

The PRISM

A SPECTRUM OF ENLIGHTENING CECS NEWS

EXPERIENCES PAST, PRESENT, & STILL TO COME

Rocco Fondacaro, PhD. Director, Student & Faculty Relations, CECS

The personal revelations inherent in using reflective e-portfolios may just have spared Ebenezer Scrooge from the heart wrenching onslaught of self-loathing and redemption levied upon him by Jacob Marley and his trio of Yuletide Spectres. It would have been a less imaginative and engaging tale for Mr. Dickens to tell, but for Ebenezer, a fuller, more fulfilling life, with fewer regrets. Analogously, e-portfolios, as reflective learning tools which help integrate and internalize the interplay of study and work experiences, may facilitate a process of lifelong learning for co-op students.

What is all this e-portfolio stuff anyway? In this issue, we explore the e-portfolio model, its purpose as a means of facilitating reflection for learning purposes, and how it is being used and adapted across UW. Katherine Lithgow from the Centre for Teaching Excellence, describes e-portfolios in their current form. Judene Pretti, Director of the WatPD Program, talks to us about how e-portfolios may be used by co-op students to connect experiences and learning from one

work term to the next, as well as the potential of e-portfolios for charting progress on learning outcomes. Bob Sproule, from the School of Accounting & Finance, makes a welcome return to PRISM to share Accounting's pioneering work with e-portfolios. Linda Carson briefly describes the use of e-portfolios in the Bachelor of Knowledge Integration program. Spectrum presents some input from the Associate Deans responsible for co-op about the e-portfolio model in relation to their respective faculties. Finally, just for fun, our issue editor, Karina Graf, made her own connections between past milestone dates for UW co-op and some popular historical events - maybe a catalyst for some reflection and recollection of your own.

I hope you enjoy this issue of PRISM. It's a wonderful time to connect with friends and family and to reflect upon Experiences Past, to integrate Experiences Present, and contemplate Experiences Still-to-Come. I hope you had a safe and happy holiday!

P.S. Sincere apologies to Charles Dickens.

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HELPING STUDENTS MAKE CONNECTIONS THROUGH E-PORTFOLIOS

Katherine Lithgow, Centre for Teaching Excellence

E-portfolios are used to help students integrate learning that takes place across courses over time, and make connections between learning in the classroom with learning in workplace, community and social environments. More important, creating an e-portfolio can help students develop lifelong learning habits that they

will continue to use after graduation. While e-portfolios can serve a variety of purposes, ranging from tracking growth and development to showcasing best work to documenting achievement of course/program outcomes, they are most effective when they incorporate reflection, are personally meaningful to the learner, and help learners

discover "where [they] are in their learning, where they need to go and how best to get there" (Barrett, 2005).

Reflection is a learned skill. Over time, with ongoing guidance and feedback, students learn to question causes and assumptions, using evidence to explain how (cont'd on p.3)

FUN FACTS

CO-OP THROUGH THE YEARS

1906 Reginald Fessenden created wireless telephony. The first co-operative education program was introduced at the University of Cincinnati.

1957 Waterloo College Associate Faculties was formed (University of Waterloo) and the first co-operative education program in Canada was introduced. This Engineering co-op program began with 75 students. "Leave it to Beaver" debuted.

1963 Beatlemania hit Britain and the Waterloo Science co-op program began with 19 students.

1964 The Waterloo Mathematics co-op program began with 100 students and the world's population reached 3.276 billion.

1967 The Toronto Maple Leafs won the Stanley Cup (and haven't won since). The Waterloo Human Kinetics & Leisure Studies (now AHS) co-op program began with 148 students and Environmental Studies (now Environment) co-op program began with 35 students.

1975 Saturday Night Live premieres and the Waterloo Arts co-op program began with 8 students.

2001 Not quite what Arthur C. Clarke, Stanley Kubrick and the HAL 9000 imagined. The Waterloo Software Engineering co-op program began with 102 students.

2002 MTV reality show "The Osbournes" debuts. The University of Waterloo began awarding academic credit for work terms. The William M. Tatham Centre for Co-operative Education & Career Services opened for use.

2009 H1N1 pandemic causes worldwide fear. All Waterloo faculties offer a co-op program and total enrolment is over 13,000. Waterloo Co-op is the largest of approximately 60 co-op programs in Canada.

<http://www.infoplease.com/yearbyyear.html>

E-PORTFOLIOS

IN THE SCHOOL OF

ACCOUNTING & FINANCE

Robert Sproule, School of Accounting & Finance (SAF)

Since the fall of 2004, the School of Accounting and Finance has encouraged and supported every student to create and utilize a personal e-portfolio. The e-portfolio is the property of the individual student. While an individual's e-portfolio is stored on a server, its contents are password protected. Each student decides what they will include and subsequently what they will share with others.

