

# Beyond the afterglow: Transfer of learning in an online “applications” course - preliminary results of a mixed methods study

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This exploratory study examines aspects of student experiences both during an online applications course in the University of British Columbia’s Master of Educational Technology (MET) programme, and subsequent to having completed the course in the realm of professional educational practice. Transfer of learning (Caffarella, 2002) related to specific learning activities, a learning community-centered/community of practice course structure, and the overall course design were examined. Broadly speaking, transfer of learning was significant for nearly all study participants; specific learning activities designed to foment this did so successfully for most participants. However, the community of practice aspect during the course (Lave and Wenger, 1991), whilst strong, was not as evident after the course ended. This paper represents a preliminary analysis of the findings from the quantitative (questionnaire) portion of a larger, mixed methods study.

Keywords: online, transfer of learning, adult education, learning technologies, mixed methods

In the flush of a recently completed—or soon to be completed—course<sup>1</sup>, student evaluation of teaching (SEoT) data can be rather positively skewed: Learning Technologies: Selection, Design and Application (ETEC565A), is, in this regard, not exceptional. But what happens after the warm glow has cooled, and the flush of excitement and novelty have passed? What sort of impact does such a course have on practice?

Unlike many other courses, however, ETEC565A has been designed to give learners a range of competencies transferable to their professional practice as education professionals. In other words, it has transfer of learning—“the effective application by program participants of what they learned as a result of attending an education or training program”—purposefully infused within its design (Caffarella, 2002, p. 204), in terms of learning activities, assessment and interactivity.

With a first cohort having completed ETEC565A over three years ago (in August 2009), we now have a population whose members have had between a few months to several years to try and transfer what they have learned from ETEC565A to their educational practice—beyond the afterglow.

## Method

This mixed methods, exploratory study seeks to rigorously examine aspects of student experiences both during ETEC565A and subsequent to having completed the course, in the realm of professional educational practice. The research questions for this study are:

- What are the perspectives of students who have completed ETEC565A with respect to the course and its subsequent value?
- What sort of impact has ETEC565A had on their practice as educators, if any?

The study has two phases. The first is quantitative and consists of a self-administered online questionnaire; the second is qualitative and consists of key informant interviews. Data collection for phase one ended on 15 June 2012: this paper reflects preliminary analyses of phase one questionnaire findings. Interviews for phase two commenced in August 2012. The questionnaire included the following domains of inquiry:

1. Professional experience
2. Programme experience
3. Active learning course component
4. Elearning toolkit wiki course component
5. Formative assessment course component
6. Summatively assessment course component

7. Learning communities and communities of practice
8. Impact on practice
9. Demographic information for classification purposes

The questionnaires were developed based on a review of the current literature, the documentation from the design team for ETEC565A and in collaboration with colleagues knowledgeable about learning technologies, transfer of learning and scholarship of teaching and learning methodology. Five item Likert-scale questions were often used (example: Strongly Disagree - Disagree - Not Sure - Agree – Strongly Agree), which were in some instances collapsed down to three item scales (Disagree - Not Sure - Agree).

Questionnaire invitations were sent via the university's student information service in early May 2012. Reminders were sent mid-May and early June. Out of 269 students who were invited to participate in the study, three had email addresses that bounced back, making an adjusted population of 266. A total of 86 completed the survey, for a response rate of 32 per cent. The survey was delivered via VoVici, a Canadian-based online survey development tool, since local privacy laws preclude using server-based technologies based outside of Canada. Statistical analyses were done using VoVici and SPSS 20 for Mac OS X. University Behavioural Research Ethics Board approval for the study was granted (UBC BREB Number - H12-00986).

Note: many of the alumni of ETEC565A work as public school teachers at the primary, intermediate or secondary level. Others work in different contexts as educational professionals—and not always as teachers (or instructors or facilitators). These include programme managers, instructional designers, and school leaders. Thus the study design (and language) needed to allow for this breadth of professional educational practice to be captured. Hence the use of “educational professionals” rather than “educators” or “teachers”.

