Collected Essays on Learning and Teaching

The Evolving Scholarship of Teaching and Learning

Volume I
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A Message from the President of the STLHE
Foreword

The Editors of Volume 1 of Collected Essays on Learning and Teaching (CELT) are very pleased to present the inaugural edition of this innovative electronic publication associated with the annual conference of the Society for Teaching and Learning in Higher Education (STLHE). Volume 1 features 25 peer-reviewed essays which appear after an extensive process of submission, review, re-writes, edit, and composition. The idea for CELT dates back to the STLHE conference hosted by the University of Prince Edward Island in 2005. The plan was to capture some of the best elements from workshops, concurrent, and round table as well as poster sessions, and to ask the facilitators of those sessions to develop short essays suitable for the CELT collection. Even though many of our active learning conference sessions do not lend themselves to the subsequent writing of peer-reviewed essays for publication, those promoting the CELT concept felt the time was ripe for an initiative to link conference sessions with a tangible Society-sponsored publication featuring essays in the Scholarship of Teaching and Learning (SoTL) genre. It took some time to develop the CELT structure and format, but a few months prior to the 2007 STLHE conference at the University of Alberta the invitation to contribute to CELT went out to presenters and facilitators. The response was some thirty-five submissions meeting the deadline in September, 2007.

The theme for this, the inaugural edition of CELT, is evolving scholarship. This theme was actually chosen by the organizing committee for the June 2007 STLHE Annual Conference at the University of Alberta. Registrants and presenters were asked to submit articles that captured the various perspectives of the scholarship of teaching including:

- inquiry around teaching and learning;
- integrating teaching, learning, and research;
- administrative structures that recognize, support, and reward scholarship in the area of teaching and learning;
- formal programs designed to enhance teaching and learning;
- the infrastructure that supports teaching and learning; and
- experiential teaching and learning.

Evolving scholarship is a theme that captures the current national focus on the scholarship of teaching and learning. The theme appeals to all STLHE supporters including faculty, 3M Teaching Fellows, educational developers, administrators, graduate students, and undergraduate students.

The collection loosely traces three steps in the teaching process: preparing to teach; the experience in the classroom, and assessment. Section I looks at engaging sessional instructors and at “serial” team teaching; at changing expectations and at documenting the scholarship of teaching and learning; at curricular structures for first-year students and at curricular alignment; and at exploiting the power of the arts. In Section II, the experience of the classroom (broadly defined) is deepened through ritual, laughter, and medicine wheels; expanded through clickers, service learning, inquiry learning; and clarified by attending to the student voice, to cultural diversity, and to the observation of peers. And finally, in Section III, the essays explore a variety of ways of assessing learning: participation grades, marks for professionalism, carefully constructed multiple choice exams, e-portfolios, and a variety of writing-across-the-curriculum assignments. Together, the three
sections take us through a complete teaching cycle, from consulting the scholarship of teaching and learning, to curriculum planning, to assessment of learning and teaching, and finally to the kind of evaluation that leads again to inquiry into the learning process.

The Editors thank the authors, the many reviewers, and the staff of the Centre for Teaching and Learning at the University of Windsor for their contributions to the success of the first volume of CELT. We look forward to celebrating “A World of Learning” through the publication of Volume II before the 29th Annual Conference of the STLHE to be held at the University of New Brunswick in June of 2009.

Alan Wright, Shannon Murray, & Margaret Wilson
Editors
Section I

Preparing to Teach
The purpose of the conference session upon which this paper is based was to challenge the notion that evidence of scholarship must be limited to publication in a peer-reviewed journal, and to open the doors for creative thinking about what might constitute evidence of scholarship of teaching and learning. Existing theory around defining scholarship (Boyer, 1990; Glassick, Huber, & Maeroff, 1997; Sorcinelli, 2002) can provide a justification for alternatives, but how can scholarship expressed through teaching or other creative performance be demonstrated? Scholarship of Teaching and Learning (SoTL) scholars in particular may face challenges in documenting their scholarship so promotion and tenure committees can understand its worth.

My intent was not to negate the importance of peer-reviewed publications, but to parallel them with other forms of scholarly dissemination that I argue might in some cases have more impact on advancing the field. I also maintain that any understandings of scholarship are both individual and contextual (Baxter Magolda, 1999). The purpose of this summary therefore is not to promote a common definition but rather to challenge the traditional boundaries of understanding. Engagement in scholarship suggests an exchange of ideas, and it is my hope that this article may serve as a starting point for future discussion.

Preamble

I should explain at the outset: my argument for an extended definition of scholarship is neither original nor new. Boyer, as long ago as 1990, recommended academics should “break out of the tired old teaching versus research debate and define, in more creative ways, what it means to be a scholar” (p. xiii). Boyer’s advice, I suggest, is not so much a call for organisational restructuring, but rather to individual ac-
academics to reassess what form their scholarship takes, and to determine a personally relevant definition.

On a personal note, I have often encountered the notion that alternatives would not carry the same weight as publication in peer-reviewed journals. My understanding of my own scholarship includes a desire to push the edges of knowledge, in this case, of what might constitute scholarship. I would be a poor scholar, I felt, if I stayed only with traditional perspectives, and made no attempt to explore new territory. At the same time, I want to situate any definition of scholarship to assist others rather than alienate them with my radial perspective. I must position myself, as Walzer (1987) suggests, “a little to the side, but not outside; critical distance is measured in inches” (p. 61), such that my scholarship is accessible not only to other early adopters, but also to those who might espouse more traditional approaches.

I think of the usefulness of Palmer’s (1998) four-stage change framework as it might be applied to moving toward new understandings of scholarship. In stage 1, “isolated individuals make an inward decision,” followed by stage 2, in which “individuals begin to discover one another and form communities of congruence.” In stage 3, “communities start going public,” and in stage 4, a “system of alternative rewards emerges to sustain the movement’s vision and to put pressure…on the standard institutional reward system” (p. 166). It is my hope that this article will prompt further discussions that might lead to communities of congruence going public, and ultimately to a renewal of institutional reward structures.

Defining Scholarship

Various lenses exist for defining scholarship. For example, Boyer (1990), in his widely quoted Scholarship Reconsidered, outlines the scholarships of discovery, integration, application, and teaching, and suggests that the same standards of evaluation should be applied in each as are used in research. Kreber (2003) notes the ongoing conversations in the literature around applying this definition of scholarship. For example, “based on a rather narrow interpretation of Boyer’s (1990) work a presupposition of this discourse is that teaching, if done well (the assessment typically based on student ratings of instruction) is scholarship” (p. 29). Given that one can easily find examples in practice of teaching that is neither scholarly nor scholarship, what guidelines can be applied to define scholarship in teaching?

Glassick, Huber, and Maeroff (1997) outline six criteria for scholarship: evidence of clear goals, adequate preparation, appropriate methods, significant results, effective presentation, and reflective critique. Scholarship of teaching and learning is about planning, assessing, and modifying one’s teaching (Boyer, 1990; Sorcinelli, 2002), a cycle which will be recognizable to anyone familiar with action research (Kemmis & McTaggart, 1982) or reflective practice (Schön, 1983). Huber and Hutchings (2005) describe a process of “framing questions, gathering and exploring evidence, trying out and refining new insights in the classroom, and going public…in ways others can build on” (p. 21). This type of research is in no way limited to education faculty or faculty developers, and scholars of teaching and learning can and will emerge from any and all disciplines (Sperling, 2003; Weston & McAlpine, 2003). In fact, it is critical that they do, and bring the perspectives of their disciplines to bear on scholarship in teaching.

On a historical note, Skeat (1993) points out that scholarship comes from the root schola, meaning “rest, leisure, employment of leisure time, also a school. Orig. ‘a pause’” (p. 418), and that a scholar, or scholere was originally “a commentator” (p. 418). In its original form, then, dissemination of scholarship was not limited to peer-reviewed publication, and might, it seemed, even suggest something enjoyable.

The online Oxford English Dictionary (1989) defines scholarship as “the attainments of a scholar; learning, erudition; esp. proficiency in the Greek and Latin languages and their literature” (n.p.). While working knowledge of Greek and Latin (outside those terms found in one’s own field) may no longer be considered a scholarly requirement, how should one measure attainments? The Merriam Webster Online Dictionary (2005) provides little clarification, describing scholarship as the “character, qualities, activity, or attainments of a scholar” (n.p.), or one who attends school or who has “done advanced study
in a special field” (n.p.). How would these definitions, which seem much more holistic than simply peer-reviewed publications, compare to the formal understandings set out in collective agreements and university policies? What criteria must evidence of scholarship meet to be considered for the ubiquitous tenure and promotion process?

Applying the Definition of Scholarship

In order to see how these definitions were being applied in Canadian academic settings, I turned to statements from Canadian universities regarding the definition of scholarship. For example, Dalhousie University's Faculty of Health Sciences (1993) offered a definition encompassing a diversity of scholarship possibilities:

Scholarship is the application of systematic approaches to the acquisition of knowledge through intellectual inquiry. Scholarship includes the dissemination of this knowledge through various means such as publications, presentations (verbal and audiovisual), professional practice and the application of this new knowledge to the enrichment of the life of society. (n.p.)

Clearly this describes myriad possibilities, including presentations and practice. Teaching, in and of itself, could directly address “application of this new knowledge to the enrichment of the life of society.”

The University of British Columbia, while acknowledging that published work is the usual form of evidence of scholarship, also allows that “distinguished architectural, artistic or engineering design, distinguished performance in the arts or professional fields, shall be considered in appropriate cases” (Brimner, 2004, n.p.). Further, the definition of scholarship indicates that “scholarly activity may be evidenced by originality or innovation, demonstrable impact in a particular field or discipline, peer reviews, dissemination in the public domain, or substantial and sustained use by others” (n.p.). Might one’s teaching or conference presentations demonstrate “originality or innovation,” or, if feedback from past students is an indicator, have a “demonstrable impact in a particular field?”

