is that this one-hour workshop structure really gives Jason only one chance to deliver his knowledge and expertise to the students. He reflected that he needs to be ‘on’ for every workshop and that he must be more attentive to potential gaps in the learning during in this workshop. One assumption he makes is that students (and by extension, faculty) will

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13 This is Jason’s ‘bag of tricks’ demonstration in which he has classroom participants draw objects from a bag or briefcase. Each object represents an eP ‘artifact’. He has participants interact with him to show how ‘artifacts’ can be gathered, displayed and arranged in different kinds of ‘presentations’. This exercise quickly and effectively familiarizes participants with both ePortfolio terminology and concepts.
ask questions during and at the end of a session if they are confused or concerned and that no questions from a group means that ‘they got it’. The students’ admitted struggle with attentiveness indicates that students may have questions but that those questions may not manifest themselves until later. By working with Anne and her students throughout the semester, Jason also got a much clearer sense of the degree and kind of support that a class using a scaffolded eP assignment might need over time. He realized as well that there are students and faculty members who will not ask for support even though they need it.

Anne’s reflection on her experience also focused on the kinds of help the students required and at what points in the semester they required attention. She was pleased that she was able to stay on top of the feedback task within the context of her specific class sizes (42 students in Fall 2010 and 33 students for Fall 2011). However, she acknowledged that giving written feedback and following up on student-responses to that feedback is a labour-intensive enterprise. Such a practice may not be practical and/or sustainable for many faculty members, especially those with large classes. Still, there was a strong indication in the student survey that her feedback helped students to make improvements in their work. Additionally, Anne worried that the labour-intensive nature of the feedback process and the overall balance needed between content and process in the course meant that she was unable to properly teach the art of reflective writing. While Anne assumes third-year students are already competent writers, her experience with this course taught her that the specific mechanics and art of **reflective writing** was unfamiliar to most students.”
Creating: What should I do next?

Pappas’s final reflective step is very important to our process. We like to think about eP and pedagogy as creative processes. The opportunity for us to reflect on our own practices slows us down and forces us to think about how the people we support experience the learning and the services we provide. The product of our reflections reassures us and reinforces for us the value of scaffolding the eP assignment to highlight process and encourage folio thinking. We also learned that giving ongoing feedback is an extremely valuable part of this process-based learning. Students indicated that they benefit from early feedback especially when it is coupled with opportunities to make improvements and be rewarded for those improvements. We would like to work towards refining the process of giving feedback by embedding opportunities for exchange and direct dialogue into the feedback process. For example, it may be possible for the instructor to create a buddy system within the class for explicit peer support and/or special office hours (in-person or online) for ePortfolio-related issues. While Jason and Anne were able to mutually benefit from brainstorming sessions and direct dialogue, Anne did not formally integrate this kind of process into her assignment. Similarly, she did not consider how Jason and other instructional technology staff could be better integrated into assignment plans; for example, she could have scheduled in-class work periods with support staff present to answer questions or she might have scheduled an online question session for students to discuss technical difficulties. Such enhanced support could ease the frustrating trial and error period students reported experiencing. Better design of help pages by instructional technology staff including concise, downloadable, basic ePortfolio ‘guidelines’ for files sizes, formats, etc. and direct
integration of ePortfolio help files into the course site could allow students easier access to help files.

But finally, such practical considerations need to be pushed aside in favour of our assertion that the folio thinking inherent to our processes and the Community Project assignment constitutes a form of learning with monumental potential for pushing the boundaries of support and teaching and learning in the context of continual reflection.
Works Cited

“Bachelor of Arts and Sciences Program,” University of Guelph. http://www.uoguelph.ca/bas.


Appendix 1
ASCI 3000 F11 ePortfolio Assignments (worth 20% of final grade in total)
Anne Milne

You will submit your ePortfolio three times during the semester: Oct. 6, Nov. 14, Dec. 2.