## **The participants**

Mean and median age for respondents were both 42 years at the time of survey completion. Sixty-two per cent of respondents were female, 30 per cent male (two per cent preferred not to answer; six per cent skipped the question). Fully 74 per cent had completed a bachelor of education programme. Educational attainment levels were skewed towards having completed one or more magistral degrees (seventy-three per cent); in many instances the programme itself). Three per cent had completed a doctorate. Most respondents—68 per cent—worked full-time (35 hours per week or more), viewed themselves as “early adopters” of new technologies (84%) and “learning technologies leaders” (83%); a somewhat smaller number considered themselves “learning technologies innovators” (67%).

Respondents worked in a range of contexts. Forty-three per cent worked in primary or secondary education, with the rest distributed across post-secondary education, adult and community education, and other sectors. Of the 26 per cent who selected “Other”, roles included educational technologist, instructional designer, school district administrator or coordinator, project manager, school principal and consultant. Eighty-seven per cent have been an educational professional for five or more years: only one per cent were in the first year of their education career. Just under half (49 per cent) have worked five or more years in their current role. Only six per cent were in theirs for less than one year.

Of their reasons for enrolling in the program, “an interest in learning technologies” was the most commonly cited reason: eight out of ten survey respondents indicated this. Career advancement, being a lifelong learner, and the programme being a wholly online programme were also commonly cited. Conversely, only one in ten cited the absence of any face-to-face graduate programme available near their home community as a reason. Eighty-seven per cent had enrolled in the programme since 2008, with roughly equal numbers starting in September or January (rather than May). At the time of survey completion, 44 per cent had completed the MET programme (most in 2011); another 24 per cent had completed 7 to 9 (out of 10) courses.

## **About the programme, about the course**

UBC's Master of Educational Technology (MET) programme, a wholly online magistral learning technologies programme (<http://met.ubc.ca/>) has been in operation since 2002, one of the first wholly online degree programmes at the University of British Columbia (<http://ubc.ca/>), a major, research-intensive, Canadian university. Since 2002 over 250 students have completed the programme, studying on either a full-time or part-time basis. Programme students include those based in Canada, the United States, Mexico, Asia, Europe, the Caribbean, and South Pacific. From its inception, the programme's emphasis has been on informed, critical analysis of the implementation of technology in learning environments. In addition to core courses in research

methods, instructional design, educational technology foundations, and learning theory, students choose from a range of elective courses focused around subject matters such as math and science or liberal arts education. Other elective courses focus on the changing notion of texts in the digital age, indigeneity and educational technology, and ventures in learning technology.

As we began to develop ETEC565A, a new, elective “applications” course, one key question informed our work: *what sorts of core competencies would we expect someone who had completed a post-graduate qualification in educational technology to possess?* For ETEC565A the core competencies we identified were:

- A solid understanding of key literatures related to tool selection, learning theory and learning technology deployment best practices
- Familiarity with professional standards related to educational technology
- Ability to create a learning management system (LMS) course site with a customized graphical user interface (GUI)
- Creation of a sophisticated assessment object (quiz or exam), using a range of question types and assessment strategies
- Development and delivery of a pedagogically purposeful digital story
- Use of weblogs and/or wikis for site design, as learning objects, and as an e-portfolio platform
- Mindfulness of issues related to intellectual property, confidentiality, and data ownership
- Design for accessibility
- An ongoing practice of self-reflection

Early in the development process we identified inculcating a learning community, ideally one that formed the basis of an ongoing community of practice (Lave & Wenger, 1991) after course (and programme) completion, as important. While many focus on Lave and Wenger’s notion of “legitimate peripheral participation (p. 29), we believe a larger message is sometimes lost: peripheral participation is merely one phase or period of community membership for skilled practitioners: to move beyond the rudiments of nascent practice requires a shift towards the centre (rather than remaining on the periphery) of a community of practice. In fact, Lave and Wenger specifically warn:

In summary, rather than learning by replicating the performances of others or by acquiring knowledge transmitted in instruction, we suggest that learning occurs through centripetal participation in the learning curriculum of the ambient community. Because the place of knowledge is within a community of practice, questions of learning must be addressed within the development cycles of that community, a recommendation which creates a diagnostic tool for distinguishing among communities of practice. (p. 100)

In instructional design terms, community of practice represents a goal, aim, or principle. Our learning community course design seeks to provide learning activities that foment, support, and leverage community and its concomitant interactions. Endeavouring to garner a richer understand these centripetal, ambient, cyclical aspects of community of practice dynamics are therefore also a focus of this study—the qualitative component, specifically.