The purpose of an e-portfolio is to support the owner's personal growth and development over time, through the accumulation of many different types of artifacts and personal reflections. Artifacts may be personally created documents, photos, video files, or feedback and assessments from third parties. Personal reflections are the student's conscious efforts to articulate their learning or personal growth and development, based on lived experiences or benchmarking exercises. Reflective pieces may be free form or can be supported through templates. The owner, through the effective use of their e-portfolio, can take control of their learning experiences, identify their current situation, areas for improvement, and specific strategies for further personal development.

Over the past five years, students have devoted varying amounts of time to building their e-portfolio. They have added a diverse range of artifacts that represent who they are as individuals. They have been encouraged to add both artifacts and reflective pieces related to their studies. Starting in their fall term of first year, students have been encouraged through a series of three reflective exercises to articulate their teamwork skills. Each of these reflective exercises has been supported in the community through feedback from a pool of trained reviewers. We encourage our students to support their assessments, identify areas for improve-

ment and indicate specific plans towards the achievement of measurable goals.

From their 1B through 4B terms students are free to add whatever additional artifacts and reflective pieces they wish to their e-portfolio, while being encouraged to add similar elements related to educational-based initiatives, course work, co-op experiences and life in a living-learning community. Artifacts have ranged from course-based assignments to videos of presentations to employer feedback. Reflections have focused on learning within courses, program-based initiatives and the integration of learning in the workplace with the classroom. SAF has committed to the provision of feedback, from the above noted team of reviewers, to any reflective activity undertaken by a student.

Traditional work term reports have been replaced by two reflective activities per work term. Each reflective activity is template-based and focused on one of four process skills: teamwork, oral communication, written communication and leadership. A mid-term formative reflection allows students to consider feedback from their employers and to receive feedback from reviewers to support a higher quality summative reflection at the end of term. While focusing on these process skills, each template supports connections between the workplace and the classroom to make each student's work term a true co-operative learning experience.

The focus on learner-based education has resonated very well with some of our students, while others view reflective activities and the use of e-portfolios as isolated hurdles leading toward completion of a degree. As the educational system moves more and more toward outcome-based education, an e-portfolio can serve as an extremely valuable tool in support of an individual learner's journey.

WATPD & E-PORTFOLIOS

Judene Pretti, Director, WatPD Program

The WatPD program provides online courses for co-op students in Applied Health Sciences, Arts, Environment, Math and Science. The focus of the program is to support students' development of soft skills and increase their ability to think reflectively. The courses offered are PD1: Co-op Fundamentals, PD2: Critical Reflection and Report Writing, PD3: Communication, PD4: Teamwork, PD5: Project Management, PD6: Problem Solving and PD7: Conflict Resolution.

Students take PD1 in the academic term prior to their first work term and PD2 during their first work term. In subsequent work terms, students choose the PD course they would like to take. There is no set sequence for the elective PD courses. As noted in the recent report on the WatPD program (www.watpd.uwaterloo.ca/report.pdf), the ability to choose which PD course to take is seen as a strength of the program. A drawback of the program's structure, however, is the lack of opportunity for students to demonstrate growth from one term to the next.

Within the WatPD program, we are examining benefits of using e-portfolios as a tool to connect learned skills from one work term and one PD course to the next. Specifically, two objectives we are looking to address through the use of e-portfolios are:

- making connections between workplace and academic learning
- demonstrating/documenting the achievement of undergraduate degree level expectations.

One of the critical aspects of experiential learning is for students to make connections between their academic learning and what they see in the workplace and then bring what they have learned in the workplace back to enhance their academic experience. The fact that this cycle repeats itself several times is one of the defining features of co-operative education. Here are two questions

to be considered in UW's context:

- 1) Are students being encouraged to make connections to their academic learning when they are out on their work terms?
- 2) Are students encouraged to share and connect their workplace experiences when they are back on campus?

For some programs, work term reports address these questions. However, there are many programs where this is not happening.

An alternative and potentially better way to support the cycle of students' work term learning is through the use of e-portfolios. Students would record the connections they make in an e-portfolio and then over their several work terms, they, and the evaluators, would be able to look back and see the progress they have made. In this format, it would also be easy to share examples of the connections students are making with interested faculty members.

As was discussed in last term's issue of the Prism, undergraduate degree level expectations (UDLEs) and how they relate to co-op learning has become an important topic for academic departments as they engage in the review process. E-portfolios provide a way for students to document their progress towards, and achievement of, the required outcomes. As an example, a student could include an audio/video file of a presentation they made to clients during their work term to demonstrate their oral communication skills in the workplace. Similarly, students could include a technical report they wrote for an employer to demonstrate their problem solving and written communication skills.

There is much promise in using an e-portfolio tool to guide, support and document the learning that students are doing on work terms. We, within WatPD, plan to continue exploring how to best incorporate e-portfolios to support the work students are doing in the program.

(cont'd from pg. 1) they have come to know and understand situations and concepts. E-portfolios can provide a safe place to reflect on what they have learned, how they are learning, and develop plans for achieving goals as well as receive constructive feedback from others. Each student has control over which parts of their e-portfolio they will share with which audience; what they share with a mentor may not be the same as what they choose to share with a potential employer, an instructor or their peers.