In addition, the Canadian Association for University Teachers (CAUT) position statement allows that scholarship, the work of an academic, involves both the pursuit and the dissemination of knowledge through research, teaching, public lectures, conference communications, publications, the building of library collections, the provision of critically mediated access to information, artistic production and other similar activities. (CAUT, 2001, n.p.)

It seems the door is open to any number of alternatives in scholarly expression.

Providing Evidence of Scholarship

Conference presentations constitute evidence of scholarship; they do, after all, appear as peer-reviewed work on curriculum vitae, and the published abstracts do serve as retrievable evidence. To extend this idea, I have had the experience of attending a presentation at a conference, and hearing session attendees subsequently cite something said in their own presentations. Should this be considered differently than citations of a published article? Going beyond traditional understandings, if creative performance is an acceptable demonstration of scholarship, then perhaps conference presentations could be viewed in a similar way.

As a scholar, I must decide what I am seeking in order to consider presentations as evidence of scholarship. I value conference presentations that model excellent application of principles of education and that result in audience engagement and preferably dialogue. Scholarship arouses my curiosity and stimulates me to ponder the topic and share the results of my thinking with others. This should be true regardless of the form of the scholarship. For
example, I expect to integrate my own research and reflection on practice to offer new insights into how to present a topic. The evidence of that scholarship will not be limited to whether attendees subsequently cite my session in their own work, but will include whether their own practice (and mine) is affected by their participation in my scholarship.

Teaching as Scholarly Art: Developing Future Scholars

If conference presentations count as scholarship, then what about workshops and classroom teaching? Do we need to write or speak to teaching colleagues about work for it to be scholarly, or could it be scholarship because it is a “distinguished performance in the arts or professional fields” (Brimner, 2004, n.p.)?

The emerging field of the Scholarship of Teaching and Learning (SoTL) positions teaching scholarship as undertaking empirical investigations of one’s classroom practices. Further, “SoTL also involves disseminating the results we find in a public forum, so that when others hear about our practices, they are prompted into creating their own systemic changes” (The Faculty Center for Teaching and Learning, n.d.). There is room, therefore, to conduct research into one’s teaching practices, planning for improvement, observing the results, and continuing to improve the plan and its implementation.

Some would argue that teaching can never be scholarship because it is not subject to peer review and that while conferences are presented to colleagues, and often are peer-reviewed, teaching is to students who do not have that level of experience. I suggest that this may reflect a limited short-term view of the definition of peer. Students often cite ideas discussed in their own work, some of which is subsequently shared more widely through presentation or publication. Should this be considered differently than citations of a published article? While my students may not all be my peers now (some are), many will be in just a few years. If I use a developmental approach now to encourage them to critique my teaching and their own response to it (Pratt, 1998; Brookfield, 1990), then at what point does this interaction become peer review of and engagement in scholarship? It is up to me to encourage students to treat my teaching critically. It is up to me to support them in moving from student to peer, such that they are well placed to critique theorists and practitioners in the field (including me). This reflects my understanding of scholarship in my teaching: I model scholarship through responding to students’ feedback and demonstrating critical reflection and improvement in practice, just as I would expect them to demonstrate growth and development in their course work. This moves them towards behaving as scholarly peers, such that there is peer-review of ideas discussed.

Clarke (2005) outlines five criteria for scholarship in teaching and learning. The teacher scholar, he says, identifies a problem related to teaching and learning, researches potential solutions, tries them out, assesses their success, and makes the research public—opening it up to peer review and discussion. I see the problem not, therefore, as whether or not teaching is scholarly activity, nor whether students constitute an audience of peers, but rather how I can provide evidence of this form of scholarship. Ultimately, regardless of what I may choose to personally understand, I must persuade an inter-disciplinary audience of peers, some of whom will espouse more traditional perspectives. Using Clarke’s criteria may smooth the path towards acceptance of alternative forms of scholarship. Perhaps I could make my scholarship more immediately relevant by discussing my attempts at improvement in my practice with teaching colleagues, and in doing so, make public my teaching scholarship. I could engage in ‘water cooler’ scholarly conversations, thus involving other teaching experts in my cycles of reflective practice (Schön, 1983).

The Reflection: Seven Practices for Promoting Scholarship

The challenge, as I see it, is that many forms of alternative scholarship are difficult for others to retrieve, making substantiation of scholarly evidence difficult. If I want alternative activities to be considered as evidence of my scholarship, I need to consider ways of
offering evidence of that scholarship.

1. Begin by engaging in teaching and presenting as if they were scholarly endeavours. Consider how Clarke’s (2005) or Glassick, Huber and Maeroff’s (1997) criteria could be used to inform my teaching improvements.

2. Cite scholarship of all kinds. Include others’ conference presentations as well as published papers in written work. Cite students, and consider the ways in which this develops new scholars.

3. Include verbal citations of my work on my curriculum vitae. If someone attends my presentation and refers to it in his or her own verbal presentation, include that as a citation.

4. Consider the possibilities for scholarship in teaching. Go beyond action research in my teaching, taking also a long-term view. Consider the ways in which my scholarship is living in my students.

5. Seek out peer review for diverse forms of scholarly expression. Continue to video my teaching for critical review. Continue to make my teaching public. Set up a review group across several disciplines. Ask peers after conferences for comments on the scholarship of my presentation delivery as well as the content. Ask others to write teaching reviews much as they might write book reviews.

6. Gently nudge the edges of acceptable evidence of scholarship.

7. Recommend that each academic consider a personal definition of scholarship, just as they might articulate a philosophy of teaching.

Conclusion

From my perspective, there was a lovely synergy about the STLHE conference session: at the same time that I (hopefully) pushed the participants’ thinking, I found myself re-considering my identity as scholar. To me, this is scholarship in play. In discussions with colleagues, I have often heard the opinion that alternative forms of scholarship are interesting, but nonetheless, they cannot be seen as scholarship until the peer-reviewed paper is available. It seems an academic’s standing as a scholar is still dependent on the list of publications. Doesn’t this undervalue the potential impact that teaching, conference presentations, media interviews, and other expressions of scholarship can have, not only on students, but also on the larger community, and ultimately, on the history of the discipline? Socrates wrote nothing – should he still be considered a scholar?

References


Today, the improvement of scholarly teaching and student learning is a critical charge for institutions of higher education, particularly due to accreditation standards and accountability for educating future professionals. While there are many improvement strategies and methods available, typical initiatives involve a feedback loop based on student learning outcomes, which are previously agreed upon skills and broad learning goals adopted by faculty. Based on these outcomes, faculty members design courses and programs, and then collect pertinent assessment data which is reviewed by faculty for refinement and modification (Allen, 2004; Maki, 2002; Hutchings, Marchese, & Wright, 1991). Thus, the improvement process involves continual monitoring and assessment in order to ensure scholarly teaching and learning found in quality education. The purpose of this essay is to show the versatility of one improvement method, curriculum mapping, as a process that facilitates curriculum alignment, and to share examples of how several of our academic units have used this process. Finally, we will highlight some of the costs and benefits of using the curriculum mapping process, although an extensive discussion of these important issues is beyond the scope of this paper.

Curriculum mapping is a versatile process tool that can help faculty discern whether different curriculum components align; and if not, what adjustments can be made. Through this process faculty create a graphic portrayal of the program outcomes, the courses that comprise the program, and their relationship to the program’s purpose. This article describes both the curriculum mapping process and resulting map, highlighting the versatility of this approach by sharing examples of how it has been used by several academic units.

The Map to Curriculum Alignment and Improvement

Karen Kopera-Frye, John Mahaffy, Gloria Messick Svare
University of Nevada, Reno

If you don’t know where you are going, any road will get you there.
- Lewis Carroll

Improving Scholarly Teaching and Student Learning

If you don’t know where you are going, any road will get you there.
- Lewis Carroll
The Four Curricula

What is a curriculum? Often a curriculum is described only as a collection of courses leading to a certificate or degree. Unfortunately, this is how too many students experience higher education – an aggregate of classes lacking clear intentionality of purpose, process, and content. The course catalogue is the only “map” needed to navigate such a curriculum. An effective curriculum is synergistic: “A curriculum is a programme of study where the whole is greater than the sum of the individual parts” (Harden, 2001). The Pennsylvania State Board of Education (1998) offers a useful definition of curriculum: “A series of planned instruction that is coordinated and articulated in a manner designed to result in the achievement by students of specific knowledge and skills and the application of this knowledge.” A curriculum entails four types of “curricula:” what institutions, programs, and faculty say about the curriculum’s nature and purpose (the written curriculum); how the curriculum is implemented (the taught curriculum); what students gain from their experiences (the learned curriculum); and how student performance is measured (the assessed curriculum). Similar concepts also have been noted by others (Robley, Whittle, & Murdoch-Eaton, 2005; Wachtler & Troein, 2003).

Studies on the efficacy of curriculum alignment in K-12 grades, such as those reviewed by Cohen (1987) and those in medical education (Harden, 2001; Wachtler & Troein, 2003), suggest what is intuitively obvious to many educators: students will learn and perform better when these four “curricula” align to form one curriculum. When they do not align, things rarely go well. Consider a Learn-To-Drive class. The brochure states that students will learn everything required to obtain a driver’s license (written curriculum), but classes consist mostly of instructor stories, films of accidents, reading the Driving Manual, and driving around the parking lot (taught curriculum). Students come to understand that driving can be dangerous and they learn numerous rules-of-the-roads, but not much more (received curriculum). Following the course, they take their licensing exam – and may fail. The driving examiner requires them to merge into freeway traffic, parallel park, and other maneuvers that they had not experienced (the assessed curriculum).