Across the MET programme’s student community there is a wealth of knowledges and skills: collegial support and advice are positioned firmly at the centre of most aspects of the MET. ETEC565A has been designed in a way that purposefully leverages this, making collaborative learning—formal and informal—as integral to success in the course.

## Literature review

Caffarella notes that transfer of learning has “often been thought of in behavioural terms—that is, what is to be transferred can be clearly specified in terms of observable changes in knowledge, skills and attitudes.” (2002, p. 205). Brookfield (2005) describes transfer of learning as “the process by which learners apply, in settings outside of an...educational setting, the skills and knowledge they have learned within that setting” (p. 627). Sork identified “devising transfer of learning plans” as important in the program planning (or curriculum) process, and credits Caffarella with bringing the concept of transfer of learning to the fore, since “most (curriculum) models are silent on this important aspect of planning, or just assume that this will be taken care of when designing instruction” (2011, p. 162). Among numerous transfer of learning techniques identified by Caffarella (p. 217), individualized learning plans, mentoring, portfolios, networking, and reflective practice all feature

prominently in the course design for ETEC565A.

## Transfer of learning and specific course components

Throughout ETEC565A a series of learning activities are facilitated via the course WebCT Vista discussion forums. These inquiry-, case-, and problem-based learning scenarios were designed to allow students to link the relevant readings to practice, reflect upon their own experiences, and to communicate as an educational professional with their peers. With a disparate range of educational practices, we created scenarios that reflect, in broad terms, the range of contexts in which MET students work. Similarly, the trigger question for each has the scenario protagonist inquiry of the reader (as an educational professional) for their opinion on an idea or strategy in the protagonist's practice. This allows for each student to draw upon their own form of educational expertise in their response.

This strategy was impactful: Sixty four per cent of respondents agreed that the scenarios improved their practice. An even higher percentage—81 per cent—agreed that the scenarios helped them link theory to practice.

The course's Elearning Toolkit ([http://wiki.ubc.ca/Course:ETEC565/Elearning\\_Toolkit](http://wiki.ubc.ca/Course:ETEC565/Elearning_Toolkit)) is a wiki-based, self-directed repository of various elearning design elements. Students are encouraged to choose which elements upon which to focus their time, based on their extant skill level and design decisions for their course assignments. We made the toolkit forward facing on the web, in the hope that students would find the resource useful subsequent to having completed the course. We also wanted to model ways in which free social media can be leveraged to facilitate learning—sometimes in ways other than the tool's more obvious affordances.

Seventy-one per cent have indeed used the toolkit wiki since completing the course. Post-course, 38 per cent have found the toolkit useful: thirty-six per cent said it had impacted their practice. Twenty-six per cent had developed a similar resource in their own context. Thus significant transfer of learning related to toolkit—its contents and its pedagogical approach—occurred.

## Learning community; community of practice

Nearly all respondent found the learning community design employed in ETEC565A relevant, with two-thirds finding it very or highly relevant. Table One outlines these results:

**Table 1: Relevance of learning community aspect of course**

| <b>Learning community aspect was:</b> | <b>Percent</b> |
|---------------------------------------|----------------|
| Highly relevant                       | 43             |
| Very relevant                         | 24             |
| Significantly relevant                | 25             |
| Marginally or not relevant            | 8              |
| Prefer not to answer                  | 1              |

In total, 92 per cent of the study participants saw the learning community aspect significantly, very or highly relevant.

Our aspiration for the MET is that the learning community persists post-programme as a community of practice; this is also a goal for ETEC565A in particular. In fact, almost half of respondents—forty-seven per cent—felt there was a programme-level community of practice. However, only 36 per cent felt ETEC565A's community of practice persisted after the course. A better understanding of why this is the case, including how participants differentiate between a course-level versus programme-level community of practice, are a key topic for the ongoing qualitative interviews.