Unlike a UW-ACE course site, students have access to their e-portfolio on an ongoing basis. Within their e-portfolios, students upload electronic artifacts (text documents, images/graphics, multi-media presentations, audio and video files), which provide evidence of their learning. For example, in lieu of traditional work term reports, accounting students add reflective pieces to their e-portfolio which focus on the development of skills such as communication and teamwork.

Creating an e-portfolio can help students organize evidence of their learning. In Pharmacy, for example, students organize their e-portfolios around program competencies. To demonstrate achievement of the professional collaboration and teamwork competency, a student might choose, for example, to upload a project completed during the work term and link this to a reflective piece explaining how this demonstrates achievement of the competency. Going through this process makes the student more aware of program/course expectations and take more responsibility for her learning.

While we cannot expect to teach students everything, we can help students learn about how they learn, integrate their learning, and make their learning personally meaningful. Incorporating e-portfolios into programs is one way to help students develop this capacity.

Interested in more information about e-portfolios? Contact Katherine Lithgow: klithgow@uwaterloo.ca

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HOW EPORTFOLIOS ARE GOING TO SAVE MY BUTT IN THE MUSEUM COURSE NEXT YEAR

Linda Carson
Associate Professor/
O'Donovan Director

The new Bachelor of Knowledge Integration pivots on a third-year course in interdisciplinary collaboration. Students make an intensive field study of museums abroad then come home to design original working museum exhibits. E-portfolios will facilitate student reporting, reflection, collaboration, job searches and grad school applications. I'm even more excited by the prospect of e-portfolios providing continuity from the field study to the design course it's intended to serve, and co-ordination amongst the four courses, two instructors and two support staff over this eighteen month adventure. At UW most of our e-portfolio experience to date is in single-course applications. I think the future of e-portfolios is in their capacity to support multiple courses, multiple instructors, and a student's career.

THE SPECTRUM

E-PORTFOLIOS BY FACULTY

The Associate Deans of Co-operative Education from each faculty were asked to comment on the possibility of using e-portfolios for work term reports, as proposed by Judene Pretti in her article, "WatPD & E-Portfolios." Here's what they had to say:

APPLIED HEALTH SCIENCES Bryan Smale, Associate Dean AHS

In AHS, e-portfolios are being used by students in the MPH programme to facilitate the integration of and reflection on knowledge gained on various aspects of public health, and to allow them to document their progress in acquiring core competencies in public health professions. In the future, the e-portfolio could be used as the platform for the MPH students' integrative projects, which they complete as part of the culminating course in the programme. It will be particularly useful to students as they reflect on their entire experience in the MPH programme -- the consolidation of the content from all of their courses, their growth over the length of the programme, and their transition from student to practitioner.

ARTS Emanuel Carvalho, Associate Dean Arts

In addition to the points made by Judene, another benefit attributed to possibly replacing work reports with e-Portfolios is greater consistency across all programs related to expectations and evaluation. For all the reasons noted, I would like to present the prospects of replacing work reports with e-Portfolios to the Faculty of Arts to determine the level of support.

ENGINEERING Wayne J. Parker, Associate Dean Engineering

The Faculty of Engineering is undergoing change, as evidenced by initiatives such as the move toward outcome-based curriculum/accreditation, the review of the PDEng programme and the creation of design cases from work reports. While not currently used in Engineering, the current climate of change may create the opportunity to consider integration of e-portfolios.

ENVIRONMENT Mark Seasons, Associate Dean Environment

The Faculty of Environment is nearing completion of its review of the undergraduate curriculum in ENV. One of our objectives is to enhance the co-op work term experience for ENV students. We believe that e-portfolios present a significant and timely opportunity for our students to learn from their co-op work term experiences in a creative way. Our feeling is shared by ENV students, who have expressed considerable interest in the concept and technology. In summary, we think the e-portfolio model is a progressive, innovative and interesting way for co-op students to express themselves, and to become self-reflective.

MATHEMATICS Arnie Dyck, Associate Dean Mathematics

Work reports are meant as a vehicle for enhancing students' abilities to research topics, organize material, analyze problems, processes, or situations and write reports. Analysis and critical reflection are the fundamental components. Given the adoption of UDLE's on campus, Math feels that the current co-op Math work report format and experience is ineffective in demonstrating the achievement of the desired outcomes; therefore, and following on the recent success of several campus experiments using ePortfolios to collect and display written reflections of students' work term experiences, Math plans to explore a similar scenario in lieu of the traditional work report.

SCIENCE Tadeusz Gorecki, Associate Dean Science

In the School of Pharmacy, students use e-portfolios as tools for critical reflection. During their co-op work term, they are required to add at least two reflections and evaluations to their e-portfolios. The reflection topic is carefully guided by department requirements to ensure the work term reflections are linked to classroom learning. For example, students have the opportunity in several courses to identify patient safety related aspects of pharmacy. In their e-portfolios, students are asked to critically reflect on their progress during their work term as a patient safety specialist.