Purpose of Curriculum Mapping

Curriculum mapping is a versatile process tool that can help faculty discern whether different curriculum components align, and, if not, what adjustments can be made. Like road maps that show the starting point, destination, and a variety of routes to get there, depending on the purpose (e.g., scenic or expeditious), a curriculum map is a graphic portrayal of the program goals or outcomes, the courses that comprise the program, and their relationship to the program’s purpose. The map enables faculty and administrators to see these relationships, including gaps and redundancies. By adding details to the map, especially instructor input, the stage is set for reflective and meaningful faculty discussions about the curriculum. As Harden (2001) states:

Curriculum mapping is about representing spatially the different components of the curriculum so that the whole picture and the relationships and connections between the parts of the map are easily seen. This complete picture is more meaningful to the teacher, the student or the manager than the picture presented by the random collection of pieces which is often what they have (p. 123).

Consequently, the purpose, content, and design of the curriculum become readily apparent to all stakeholders: faculty, administrators, future employers, students, parents as well as external entities requiring evidence of accountability. A curriculum map also helps guide program design and improvement, including consistency, fairness, quality, and effectiveness (Matveev, Okala, & Cuevas, 2006). The processes of designing curriculum maps range from complex audit systems (Matveev et al., 2006) to relatively simple, though faculty-intensive, procedures (Mahaffy, Messick Svare, & Kopera-Frye, 2007). As with research, obtaining quality data, while essential,
is only the first part. The real value comes from engaging faculty to analyze the map, then discuss and act on the implications.

Constructing a Curriculum Map

Developing a curriculum map for program improvement is a process beyond the scope of this paper; however, a brief description may be useful. Prior to constructing a curriculum map, two conditions must be met. First, each course must have stated learning objectives. Second, the program must have student learning outcomes that commensurate with the departmental mission. The framework of the map is a matrix with required courses listed on the left vertical axis and the program’s student learning outcomes listed as column headings on the horizontal axis, as shown in Table 1.

Each cell formed by the matrix will contain information showing how a specific course relates to a specific student learning outcome. The kind of information portrayed in the cells should be determined by the faculty. The example below represents only a small portion of a typical map, and displays information about:

- level – the “depth” at which the content is explored (introduced, reinforced, advanced/applied, not addressed);
- emphasis – the time and effort devoted to the content (little/none, moderate, extensive); and
- assessment – how the content is assessed (exam, paper, project, other, not assessed).

Some faculty choose to populate these cells with information about the area of Bloom’s taxonomy of educational objectives (Bloom, 1956) being addressed (e.g., synthesis, comprehension). Many variations exist; the relevant point is that faculty agree on the information the curriculum map will display and that it is designed accordingly.

Each instructor is responsible for mapping their own courses – information that is then compiled and displayed on one comprehensive matrix, the curriculum map. At our university, the program’s assessment coordinator creates the final map, but having someone in charge of the overall mapping effort is critical to success. Finally, one of the true strengths of curriculum mapping is its malleability; programs can and should modify it to serve their needs.

Using Curriculum Mapping

Curriculum mapping can be used for two different purposes: 1) to examine a curriculum at its design

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stage or creation; and 2) to refine/evaluate an existing curriculum. The first case, or “front-end” analysis, involves reviewing a curriculum map to examine if the curriculum has face validity by posing questions about the appropriateness of the stated student learning outcomes, the nature and range of courses, the course sequence and prerequisites, course content (goals, instructional objectives, and assessments), along with gaps, and redundancies among courses. The purpose is to see if there is agreement on what students are to learn by completing the curriculum, how faculty will know what students know, and if the curriculum is designed and aligned to enable students to achieve those outcomes. Such a map also is useful in the design of a new course or curriculum as it often stimulates constructive dialogue among faculty.

Conversely, a “back-end” analysis uses assessment data with a curriculum map to facilitate faculty discussion and understanding about why outcomes are or are not achieved. If the curriculum is aligned properly, assessment data will show concordance between student performance and preset student learning outcomes. The map highlights classes where student performance falls below expectations on one or more pre-defined outcomes. First, if the outcome itself is found to be appropriate, faculty look to the scope and sequence of the courses supporting the outcome (or the instructional objectives if a single course is under review). For example, course content supporting outcomes may be redundant across several courses or the content level of instruction is covered out of sequence (e.g., advanced level of instruction in a 200-level course, and introductory level in a 400-level course). While the structure of the curriculum may align with the outcome, student learning or retention may be problematic. Such situations may require delving into course syllabi and engaging faculty in more detailed discussions about what they teach and how they assess learning. Because the discussions become more sensitive as they become personal, leadership is required. In fact, someone in the program must guide and coordinate the entire curriculum mapping process and review. Finally, not all student performance problems directly result from curriculum and instruction; student behaviour, departmental resources, and institutional culture should not be overlooked.

Research Component in a Social Work Program

A front-end analysis example

The following example, currently in process, illustrates the use of curriculum mapping for the purpose of redesigning one component of an existing program – in this case a four-course research sequence, which spans the bachelors and masters social work programs at the University of Nevada, Reno. This example also illustrates how a problem with the “hidden curriculum” can be addressed through a curriculum mapping process. The hidden curriculum (Wachtler & Troein, 2003) consists of student learning outcomes which are not stated and perhaps contested among faculty members, and therefore may not be aligned or assessed.

Our need to redesign the research sequence resulted from student feedback in the form of program evaluation surveys, student teaching evaluations, and faculty observations that students were not transferring skills learned in research classes to higher-level research classes or practice courses. Social work students’ dislike of and anxiety about research is legendary. However, the value of research to inform practice is widely recognized. Our goal was to assess the research curriculum. Did the research sequence reinforce key research principles? Did assignments fit the skill level of students to minimize anxiety and maximize learning? Broad research requirements are established by our accreditation body, but each school adapts these guidelines to fit their program philosophy and mission.

The first step in successful curriculum mapping depends on identifying a group that is responsible for its completion – in this case the Research Curriculum Committee. The hidden research curriculum quickly became evident when the committee members could not agree on key issues: the emphasis on specific research methodologies, the definition and value of evidence-based practice, and the integration of research with the rest of the curriculum. This
lengthy process, as well as inviting the director of the University Assessment Office to a meeting to discuss curriculum mapping, was important in establishing buy-in for the curriculum mapping process.

Before proceeding to graph the research sequence curriculum, it became clear that we needed to establish specific student learning outcomes for research that faculty could endorse. To accomplish this, we developed a list of core research competencies that currently are taught (adapted from Adam, Zosky, & Unrau, 2004) and which we will use to survey faculty and field practicum supervisors about the importance of each competency for professional practice. This process has provided a structure for faculty to discuss issues that can become contentious. Once the committee agrees on a list of core competencies, these will be mapped onto the four research courses. Ultimately, we plan to examine how the agreed-upon core competencies can be reinforced throughout the social work curriculum.

Programmatic Curriculum Alignment

A back-end analysis example

The starting point of a curriculum improvement program should involve deciding on the student learning outcomes and how they are embedded in the curriculum. These outcomes should be commensurate with the departmental mission and consistent with faculty concerns and interests.

In our Human Development and Family Studies undergraduate program, we constructed a curriculum mapping of our core courses. Each instructor was responsible for mapping their own courses, information our assessment coordinators compiled and displayed on one comprehensive grid. For each course, the instructor noted our departmental mission-based student learning outcomes across the top horizontal axis of the matrix, and the course objectives were listed on the vertical axis of the matrix. Three elements were contained in each cell: 1) level of instruction (e.g., how much instructional time/effort was devoted to this outcome such as introductory, advanced, etc.); 2) level of student learning/performance using Bloom’s (1956) taxonomy (e.g., synthesis, comprehension); and 3) artifacts or products used to document student performance (e.g., exam, paper). The comprehensive, program-level map was color-coded for level of instruction to help gauge sequencing of outcomes across appropriate course numbers (e.g., introductory human development should occur in our 201 course, not our 431 class), and also to look for instances of redundancy or overlap of course objectives, artifacts, and course content (i.e., students complained they had the same material in two prior courses, suggesting redundancy of instruction). Refined course content led to greater curriculum alignment, dropping redundant courses and material, and an enhanced sequence of learning for our students.

Utilizing Curriculum Mapping in an Accreditation Application

An accountability example

One of the authors was involved in preparing an accreditation application for Program of Merit designation through the Association for Gerontology in Higher Education (AGHE) for our 24-credit interdisciplinary gerontology undergraduate certificate program. In this case, the certificate classes represented up to nine different academic departments across our campus, with at least eight different instructors. Curriculum mapping was undertaken to compare each of our certificate courses against AGHE’s standards for accredited programs nationally. A map was constructed, as described above; however, instead of departmental mission-derived student learning outcomes, AGHE’s standards were represented across the horizontal top axis and the certificate classes displayed down the leftmost vertical axis. The same three elements in the program example described immediately above were included in each cell. Our Gerontology Certificate program was only the seventh program nationally to receive the Program of Merit designation and the site reviewers remarked that they had not experienced prior applications containing
curriculum maps, but were going to require this process in all future applications to show accountability and curriculum alignment with AGHE standards.

Challenges and Benefits of the Curriculum Mapping Process

In workshops at the University of Nevada, Reno and elsewhere, we informally surveyed attendees (primarily faculty and fewer administrators) about the benefits and challenges of using curriculum mapping. These, along with our recommendations for implementing curriculum mapping, are listed below.

Benefits
- Curriculum alignment.
- Clarification of student learning outcomes.
- Use in accreditation applications.

Challenges
- Faculty buy-in for using curriculum mapping due to the time and effort involved and because of concern over how the map might be used (e.g., faculty evaluation).
- Difficulty in reaching decisions about what to do with overlapping courses.
- Course ownership issues.
- Difficulty in mapping departmental missions and/or student learning outcomes that are vague or incongruent.