Please be sure to attend the eP Workshop with Jason Thompson (in class for 1 hour) on Sept. 19.

ePortfolio Presentation 1 is due in the Course Dropbox on Oct. 6 by 11:59 p.m.
If you need help submitting EP through the Dropbox, please ask.
What you need to include in your presentation:
1. Create a template of your eP presentation with pages prepared for current (see below) and future (Movie-Time, Essay, 6 Things about my Community Project, Discussion Leadership, Class Community Project Journal, EP Assessment Form) content:
2. About Me (100 word brief description + 1 relevant artifact)
3. The Best of the Past Two Years (100 word brief description of past work in ASCI courses or your minors + 2 relevant artifacts)
4. Reflection: What I did on my Summer Break and Why it Matters to “ASCI 3000: Community Project” (250 words + enable sharing with your partner & me)

eP 1 is worth 7.5% of final grade.

eP 2 Due: Nov. 14 in the course dropbox at 11:59 p.m.
Overall, your EP should be clear and easy to navigate.
In this submission, you need to:
1. Implement any design, typographical, navigation or content changes suggested by Anne in her feedback on your Oct. 6 submission.
2. Write a 100-150 word response to your partner's Oct. 6 reflection. This will appear as a reflection comment in the other student's eportfolio. Make sure that you have electronically enabled your partner to make comments (in the ‘sharing’ function)! Make sure you keep a copy of your response in a safe place (just in case of problems). Click here for some help with sharing the eP & giving good feedback to your partner.
3. Post the “Movie-Time” presentation notes in pdf form in the appropriate place (This is the same document your group already submitted through the dropbox).
4. Post a pdf copy of your essay in the appropriate place.
5. Create a list of 6 things you have done in your Community Project over six weeks. Please include dates, times, (as best as possible) and a brief (25-50 words each) explanation of each 'thing'. Insert-in-place one artifact (drawing, photo, video, audio, etc.) that you feel encapsulates the experience so far.

This submission is worth 5% of your final grade.

eP 3 Due: Dec. 2, 11:59 p.m.
Overall, your EP should be clear and easy to navigate.
In this submission, you need to:
1. Implement any design, typographical, navigation or content changes suggested by Anne in her feedback on your Nov. 14 submission. This includes making sure that partner comments are in place.
2. Post your “Leading a Discussion” summary.
3. Post the required slides, division of labour and questions from your Final Presentation.
4. Post your 250 word “Class Community Project Journal”.
5. Define TWO key terms from our course using the Glossary to guide you (50 words each). Provide a concrete example and refer to a course text. Please do not just copy what's in the glossary. You can choose any term in the Glossary or create a definition for a relevant term that is not there but should be there. If the term is already defined in the Glossary, you can improve the definition and provide a concrete example.
6. Complete the ePortfolio survey that you can find by clicking this link. You can type the survey or hand write and scan it.

This submission is worth 7.5% of your final grade and is due on Dec. 2 at 11:59. There are no extensions for this assignment. The Dropbox will lock at 11:59 on Dec. 2. If you are ill and have official documentation, I can accommodate you as long as you have already let me know or will let me know by Dec. 1.
Appendix 2
“How was it for you?”;
or, Ten Observations about E-Portfolio
Due: Dec. 3, 2010 as part of your EP submission.
PLEASE BE CONCISE, CLEAR, AND WRITE IN COMPLETE SENTENCES!

1. How has the ePortfolio assignment in ASCI 3000 (three submissions, feedback, revisions, reflections, design, etc.) helped you think more about your own learning? (Please make TWO observations).

2. In what ways is the ePortfolio a good way for faculty to assess your knowledge? (Please make TWO observations).

3. "By using the ePortfolio, I learned...(TWO things)

4. "TWO things I did not like about working with the ePortfolio were..."

5. What TWO pieces of advice would you give an inexperienced student who was about to start an ePortfolio?