ePortfolios: Making Teaching and Learning Visible

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Abstract

The research project will conduct a needs assessment of key stakeholders within the University of Alberta to better understand their unique program requirements and to build an ePortfolio that is customizable, personalizable, and easy to use. The project will also build a website and provide workshops for key stakeholders on using ePortfolios to make teaching and learning visible. This will include examples of integrating attributes into student learning outcomes and examining how ePortfolios can be created and used to gather evidence of learning. The completion of this ePortfolio project will help the University of Alberta become a leader in mapping graduate (and undergraduate) attributes, in authentic assessment, and will provide departments, faculties and the University of Alberta with student learning outcome data that can be used for program quality assessment and also for outreach to prospective students, employers, government agencies and the citizens of Alberta and Canada.

Description of Innovation

In the most recent *New Media Consortium Horizon Report: Higher Education Edition*, the authors note that "institutional leaders are increasingly seeing their students as creators rather than consumers" (Johnson, Adams Becker, Estrada, & Freeman, 2014, p. 8). They suggest that a shift is happening where "students across a wide variety of disciplines are learning by making and creating rather than from the simple consumption of content" (p.16). At the same time, universities are defining qualities, skills, dispositions, attributes and/or competencies that are developed and learning through higher education programs. At our own University of Alberta, the *GFC Committee on the Learning Environment (CLE) Subcommittee on Attributes and Competencies* (GFC CLE) (2013) created the *Graduate Attributes at the University of Alberta Report* which explains that "governments, taxpayers and students seek greater accountability for investments in post-secondary education" (p. 3). The *Report* notes that "research universities are now being pressed to go beyond equipping students with knowledge and produce adults that are culturally aware, adaptive to change, and globally competitive" (GFC CLE, p. 3). The *Report* suggests that "potential users of such evaluation could be current and prospective students, faculties, university administrators, employers, accreditation bodies and government" (GFC CLE, 2013, p. 6). The *Report* has several recommendations including: "create a university-wide website in collaboration with Centre for Teaching and Learning (CTL) and University Relations on students attributes that will provide information resources, and a channel of communication for best practices for faculty, staff, students and other key stakeholders (GFC CLE, p. 8).

This application is built on Cornerstone Two - Learning, Discovery and Citizenship - of *Dare to Discover: A Vision for a Great University* (University of Alberta, n.d.) and continues the

work done by the GFC Committee on the Learning Environment by developing, researching and implementing a customizable campus-wide ePortfolio program that can be used by units, departments and faculties as a way for students to gather evidence of their learning and attributes and as a way to assess this evidence for instructors, departments, faculties, accreditation agencies, the university as a whole, government, and other key stakeholders.

ePortfolios

Researchers have found that ePortfolios have a great potential for learning and assessment (Barbera, 2009; Bollinger & Shepherd, 2010; Chen & Chen, 2009: Gaytan & McEwan, 2007; Wang, 2009). "Portfolios are a purposeful collection of work that documents evidence of multiple sources of student learning, growth and accomplishments over time" (Gwozdek, Springfield, & Kerschbaum, 2013, p. e11). Electronic Portfolios or ePortfolios are web-based portfolios and Mahara (an Open Source Software program) is a very popular ePortfolio software program that we have been using at the University of Alberta for several years. Information Services and Technology (IST) and CTL currently support Mahara as the ePortfolio program available to all students and instructors on campus. According to Jones, Downs and Repman (2012):

> Students can easily update their portfolios so they remain current. ePortfolios take up less storage space and are easily portable on a flash drive or CD-ROM. Web-based ePortfolios can be accessed at any time, and by anyone no matter where they are located geographically. Another feature that is unique to ePortfolios is the ability to include multimedia artifacts featuring video, audio and images. They also contain hypertext linkages that give students the ability to show connections between selected articles and the standards they address. Perhaps the greatest benefit is that through the process of creating ePortfolios, students demonstrate their proficiency in a technology-rich environment. (p. 14)

An integral part of the ePortfolio learning experience should be reflection or critical self-assessment "an active process where students develop awareness of what they have learned, and why it is important within their own learning context, and how they have applied what they have learned in their educational or life experiences" (Gwozdek, Springfield, & Kerschbaum, 2013, p. e11). A portfolio is an authentic assessment tool that can be used as a formative assessment tool during a course or program, a summative assessment tool that demonstrates meeting learning outcomes, or as a combination of both formative and summative assessment.