Recommendations
- Get faculty buy-in up front in order to promote ownership of the curriculum mapping process (instead of a top-down mandate).
- Revisit the map to check for periodic drifts in courses.
- Have regular faculty dialogues about purpose and value of curriculum mapping, and to discuss faculty views on the process.
- Share your results with administration to recognize academic units leading this process.
- Encourage stipends, trainings, presentations at teaching conferences (e.g., STLHE) and publications as a means to reinforce this process among faculty.

References


Evolving Expectations for Teaching in Higher Education in Canada

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Although many Canadian universities offer graduate level training or certificates on teaching in higher education, there is no national framework of expectations or provision for national certification of post-secondary teachers. There are models of post-secondary teaching expectations in the United Kingdom and in elementary and secondary systems in both the US and Canada. In addition, many US universities have competency-based graduate teaching assistant programs. The province of Ontario has adopted a mandatory framework of learning expectations for Baccalaureate and graduate degrees for all publicly funded universities. The question we address in this essay is: Has our teacher training practice evolved to the point where we should look ahead to consider formalizing expectations of effective post-secondary teaching practices through a national framework?

In our view, there is now sufficient interest within the Society for Teaching and Learning Higher Education (STLHE) to establish a working group that would initiate a national consultation to discuss the process and structure for formulating an enabling framework.

Introduction

Framework structures describing expectations for teaching are well established in North America and in the United Kingdom (UK). Examples include core professional competencies for K-12 teachers in
Quebec (Gouvernement du Québec, 2001); core propositions for K-12 teachers in the US (National Board for Professional Teaching Standards, 2008); two schemes for post-secondary teachers in the UK; Staff and Educational Development Association-Professional Development Framework (SEDA-PDF, 2005); and the Higher Education Academy (HEA, 2007).

Canada has no national framework of expectations in higher education. Many Canadian universities offer graduate level training or certificates on teaching in higher education. Each institution tailors its training curriculum to meet the needs of its students and faculty. A national scheme formalizing our expectations for post-secondary teachers would have numerous benefits. These include having a nationally adopted reference framework for educational developers; transferability of certification across institutions; demonstrating to students and other stakeholders that we have an effective, professional teacher training network which supports student engagement and learning; and raising the professional profile of teaching and learning in higher education. Such a framework would permit institutions and programmes to develop unique approaches to teacher training, but within a framework of accepted educational outcomes. Non-regulatory, professionally led approaches to the development of such a framework appear to offer attractive and supportive opportunities for discussion.

Teacher Training and Development Curricula in Canada

Our survey of teacher training courses and programmes offered at 12 Canadian universities indicates that there is a core set of curriculum topics that are considered to be important across these institutions. This suggests that a framework of expectations for post-secondary teachers should include these subjects. Curriculum topics fall into three areas: core knowledge, classroom teaching skills, and evaluation of teaching practices.

The important core knowledge expected of teachers includes information about institutional organization, learning theory and educational philosophy, curriculum development and course design, and learning environments. Adequate discipline-specific content knowledge forms the basis of all teaching strategies.

Knowledge about institutions includes such things as administrative structure and policy, professionalism and ethics, the role of teaching in the institutional mission, and the obligations and opportunities for developing as a teacher at individual institutions. Learning theory and educational philosophy covers teaching and learning theory, how adults learn, and the philosophy and goals of higher education. Curriculum development and course design deals with aligning course goals, teaching methods, and assessment; writing learning objectives; and assessment of student learning (test design, rubrics, and evaluating a variety of student work). Creating positive learning environments encompasses student motivation and success, mentoring, course management software, and recognition of diversity in learning styles, ability, gender, and ethnic background.

Essential skills in classroom teaching are a fundamental component of teacher training. Most often these are taught by introducing a variety of instructional strategies and then practicing them in a classroom environment such as instructional skills workshops or in practicum experiences. It is common for programmes to consider a wide range of instructional strategies including working one-on-one with students, facilitating classroom discussion, effective lecturing, and a host of collaborative learning tactics such as problem-based learning, team-based learning, and active learning activities. In addition, teaching for particular sub-groups is often addressed. These may be teaching large classes, strategies for specific disciplines, distance and online education, and teaching first-year students.

How teachers evaluate their practice comprises another sphere of teacher training. This is generally composed of knowledge about teaching as a reflective practice, the elements of a teaching dossier, and writing useful learning journals. Also included here is using feedback from students and peers in formative evaluation.
The Ontario Framework of Graduate Expectations

The Province of Ontario has adopted framework guidelines which elaborate the knowledge and skills expected of students at four levels: bachelor’s degree, bachelor’s degree: honours, master’s degree, and doctoral degree. The University Undergraduate Degree Level Expectations were prepared by the Ontario Council of Academic Vice Presidents (OCAV, 2007) and the Guidelines for University Graduate Degree Level Expectations were prepared by the Ontario Council on Graduate Studies (OCGS, 2005). The purpose of these framework guidelines is to explicitly state the expectations of performance by students. It is presumed that these will be valuable in a number of ways including credit transfer, professional qualification, and the evaluation of instruction and programme accreditation.

To detail one example, the Graduate Degree Level Expectations define six general expectations: depth and breadth of knowledge, research and scholarship, level of application of knowledge, professional capacity/autonomy, level of communications skills, and awareness of limits of knowledge. Within each expectation, examples of outcomes that could be used to meet the expectation are stated. For example, at the doctoral level, depth and breadth of knowledge is demonstrated by evidence that students have a thorough understanding of a substantial body of knowledge in their academic discipline or area of professional practice.

We use the Ontario framework guidelines to illustrate the important point that an effective framework structure, while explicitly stating required expectations, allows a high degree of flexibility in how the expectations can be met. Thus, for the example, there are many different ways in which a “thorough understanding of a substantial body of knowledge” can be demonstrated. It is likely the evidence for demonstrating understanding of knowledge could be different in arts programmes compared to science or professional programmes, for example. Therefore, the advantage of the expectations framework is that individual institutions and programmes have wide latitude to develop a variety of strategies to meet each expectation.

The UK Professional Standards Framework

The UK Professional Standards Framework is detailed in the document, Teaching and Supporting Learning in Higher Education (HEA, 2006). The idea of such a Framework was featured in the UK Government White Paper, The Future of Higher Education (UK Department for Education and Skills, 2003). Although this document addressed only the English higher education sector, all of the relevant funding bodies subscribed to the Framework, as did Universities UK and SCOP (the Standing Conference of Principals).

Development of the Framework entailed national consultations with key stakeholders on possible proposals and structures. That task was given to the Higher Education Academy which was charged by the key stakeholders (the Funding Councils and the relevant sector-bodies for universities and colleges) with consulting and producing a Framework.

The debate was also influenced by the existence of the relevant Sector Skills Council. These are employer-led bodies that set standards for training, and development for each major employment sector.

Thus, the HEA had the tricky task of simultaneously satisfying several different audiences, e.g., academics, students, employing institutions, staff unions, funding councils, Government, and the Sector Skills Council. In those circumstances, it is perhaps not surprising that the task took some time, and the Framework was finally published in 2006 (HEA, 2006).

The stated aims of the Framework include supporting professional development of staff who are engaged in teaching and supporting learning, fostering professional approaches in support of student learning and providing a means of demonstrating that professionalism to students and other stakeholders, and aiding consistency in the quality of the student learning experience, while encouraging creativity and innovation.
The Framework is based upon six areas of activity, six aspects of core knowledge, and five professional values. Recognising that individuals engaged in teaching and learning support span a range of experiences and stages of development, the Framework developed three standards, respectively addressing:

- relatively inexperienced staff (GTAs or new staff) or those with limited teaching and learning support roles;
- staff with more substantive roles; and
- experienced staff who exercise mentoring and leadership development roles.

The Framework provides broad descriptors for each standard but expects individual institutions to determine the detailed criteria.

The standards also allow for individuals to seek professional recognition with designation as Associate, Fellow, or Senior Fellow. Adjustments have been made by the HEA so that the Academy’s Professional Recognition Scheme nests neatly with the Professional Standards Framework. The Recognition Scheme contains various routes to recognition. These have progressively developed over several years, but the principal paths are either via an accredited programme, i.e., an institutional developmental programme that is accredited by the HEA, or through an assessed individual developmental portfolio. The intention of the Recognition Scheme is that each designation should be comprehensively portable. Anecdotal reports indicate this is not yet recognized throughout the system, but this may be symptomatic of the young Framework. Institutions are free to operate within the framework without necessarily expecting individuals to formally seek a particular category of recognition from the HEA.

The six areas of activity outlined in the Framework are:

- design and plan learning activities;
- teach and/or support student learning;
- assess and give feedback to learners;
- develop effective learning and student support environments;
- integrate scholarship, research, and professional activities with teaching and supporting learning; and
- evaluate practice and pursue continuing professional development.

The six dimensions of core knowledge are knowledge and understanding of:

- the subject material;
- appropriate methods of teaching and learning;
- how students learn (generally and subject-specific);
- use of appropriate learning technologies;
- methods of evaluating effectiveness of learning; and
- implications of quality assurance and enhancement.

The four professional values are:

- respect for individual learners;
- commitment to incorporating the process and outcomes of relevant research, scholarship and/or professional practice;
- commitment to widening participation, diversity, and equality;
- commitment to continuing professional development, reflection, and evaluation.

Two final comments are appropriate in relation to the UK situation. First, the consultation clearly demonstrated that institutions did not, on balance, favour a competency-based scheme (specific criteria needed to meet each topic area) and they were circumspect about potential interference with their right to select and appoint staff.

Second, there is another system of accreditation of professional development operated by the Staff and Educational Development Association (SEDA-PDF, 2005). Institutions, if they wished, could
observe the Framework and seek SEDA recognition. It is likely that, at least for a period, two schemes will continue to operate. Much depends on how institutions implement, interpret, and translate into practice the Framework, and also on how they view the HEA Recognition Scheme.