## ETEC565A overall

Writ large, nearly all respondents (over 90 per cent) felt somewhat or very successful in applying what they learned in ETEC565A to their practice. Fifty-eight per cent felt highly successful; thirty-five per cent felt somewhat successful; only four per cent unsuccessful. Of those who felt somewhat or unsuccessful, a range of (non-mutually exclusive) reasons were identified, as outlined in Table Two.

**Table 2: Reasons not highly successful**

| <b>Reasons</b>                        | <b>Percent</b> |
|---------------------------------------|----------------|
| Onerous assessment and prep time      | 19             |
| Lack of support from my leadership    | 13             |
| Lack of support at the district level | 12             |
| Lack of access to hardware            | 11             |
| Lack of access to software            | 9              |
| My priorities have changed            | 1              |

Of the reasons selected the sole intrinsic one—the last one, “my priorities have changed”—was selected by only one per cent of respondents. All the others are structural barriers, with workload and various lacks of support the more frequently cited reason.

Participants overall ranked ETEC565A as having great value (72 per cent), with 35 per cent describing it as the most valuable MET course they have taken; another 37 per cent describing it as highly valuable (only six per cent characterized it as having limited or no value). In terms of impact on their practice, nearly half—47 per cent—saw its impact as very significant, with another third seeing it as having had significant impact. Again, only six per cent characterized it as having limited or no impact.

When asked a final qualitative question to address anything not covered in the questionnaire, several respondents spoke to ETEC565A’s transfer of learning. Note: each paragraph represents a different person’s response to the question:

I felt the most inspired by ETEC565A to advance my tech expertise. I was keen to initiate a community of practice in my chemistry classes immediately. I learned to use tools I had no idea I was capable of creating.

Incredibly practical course. The constructivist nature was frustrating at times, but very valuable. This course has had the biggest daily impact on my teaching career because I use what I learned - the digital story, a blog, and an asynchronous discussion forum in a Moodle shell. Without this course, I would not have had experience with any of these tools and it would have taken me much longer to find the time on my own to learn them, let alone implement them.

The community of practice in this course should be an example for all MET courses. If so, the community of practice will be strong all the way along the programme and will probably continue after in some ways. The collaboration with others in that course is something I will remember... I am still in touch with some of the people I met in that course. That aspect alone means a lot to me. Within other things, the teacher had facilitated that aspect all along the course which I applaud. As an online teacher myself I know exactly how much energy it takes from the facilitator. BRAVO!!!

Thank you for teaching me how to learn.

Clearly there has been significant transfer of learning for these respondents, in terms of skills, but also with respect to ETEC565A’s impact on their practices as educational professionals, as well as their membership in a community of practice.

## **Conclusion**

Sixty per cent of survey respondents were initially willing to participate in a follow-up interview; these will be conducted between July and November 2012. The interview questions have been crafted to clarify ambiguous results from the questionnaires, gather stories related to students’ course and post-course experiences, and to solicit additional feedback related to transfer of learning and the community of practice experience, specifically with ETEC565A and with the MET programme overall.

In addition to the descriptive data included here, additional quantitative analyses will be conducted. In particular we are keen to discern any effects related to gender, years in practice, context of practice (in terms of student audience, teacher versus other educational professional, and jurisdiction), and age on the transfer of learning. We will also analyze the data for any effects related to the gap between completing ETEC565A and completing

the questionnaire: do those who completed the course 2 months ago (for example) differ in perspective between those who completed it two or three years ago?

According to Caffarella transfer of learning is, on a fundamental level, about assisting people to make changes, “in themselves, other people, practices, organization and/or society (p. 206).” A richer understanding the extent to which transfer of learning occurs, what facilitates transfer, and what impedes it, serves this aim. Lave and Wenger argue that “development of identity is central to the careers of newcomers in communities of practice, and thus fundamental to the concept of legitimate peripheral participation.” (p. 115) the extent to which participants’ experiences align with this position—the extent to which their identities as educational professionals have been impacted by completing ETEC565A and endeavouring to transfer the knowledges acquired there to their educational practice—is also something we will explore during the interviews.

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<sup>1</sup> In the Canadian context “course” refers to one unit of study, or “paper”.