Collaboration

ePortfolios are used on campus already as ways to make teaching and learning visible and to demonstrate achievement of student and program-level learning outcomes for accreditation purposes (for example, School of Library and Information Studies - with 200 students) and in individual courses (at the graduate and undergraduate levels). The Faculty of Graduate Studies and Research requires all course-based Masters students to complete a capping experience as part of graduate requirements. Providing an evidence-based, customizable, option for each

department or faculty program would facilitate the creation of ePortfolios and the assessment of graduate attributes as well as student and programmatic learning outcomes. This project will support collaboration between instructors in departments and faculties, between faculties, and across campus. The researchers will build collaborative networks with other national and international researchers working in the area of authentic assessment of student learning outcomes.

Evaluation

This TLEF Research and Professional Development project has five main objectives:

1. To conduct a needs assessment of a sample of faculties and departments within the University of Alberta to better understand their unique ePortfolios requirements.
2. To build an ePortfolio that is customizable, personalizable and easy to use by all key stakeholders based on the needs assessment in Objective 1.
3. To conduct a usability evaluation to improve the functionality of the ePortfolio platform and to understand the experiences of students, instructors and key stakeholders in different faculties and units, within individual classes, for overall program-level learning outcomes assessment, at the graduate and undergraduate levels, in online, blended and face-to-face classes and programs, and in French and English.
4. To build a website with tutorials, student and instructor testimonials, assessment rubrics, models and ePortfolio examples for use by the campus community and beyond.
5. To provide workshops for instructors, students, program coordinators and other key stakeholders on using ePortfolios to make teaching and learning visible. This will include examples of integrating attributes into student learning outcomes and examining how ePortfolios can be created and used to gather evidence of learning.

Data collection for this research project will be done in two phases. Phase one is a needs assessment and development of the ePortfolio platform. In this phase, semi-structured interviews will be carried out with about 20 key stakeholders, using purposeful maximum variation sampling techniques, including CTL, IST, Educational Developers, administrators and instructors in different faculties to identify users' needs and product features and functionalities for an ePortfolio platform (Objective 1 and 2). Phase two is usability evaluation and will include conducting heuristic evaluation and Think Alouds (Branch, 2001; Nielsen, Clemmensen, & Yssing, 2002) with diverse users including educational developers, administrators, instructors and graduate and undergraduate students in French and English, in courses delivered online and on-campus.

Additional evaluation will be conducted post roll-out with a larger body of students and key stakeholders using an online survey and semi-structured interviews (see research questions listed below) to understand users' experiences when creating and assessing ePortfolios and to further improve the ePortfolio platform (Objective 3).

The research questions are as follows:

1. What are the needs of students, instructors, key stakeholders, faculties and departments in terms of an ePortfolio platform?
2. What are the experiences of students creating and instructors assessing ePortfolios as part of course and program requirements?
3. What advice would students and instructors give to those just beginning to build and use ePortfolios in a course or program?
4. What assessment tools and rubrics are instructors and programs using to evaluate ePortfolios?

Dissemination

The results of this research study will be used for research articles, conference presentations, web postings, and in teaching. Most importantly, this research study will inform the development of the ePortfolio platform that will meet the needs of all campus users (Objective 2). A website providing resources for the University of Alberta campus community will be created and housed on the CTL website (Objective 4). Workshops for students, instructors and key stakeholders will also be developed and promotional materials created (Objective 5). The ePortfolio platform can also be shared with other post-secondary educational institutions across Canada (and to the Open Source Software community) to demonstrate our commitment and leadership in the area of authentic assessment.

Impact on Students/Sustainability

According to Gwozdek, Springfield and Kerschbaum (2013), "in both process and product, an ePortfolio can provide students with the opportunity to look at their learning across context and time" and can provide a "positive impact on student learning can be achieved resulting in a [students'] ability to articulate the value and meaning of their work and how it contributes to their growth" (p. e16-17). We believe that this project can be sustained by CTL (simple website updates) and by IST (regular Mahara software updates). The completion of this ePortfolio project will help the University of Alberta become a leader in mapping graduate and undergraduate attributes, in authentic assessment and will provide departments, faculties and the University of Alberta with student learning outcome data that can be used for program quality assessment. This project will also provide the opportunity for outreach to prospective students (and recruitment), employers, government agencies and the citizens of Alberta and Canada.

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