Feedback from Workshop Participants

Many participants in our workshops in 2006 and 2007 (Hunt, Wright, & Gordon, 2007) have indicated support for developing a national framework of expectations for post-secondary teachers. Potential benefits they have mentioned include providing a reference framework for:

- continuing professional development of all faculty;
- teacher training for PhD students, as well as new and experienced faculty;
- formative evaluation of teaching;
- aligning teacher training curriculum outcomes;
- professional standards that align more closely with other professions such as doctors and engineers;
- hiring, promotion, and tenure;
- demonstrating accountability to students and other stakeholders;
- national recognition (accreditation) of certificate programmes; and
- national certification of individual teachers.

Workshop participants have also expressed concerns about developing a national framework of expectations. These include the need for resources within a national body to administer the programme, ensuring that the programme is used to support effective teaching and not as a tool for discipline, ensuring there is wide flexibility in ways to meet the criteria, and making certain that the framework is developed through wide consultation of stakeholders.

Through these workshops we have also learned about outcomes developed for college teachers. For example, Fanshawe College (London, Ontario) has launched a new certificate program in college teaching, the Ontario Graduate Certificate in College Teaching (R. Rodgers, personal communication, July 9, 2007). The outcomes for this programme were developed in collaboration with other post-secondary institutions and may become a model for college teaching across the Province. Twelve learning outcomes are listed for the programme:

1. Design and deliver learning activities/experiences that utilize theories of college education and adult learning.
2. Design effective lessons, courses, and programmes of learning by utilizing effective curriculum development tools and strategies.
3. Create a climate for learning through a variety of classroom management strategies.
4. Facilitate student learning by utilizing a broad variety of instructional methods, tools, and approaches.
5. Integrate a philosophy of student success into the design and delivery of learning activities.
6. Design and deliver student learning activities that anticipate and respond to the diversity of student learning needs.
7. Design formative and summative evaluation techniques and tools that appropriately assess student achievement of learning outcomes.
8. Develop a teaching philosophy that reflects an understanding of college culture and the practice of the professional educator.
9. Develop documents that provide evidence of a commitment to reflective practice.
10. Create plans that recognize the need for ongoing professional development.
11. Analyze educational leadership issues inherent in the college context.
12. Successfully complete a supervised practicum experience that integrates the knowledge and skills acquired throughout the programme.
Summary and Conclusions

Many Canadian institutions of higher education offer certificates in teaching in higher education. These offer developmental opportunities to faculty and often graduate assistants. They also enable institutions to actively support the preparation of faculty for their roles in teaching and learning. Further, such programmes can constitute a valuable component in assessing the performance of developing teachers. In the college sector in Canada, there is an overarching framework under development. In the UK, a Professional Standards framework has been defined and is well established.

Feedback from past workshops at STLHE Conferences in 2006 and 2007 strongly suggested that there is a substantial interest in initiating steps to develop an appropriate Canadian framework. Among the potential benefits would be providing a point of reference for training of current and future faculty, and demonstrating assurance of quality standards to higher education stakeholders. In addition, such a scheme could be the basis of national accreditation of teacher training programmes as well as individual recognition through inter-institutionally portable certification (teaching designations).

The tenor of Canadian discussions echoes that in the UK with a predisposition toward a flexible framework based on key values and dimensions, but with the details left to institutions to determine.

In this paper, we have briefly recounted the basic features of the UK Professional Standards Framework and outlined the learning outcomes of the Ontario Graduate Certificate in College Teaching as examples of framework structures that may be useful reference points in developing a Canadian national plan.

Has our teacher training practice evolved to the point where we should consider formalizing expectations of effective post-secondary teaching practices through a national plan? In our view, there is now sufficient interest within STLHE to establish a working group that would initiate a national consultation to discuss the process and structure for formulating an enabling framework. In so doing, STLHE could draw encouragement from the pioneering efforts in the 1990’s of the Staff and Educational Development Association (SEDA) as well as subsequent work by other bodies and in other countries.

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Practice Makes Perfect? University Students’ Response to a First-Year Transition Course

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This paper shares new insights on the first-year university student transition experience. Our research focuses on students’ practice of academic skills developed in a ‘Foundations for Learning’ course, from their own perspective, after they completed the course. Once they had an opportunity to practice what they learned in subsequent courses we investigated how such practice impacts students’ attitudes toward learning and their university experience.

Introduction

One of the challenges faced by transition course educator-advocates like ourselves, derives from a misperception that preparatory courses are remedial initiatives. John Gardner (2001) says “that only the fittest students survive and flourish, and the weakest fall by the wayside” as “academic Darwinism” (p. 5). He writes that, “in spite of more contemporary concerns about student attrition, this attitude persists among many college faculty, administrators, and trustees” (p. 5).

We suggest that the struggles of first-time university students say more about their need for formal assistance through a transition course like Foundations for Learning, than it does about not belonging or not having the ‘right stuff.’ In response to our survey question, “What should universities know about first-year students?” participants suggested that universities and faculty should not assume that university-appropriate skills are taught in high school:

The expectations are so much greater in terms of paper content and workload [than] in high school.

I realized [that] university is a really independent learning process and I found so many things I don’t know.
Foundations for Learning gives students the opportunity to learn the skills they will need for their entire academic career, without taking for granted that you know what many students would think is common knowledge, like using the library or how to reference a book.

In their study of three British Columbia post-secondary institutions, Andres, Andruske, and Hawkey (1996) report that without access to or knowledge of resources and success strategies, first-year students feel “helpless and powerless” and “voiceless” (p. 124). Our respondents expressed similar feelings:

“The workload and expectations are such a shock. I was wondering how to learn things by ourselves. University is a scary place, especially in your first year. It’s just as hard, if not harder to go to university at 30.”

Typically, skills’ course assessments report higher retention and completion rates, positive student attitudes toward university, higher grades as they progress through university than they otherwise might have received, and increased social interaction with faculty and other students, often regardless of students’ age, social class, gender or ethnic/racial/cultural background (Sherman, 1991; Hyers & Nesest, 1998; Starke, Harth, & Sirianni, 2001; Schnell, Louis, & Doetkott, 2003).

Students themselves are cognizant of the value of transition courses. One York University study (Grayson, 1994) found that 40-50% of first-year students did not feel that they had been academically or emotionally prepared for university, and 60-75% felt that they were not prepared in terms of work habit and study skills. When asked if they thought a first-year preparatory credit course would be a good use of their time, 40-50% of York’s student respondents agreed that yes, it “would be a good, or a very good, use of time.” Grayson suggests that:

Answers to this question confirm that first-year students recognize that they have difficulties not currently covered by the formal curriculum and that they need help in dealing with such matters….While the offering of such a course is unlikely to be a panacea, if offered properly, it could be a step in the right direction of dealing with some of the first year problems. (p. 21-22)

Several students responding to our survey after completing Foundations for Learning concurred with the sentiments expressed by students in Grayson’s study:

Foundations for Learning should be a mandatory course!

As part of the writing requirement of the BA/BSc programs, the fundamentals taught by Foundations for Learning should be a core part of the…curriculum.

Undoubtedly, transition courses have been of value to the institution, faculty, and students. Our research project, Practice makes perfect?, expresses our interest in first-year university students and draws on our experiences teaching a first-year transition course, Foundations for Learning. However, unlike previous studies, we wanted to know: 1) whether students practiced learned skills and techniques after they completed the course; 2) what factors influenced their decision to apply what they were taught in future courses; and 3) what benefits accrued to students who chose to practice taught skills.

The Course: Foundations for Learning

Foundations for Learning was a 3-credit hour or “half-course” offered at Dalhousie University from Fall 2000 to Winter 2007. In 2006-2007, the Faculty of Arts and Sciences (FASS) offered three sections per semester and the Faculty of Science offered one section per semester. Participants were primarily first-year students who had earned 30 credit hours or less. Students with more than 30 credit hours could register with professor permission and some students
on academic probation could be required to attend. Dalhousie University’s 2006-2007 Undergraduate Calendar describes Foundations for Learning as follows:

This class, open to all first-year students at the University, introduces participants to university culture, and helps them to enhance academic performance. Classroom experiences build a practical understanding of the learning process at the university level, enabling students to develop strategies to be more efficient learners.

With these goals in mind, our course modules included, but were not limited to time management, studying, academic referencing, critical reading and analysis, essay research and planning, group presentation skills, research methods and ethics, intellectual curiosity, and personal challenges. Such topics generally accord with transition course designs at other Canadian universities and those addressed in university student success guides.

Statistics from 2004-2007 indicate that Foundations for Learning responded to first-year students’ interest in developing their academic competence and confidence. In the 19 sections offered by the Faculty of Arts and Social Sciences (FASS), 545 students registered, exceeding the 540 ceiling. In the five sections offered by the Faculty of Science during that same time period, 116 students registered for 120 spaces. The fact that 661 students registered for 660 spaces in 24 sections over three years suggests that Foundations for Learning was economically profitable, developed a popular reputation, and was perceived as academically useful. We wondered, however, about its long-term impact on students’ academic lives.

**Research Method**

A questionnaire was distributed via Web-CT to the university email addresses of 196 FASS and Science students in Foundations for Learning who had attended sections in the Fall of 2004, and the Winter and Summer of 2005. With the approval of Dalhousie Social Sciences and Humanities Human Research Ethics Board, 155 FASS and Science students in the Fall 2005 sections were later added, bringing the total to 351. In the end, no science students responded to the questionnaire. This could relate to the timing of our appeals, approaching and during mid-term exams, and/or science students’ double burden of course and lab commitments.

Confronted by a generally slow response to our questionnaire, we sent three requests and three reminders to Dalhousie email addresses. Speculating that students might not be reading their university mail, we re-sent the questionnaire twice to their personal email addresses. Our decision to make a final third attempt involving three mail-outs and no reminders in March and April, 2006, derived from the unanticipated problem that some students had trouble accessing the questionnaire on WebCT. Ultimately, our response rate was 10%. Twenty males and 15 females completed the questionnaire that was sent several times and ways to 351 students. Thirty-two of the 35 were 28 years of age or younger. Thirty-three of the 35 were full-time students, and 29 spoke English as a first language.

We speculate that students’ participation may have been influenced by the timing of the questionnaire before and during mid-term exams, or students’ lack of interest in our research, or the absence of financial or grade incentives (Dommeyer, Baum, Hanna, & Chapman, 2004). The length of the questionnaire or technical ability may have discouraged others. It is also possible that in its lack of personal contact, the web-based format may have made our appeals easy to ignore (Cook, Heath, & Thomson, 2000). While the results of this research cannot be generalized to all first-year university students, participants’ voices support the transformative impact of transition programs when what is learned is put into practice.

**Research Findings**

Our research suggests that students who practiced what they learned in Foundations for Learning experienced enhanced academic competence. Eighteen students reported that they learned effective skills and
good habits connected to better work and improved grades. They mentioned skills and habits associated with writing, study, academic integrity/referencing, time management, reflection, and exam preparation. Of enhanced academic competence, some students informed us that:

[The course] really helped organize my study habits, taught me how to stay on top of my assignments, which means I can hand in quality work rather than something I finished doing an hour before class.

I was quite sceptical when I first went to this class, but after I applied the skills I was learning and realized how effective they were, I found myself using them all the time. Learning basic skills like writing an effective thesis statement and organizing a compelling argument are truly essential to any undergraduate and I have used this basic knowledge in every paper I have written since.

As well as enhanced academic competence, our research also suggests that students who practiced what they learned in Foundations for Learning experienced enhanced academic confidence. Eleven students reported gaining academic confidence from the course content. Five mentioned feeling less fearful, panicked, out of place, less alone with struggles, or more “thoughtful of my studies and self.” Six students felt more organized in school and life. Six students also noted a shift in their academic identity from high school to university. Students consistently mentioned that, when practiced within and outside Foundations for Learning, good habits “help.” They decrease feelings of stress by increasing those of preparedness and “control” over academic and psycho-emotional issues beyond the university.

Academically I found confidence in knowing that I wasn’t the only one having a hard time. I learned to take each task step-by-step, and this way I got all my work completed and on time because I know when and how to do it.

It helps to realize that a lot of people have the same “stupid” questions I did. It makes me feel less out of place and more confident in my abilities to accomplish my academic goals.

It made me much more confident and more grown-up. I finally felt like a university student instead of a little kid who came out of high school.

Enhanced competence and confidence had two “ripple effects.” First, after the Foundations for Learning course, students were more inclined to seek help – the number of students who accessed a teaching assistant increased from 12 to 27 and those who visited a professor increased from five to 18. Second, Foundations for Learning students were inclined to take a mentorship role with peers, sharing what they learned. Twenty-six of the 35 respondents responded “yes” when asked if they’ve, “shared Foundations guidance?”

I have taught a few of my friends how to write a thesis statement, but perhaps the most useful (and seemingly obvious, but underused) skill was making a calendar every month for everything you need to do, just to put everything into perspective to maintain some sanity!

I was able to inform and direct my friends towards exam workshops and other extra help workshops.

I gave one of my friends some of my notes on good study habits [and] she found them very helpful.

Conclusion

Vincent Tinto (1997, 1994) has done extensive work on the student experience and on issues of persistence
and retention as they relate to academic and social integration, and goal and institutional commitment. In a May 2007 presentation at Dalhousie University, “Promoting student success: Rethinking the 1st year of university study,” Tinto recommended that first-year seminars and/or bridging programs move into the curriculum mainstream as “embedded support.” For example, a history course could include a mandatory tutorial on scholarly research and essay construction, while exam preparation strategies could be a psychology lecture module. Embedded support offers students a meaningful connection between the skills we expect and their application in the discipline. Like Tinto, we believe that long-term institutional support is important, via assorted and long-term help mechanisms. Some students may require embedded support throughout the undergraduate years. Some may profit from a first-year transition course and/or study skills workshop. Yet other students may benefit from a regular advising appointment, and/or an occasional visit to a writing centre, teaching assistant, or professor. No one persistence and retention strategy suits all students.

Our research suggests, however, that those students who decide to practice taught skills after a transition course such as Foundations for Learning are not just ‘going through the motions,’ acquiring credits to obtain a degree.

Made me want to do better once I realized how good I could do.

It helped me realize that I can do the work at a university level.

Rather, respondents’ confidence that they can competently manage their academic success is an encouraging sign that they will be meaningfully satisfied and rewarded by their university experience.

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Serial Team Teaching and the Evolving Scholarship of Learning: Students’ Perspective

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Faculty and students at the University of Toronto were surveyed and interviewed to form a case study of serial team teaching, in which multiple instructors take turns teaching a segment of the same course in sequence. Student opinions ranged from slightly opposed to slightly in favour of team teaching overall. When asked about specific aspects of team teaching, students who liked it overall tended to like all aspects of it, and did not identify those disadvantages in student experience anticipated by the faculty. In general, students in upper years were less supportive of team teaching than were students in their first and second years.

Introduction

In Spring 2006 we conducted a faculty survey to investigate team teaching methods within the Faculty of Arts and Science at the St. George Campus of the University of Toronto (FLC-University of Toronto, 2006). The survey had two stages; the first identified departments offering courses that were team taught, and the second consisted of individual interviews of faculty involved in team teaching. The goal of the survey was to determine which team teaching models were currently in use for undergraduate courses on this campus, and to use the wealth of knowledge and experience available there to gain a better understanding of these models.

We interviewed more than 60 faculty members from 15 departments in a voluntary survey. The data we collected and analyzed comprised both factual information (enrolment statistics, number of instructors involved, and a team teaching model) and interpretive data (perceived advantages/disadvantages, faculty impressions of student experience, and recommendations/warnings).

The most inclusive definition of a “team taught” course is: any course with more than one instructor. In our context we identified three categories, one of them divided into two sub-categories:
A. Two or more instructors share all or most classes (Gurman, 1989).

B. Serial: a “tag team:”
   i. The instructors alternate sequentially with each instructor teaching just one uninterrupted segment of the course (e.g., one quarter or one term).
   ii. The instructors alternate every couple of weeks or so, teaching more than one segment of a course (Morlock et al., 1998).

C. Parallel: each section of the course is taught by a separate instructor (Ennis, 1986).

Most courses at the University of Toronto follow category B, subgroup i.

Some of the most interesting findings of the faculty survey were the perceived advantages and disadvantages of serial team teaching for the students. Faculty felt that students benefit from the diversity of expertise and perspectives gained (Crossman & Behrens, 1992) in serial team-taught courses. However, most instructors see this as a benefit for higher-year rather than lower-year courses. The main perceived disadvantages were in the area of student experience, specifically the lack of continuity in content, lack of communication between team members, difference in teaching styles, and reduced rapport with the students.

The literature on team teaching in higher education tends to focus on model A above where two or more instructors share all or most classes (Anderson & Speck, 1998; Kezar, 2000; McDaniel & Colarulli, 1997), yet the predominant model found in our Faculty was model B. Anecdotal evidence indicates that other institutions are also adopting model B. Therefore, we thought it important to ascertain the student perspective on the application of this model.

Online Student Survey

In Spring 2007, we conducted a voluntary survey of student opinion on a website frequented by 4000 University of Toronto Life Sciences students (http://biome.utoronto.ca). The survey asked for the students’ year of study, and the answers to 10 questions measured on a five point Likert scale: (strongly) agree, neutral, disagree (strongly). Table 1 lists the questions. Questions 2 and 3 asked about students’ personal satisfaction with their grades, and the perceived quality of their university experience. Questions 4 to 9 dealt with specific aspects of serial team-taught courses; these aspects had been identified as key advantages or disadvantages to team teaching by the previous faculty survey (FLC-University of Toronto, 2006). Questions 10 and 11 probed students’ overall satisfaction. One hundred sixty-three students completed the survey, ranging from first- to fourth-year undergraduates.

Results

The data set was considered from several perspectives. As a first step, we sought correlation between student experience and expectation to use as a barometer for further monitoring. Next, we looked for a correlation across all responses, and finally, results were analyzed by students’ academic year of study.

The data we collected were found to be discrete rather than following a normal distribution. To measure the degree of association between a pair of discrete variables and to assess the significance of such association, we used non-parametric statistical analysis (Kendall’s Tau-B; see Kendall, 1962). In looking for a correlation between students’ self-reported quality of university experience and expected grades based on studying, we noted that when all students were considered, very few rated their university experience higher than average, or stated their expected grades as high (Figure 1). Most responses clustered in the midpoint of the Likert scale, but showed a clear correlation between perceived experience and grade expectation.

Correlations Across All Responses

Figure 2 depicts a matrix showing the correlation among all questions. The matrix is symmetric about the diagonal from top-left to bottom-right. Insignificant values (p-value > .05) and values on this diago-
Table 1

Questions in Faculty Learning Community’s 2007 online student survey on student perspectives of team teaching at the University of Toronto. Questions 3 to 11 were answered using the following 5-point Likert scale: Strongly agree, Agree, Neutral, Disagree, Strongly Disagree.

<table>
<thead>
<tr>
<th>1. How many course credits have you completed?</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;4</td>
</tr>
<tr>
<td>2. Over all, the grades I am receiving in the courses I am taking this year are:</td>
</tr>
<tr>
<td>- much higher than expected based on my studying.</td>
</tr>
<tr>
<td>- better than expected given the amount of studying I am doing.</td>
</tr>
<tr>
<td>- on par with the amount of studying I am doing.</td>
</tr>
<tr>
<td>- lower than I expect based on the studying I do.</td>
</tr>
<tr>
<td>- much lower than I expect based on my studying.</td>
</tr>
<tr>
<td>3. Over all, my university experience this year has been positive.</td>
</tr>
<tr>
<td>4. Exposure to different teaching styles is an advantage of team teaching.</td>
</tr>
<tr>
<td>5. Exposure to different areas of expertise or opinions is an advantage of team teaching.</td>
</tr>
<tr>
<td>6. Exposure to a larger number of faculty members is an advantage of team teaching.</td>
</tr>
<tr>
<td>7. Transitions between different faculty members is an advantage of team teaching.</td>
</tr>
<tr>
<td>8. Team taught courses are well coordinated.</td>
</tr>
<tr>
<td>9. Course content is continuous without obvious interruptions in team taught courses.</td>
</tr>
<tr>
<td>10. Over all, I would like more of my courses to be team taught using the team teaching model.</td>
</tr>
<tr>
<td>11. Over all, my experience with team taught courses has been positive.</td>
</tr>
</tbody>
</table>

Figure 1

Quality of University Experience (SA = Strongly Agree, A = Agree, N = Neutral, D = Disagree and SD = Strongly Disagree) versus grades expected based on studying. Each coloured square in this (and subsequent) figures records the number of students who indicated the corresponding response on the horizontal scale AND the corresponding response on the vertical scale. Note that most responses fall along the diagonal, which indicates a modest correlation in students’ answers to the two questions.
nal (where questions are mapped onto themselves) are blacked out. Although negative Tau values are possible, none were observed – a positive correlation was found across all survey questions. Therefore, the data in Figure 2 is indicative of a consistency in students’ perspective: either a student likes all aspects of team teaching, or she/he likes nothing about it. In particular, this all-or-nothing view seems to link any aspect of serial team-teaching to students’ expected grades and their perceived university experience.

Analysis by Year

When the results are analyzed by academic year, differences do emerge. The message changes most dramatically between first and fourth year students. In the first year the strongest correlation occurs between a negative experience and an expectation of low marks (Figure 3, left panel), while in the fourth year the strongest correlation occurs between a positive university experience regardless of expected grades (Figure 3, right panel). Indeed, a cluster of fourth-year students feel that their grades are acceptable despite their low marks. We hypothesize that this dissociation between experience and grades expectation comes about with academic maturity. Those students who succeed academically feel good about their achievement and still show a strong association between experience and grades expectation. For others, the perception of their university experience becomes less dependent on their grades either because they have decided to have ‘a good time’ despite low grades, or they have dedicated themselves to getting good grades at the expense of ‘a good time.’

Student Perspectives

Regarding student perspectives on team teaching, the majority of students did identify different areas of expertise (Q.5 80% approve) and exposure to a larger number of faculty (Q.6 55% approve, 29% neutral) as advantages. However, most students did not pick up on the disadvantages proposed by faculty in our earlier study. The change in teaching styles (Q.4), expected to be jarring, was seen as negative by only 26% of respondents. Lack of course co-ordination

FIGURE 2

Correlations across all 11 questions on the Likert scale. “Not meaningful” indicates autocorrelations (on diagonal) or insignificant correlations (sigma>0.05). Each coloured square in this figure (in contrast to the other figures) shows how well the answers between two questions correlate. For example, the moderate correlation hinted at in Figure 1 shows up as orange hue for the correlation between questions 2 and 3. Many pairs of questions have a stronger hue, and thus an even better correlation.
(Q.8) was reported as a negative aspect by 26% of students, and lack of continuity in content (Q.9) and faculty transitions (Q.7) were identified as negative elements by 40% and 43% of respondents, respectively. Overall, fourth-year students were less positive about serial team teaching than their first and second year counterparts (see Figure 4). Although faculty had expected that students who were more mature academically would benefit more from the diversified expertise and perspective of a multi-lecturer course, students in higher years are also more experienced with university life and may therefore have more de-

**Figure 3**
Correlations between a positive university experience and expected grades, for first year (N=36) and fourth year (N=35) students.

**Figure 4**
Correlations between year and support for serial team taught courses (question 11). Note how the response for each year (i.e. row) shifts from “neutral” for first and second years to “disagree” for higher years.
fined expectations as to their preferences in lecture mode.

Case Study Summary and Outlook

From the faculty perspective, the main advantage of team teaching is the diversity of expertise a multi-member teaching team can provide. The main disadvantages pertain to lack of continuity in the student experience. Overall, faculty considered team teaching a good approach.

We note that our student survey was a case study with a limited number of voluntary responses and thus may not be representative of all student experiences with serial team teaching. However, some trends seem to emerge. Respondents of our student survey who like team teaching enjoy all aspects of it, and vice versa. Students’ view of team teaching correlates with their satisfaction with the university experience. Overall, students did not identify faculty-anticipated disadvantages of team teaching such as discontinuity of content, lack of co-ordination, or dissimilar teaching styles. In addition, fourth-year students were less likely to be in favour of serial team teaching despite being less inclined to base their university experience on achieving high grades.

Our survey results open new questions. Do students with certain preferred learning styles think more positively about serial team teaching? Are upper-year students really less favourable of this model, and if yes, why? What can instructors do to make serial team teaching more effective, and improve student perceptions of this teaching model? Are students’ grades the main variable defining their university experience, independent of mode of instruction? Answering such questions would require a larger sample of students, and possibly a more detailed survey of faculty and students across various institutions. We invite colleagues to share with us their and their students’ experiences with serial team teaching.

Acknowledgements

We would like to thank all faculty and students who participated in our study, three anonymous reviewers for their thoughtful comments, past FLC members for their valuable input, and the Dean’s office for ongoing support.

References


Transforming Diversity Tensions: Shifting Knowledge Through Arts-Based Practices

Geraldine (Jody) Macdonald & Judith A. MacDonnell
University of Toronto

Introduction

Teaching in the 21st century includes inviting learners to engage with the tensions posed by multiple diversities in our social worlds. These tensions play out within and between individuals, families, and local and global communities. Diversities of gender, age, race, abilities, sexual orientation, religion/culture, employment status, family constellation, and social and economic status all identify dominant and privileged positions which, paradoxically, continue to react to and interfere with less dominant and vulnerable ones. When the faculty invites an arts-based response, it is powerful and leads to transformative unlearning and new learning. There is a growing appreciation for the value of arts-based approaches in educational inquiry (Knowles & Cole, 2008) and the authors advocate that educators across the academy consider incorporating arts-based approaches in their teaching practice.

Dialogue

Judith: What do you mean by transformative learning?

Jody: Our challenge as faculty is to find active, creative learning strategies that can facilitate critical reflection and support our learners to challenge assumptions and open new possibilities. Transformative learning is a theory that helps me to work toward this with learners. It describes the process that learners go through when they find that their assumptions...
and beliefs about relationships, culture, institutions, and values/ethics are not shared by others. Feller et al. (2004) cite the definition of transformative learning used in the Transformative Learning Conference (2002) as “the process by which we call into question our assumed frames of reference (habits of mind or mindsets) to make them more inclusive, discriminat-
ing, open, and reflective so that they may generate beliefs and opinions that will prove more true or just-
tified to guide action” (p. 220).

As faculty, we can’t force learners toward a transformative process; it must be a process that learners voluntarily engage in. It can be a painful one, as it challenges the core of who they are as human beings and their identity in their social world (Macdonald, 2002). However, I have found that through the transformative potential of the arts, I can facilitate the creation of openings for learners; of safe spaces where they can engage with the tensions of being challenged cognitively, emotionally, affectively, or on a soul level; and finally challenged toward action, constructive action that promotes social change.

Judith: How did you come to use transformative unlearning?

Jody: As educators, we ask our learners to challenge their own self perceptions, habits of mind, or meaning schemes (Mezirow, 2000) and the way they understand self in relation to the world (Cranton, 2006). I found that I could support learners through a process I identified as transformative unlearning, a process of discernment that involves personal growth/vulnerability, receptivity/recognition/grieving (Boyd & Myers, 1988), and active dialogue with the self in a supportive community of learners (Macdonald, 2002). As an educator, when I invite dialogue and reflection on sensitive topics such as gay parenting, feminist perspectives, or anti-racist discourse, I recognize that learners might feel disoriented and insecure. Through arts-based activities, I am able to address the discomforts and insecurities of individual and collective learners as they engage in the process of transformative unlearning.

Judith: Personally speaking, arts-based learning is a way to face my challenges as an educator, and to face this zone of discomfort to better understand how my place in the world shapes my relationship with students and my teaching practice, and how this knowledge enhances my own capacity to teach in a way consistent with social justice goals. So it’s not just about the learners; it is about challenging your own assumptions and values, and understand-
ing how they are relevant to how you create spaces. Beyond abstract discussions about social justice, it is about having a place to identify what you are thinking and feeling about difference, identity, power, and privilege, and how you are positioned as an educator and learner in relationship to an issue in a specific context. As Ceci (2000) stresses, “[w]e can reflect on how we, as knowers, are related to what we think we know” (p. 57), since our interpretive frames shape our actions.

The arts-based activities allow you to connect thoughts and feelings, and for an articulation of embodied knowledge as we start to think about who we are in relation to the world. One of the challenges is to get beyond the binary of self and other and one of the attractions of these activities is to get beyond this binary. A critical lens (Ceci, 2000; Breunig, 2005) focuses on power and privilege, and the intersectionalities of gender, race, class, ability, and other social dynamics, to facilitate discussion around the arts-based activities. Using a critical lens is one of the ways that we can enhance transformative learning that works toward social justice goals.

Jody: How are our arts-based learning strategies, the ‘creating self,’ the ‘animal game,’ and the ‘human installation’ consistent with transformative practices?

Judith: I use the ‘animal game’ and ‘creating self’ activity purposefully to illustrate some of the complexities of power and privilege. The theoretical lens of the educator (Ceci, 2000; Breunig, 2005) is a crucial factor in eliciting the potential for critical reflection in the classroom setting for the learner and the collective group of learners. Both activities seem, on the surface, very simplistic tools. One involves cutting and pasting, and the other involves making animal sounds. Both activities can challenge our assump-
tions about ourselves in the world, social norms, and how we view our identities in relation to others. We make explicit the often normative values that shape our ways of knowing and being. Encouraging dialogue initially with the self, and then in pairs, and within the large group is an essential aspect of these activities.

_Jody:_ Would you explain the ‘animal game’ and ‘creating self’ strategies?

_Judith:_ ‘Creating self’ is an arts-based activity that uses construction paper shapes and glue sticks. Each participant is handed a small plastic “baggie” containing coloured paper of various shapes, and is then invited to create a human body using a glue stick and all of the shapes. Participants are invited to consider how this exercise can represent a narrative of self, and they are asked to jot down what they are thinking, how they are feeling during the process, and how their thoughts and feelings influence their creation. After an opportunity to reflect individually, they are asked to describe their creation with a partner. This exercise has prompted quite an enthusiastic discussion for the pairs as well as the larger group, with participants thoughtfully sharing quite detailed stories about their “bodies.”

The outcomes and focus of discussion vary considerably, which appears to be related to each participant’s comfort level while engaging in “creative arts” and its relevance to the class. Participants may be initially reluctant, claiming that they are not “artistic.” For the most part, participants become involved and reflective given the prompts that focus on cognitive, emotional, and active aspects of this exercise. Almost inevitably, surprising narratives emerge during the discussion. Students have spontaneously shared poems, related 10-minute stories about their creations, and shared details of the historical, sociocultural, and political contexts that inform their “body art,” often representing their own stories or that of an imagined other.

During one session at a conference that focused on sexuality, one colleague placed her completed body on a full-sized rectangular background. As she told her story as a same-sex identified woman, our discussion raised questions of how her presentation foregrounded the person in relation to the larger community, pointing out how boundaries of self/other are not always discrete, but are continuous with communities of meaning. Prompts that ask participants to consider what is visible/invisible in the verbal descriptions of self to another, what language was used to represent aspects of identity categories such as gender, race, sexuality, and ability, can direct the discussion to normative features such as size, shape, and social dynamics of marginalization or silencing. The stories prompted by the exercise trouble dominant representations and highlight the socially constructed nature of self/identities and difference. The facilitator can enhance participants’ reflection on their own social positions, use of language, and identity categories that illustrate how we may all participate in processes that privilege certain voices and communities at the expense of others. Through this process, participants are guided to critically reflect on their assumptions, open up to new appreciations of diversities, and take action in order to promote social justice.

A second activity, the ‘animal game’ (Public Health Alliance, 2006), also focuses on diversity and difference. Individuals are handed a small paper with a name of a barnyard animal, which they are asked not to share with others. When all participants have read their paper, they are directed to walk about the room with their eyes closed, making their animal sound, with a goal of listening for and moving toward those who sound like they do. At the end of a few minutes, the facilitator invites the group to open their eyes, and all look about. As you recall in one session the ‘cows’ had linked arms, the two cats had found each other while the third was dazed, the sole bird had switched from a clucking hen to a crowing rooster in desperation, and the pig was forlornly ‘oinking.’

_Jody:_ Yes, I certainly recall that session. It was a powerful learning experience. Will you explain how you handle debriefing?

_Judith:_ Members of each animal group are asked to describe how they felt during the process and what
it was like to find one another. While many express relief and joy at locating another member of their group, those who are alone identify feelings of frustration and isolation. Participants often cannot find each other given the majority voices. This exercise illustrates majority and minority voices and raises awareness of feelings of isolation and processes of inclusion/exclusion in terms of antiracist and diversity work. It is also about creating a space in order to enhance understanding of finding community.

Jody: It seems that these arts-based activities, although they may appear simple, actually promote deep learning about diversities. The ‘human installation’ is another arts-based approach that I have developed and find an effective way of ending learning activities.

Judith: So how would you describe the ‘human installation’?

Jody: I see the ‘human installation’ as a meaning-making activity that grounds learning, creates body learning, brings closure, creates an expression or embodied image of the collective experience, and requires negotiation and dialogue among learners. The ‘human installation’ is a holistic learning approach (Griffin, 1994) that is simple to explain, but causes initial anxiety.

At the beginning of the class, learners are advised that they will be invited to create a human installation at the end of the class. They can use themselves and any resources in the classroom to portray their collective learning experience in the class/course. In a long course, where participants have known each other over time, ten or fifteen minutes may be given for learners to dialogue and plan their installation. Most often, a few minutes is enough preparation time, and large groups can be subdivided to create several installations. The facilitator’s challenge is to step away and trust that the learners will indeed pull together and create an installation.

The learners generally are energized by this challenge, and work creatively, with shared leadership. It is hard to describe the creativity that emerges, but one human installation represented homeless people with learners as statues in various poses, standing on tables and lying on the ground, while a well dressed person walked briskly through the crowd not looking at anyone. The human installation process and outcome creates a lasting impression of the learning experience. I try to capture these expressions on camera, as they are amazingly creative.

Conclusion

This paper outlines an arts-based approach to shifting knowledge, one that the authors find dynamic, innovative, and effective. We link our arts-based practice to transformative learning theories and those which address the challenge of facilitating learning about their own diversities, and extend this critical reflection to the larger social context. We argue that our approach offers an entry point into a process that invokes critical self-reflection for learners and educators living in social worlds rife with tensions but rich with the potential to shift knowledge and transform diversity tensions.

References


Negotiating Shared Understandings of Our Work Through a Collaborative Curriculum: Exploring the Experience of Creativity in Cross Discipline Visual Arts Projects

Wayne Tousignant, Darren Stanley, Geri Salinitri, & Kara Smith
University of Windsor

In 1994, the National Arts Education Association created a research agenda to address major research issues in the field of visual arts education for the purpose of examining, negotiating, and modifying commonly held beliefs in the field of art education. Research by arts educators has done much to inform visual arts education theory and practice, but largely through studies by individuals with few collaborative efforts. In 1991, Neil Owen Houser proposed a collaborative processing model for arts education, which reflects the experiential or constructivist nature of instruction. In this paper, we present our reflections on our shared work where we explored the benefits of interdisciplinary collaboration, the role of play in the process of problem solving, and how experiential learning strategies and techniques could be applied to the teaching of various subjects through visually-mediated arts projects.

Institutional Context

We are a faculty of education, a group of creators who teach teachers how to teach. We are also a multi-disciplinary faculty. Within our walls are artists, writers, scientists, counsellors, mathematicians, pastors, historians, sociologists, dramatists, psychologists, musicians, and civil engineers. How do we work together, given our diverse fields? We do not – until four years ago, that is, when three of us embarked upon collaboration.

As educators and scholars, we view teaching and learning as an act of “excited discovery.” And yet, many of the students we observed in the field were still locked into a lecture approach. We were producing teaching clones. We wanted to spark innovative
teachers instilling a love of discovery in their students. To do so, we decided we would have to model and live the “journey of learning” with our students.

As teacher-educators in Visual Arts, English, Science, and Mathematics, we have met, planned, and recycled over the past four years a new teaching approach for our student teachers. We have discovered, however, that this is more about us as instructors. In any event, four collaboration projects were invented over the past four years: “The Stick Project,” “The Suitcase Project,” “The Car-Science Project,” and “The Tetrahedron Project.”

Goals of the Projects

Four collaboration projects have enabled our team to reflect upon and refine our central goal of enabling student teachers to view learning as an act of “responsive discovery.” This was accomplished through modelling and collaboration between Visual Arts, English, Science, and Mathematics. Our goal was to have student teachers create – to create diverse projects of their own, rather than carbon copies downloaded from a priori and secondary sources. We wanted the teachers to begin conceptualizing each learning experience as a unique, one-of-a-kind journey involving a myriad of disciplines along the way. In short, the goal was to provoke innovation.

The Stick Project

The stick project was created by Rod Strickland, School of Visual Arts, University of Windsor, and was taught in a first-year Art Fundamentals course as a team cross over project by Rod (sculpture), Denis Knight (drawing), and Wayne (multimedia). The stick project was designed to provide a learning situation where the students would work through the relationships between concept material and process. The project prompted the students to think about the work as an ongoing process and not as products for grading purposes only. The project started with the word “stick.”

Each student was provided with the following information to begin their visual literacy journey through concepts, materials, and process:

Find a “stick” based on the following:

- What is a “stick”?
- What do you already know about this word?
- What is the definition?
- How is it used in sentences?
- Where do we find objects by this name?
- What cultural significance do objects by this name have?

Each student was then responsible to make one change to the stick for each class of the semester. The following year, Faculty of Education students were then added to the project and Kara Smith, Education, who taught Language Arts came on board. The Visual Arts students communicated with the Education students through a threaded discussion. The “sticks” were exhibited at the end of the year at the Lebel Gallery with print outs of the discussion threads. Some of the sticks were even performance work!

When Wayne and Rod first talked to me (Kara) about doing the “stick” project, I couldn’t see how it would work. As a creative writer, I am constantly viewing perspectives from other disciplines, but the one word, “stick,” seemed too restrictive to take students through the pedagogical process-based
teaching approach we were proposing. Would students understand the relationship between literature and the visual? The interesting thing is that, although I work with words all the time, I had never considered this one word as having so many unique connotations, and the thought of combining my course with that of Wayne and Rod’s was invigorating. Cross-disciplinary teaching can result in very innovative learning, and I trusted both Rod and Wayne because of their credibility as teachers, so I was eager to participate in the approach.

One of my foremost problems teaching creative writing teachers is illustrating how to inter-link language and “create” through visual literacy an integration of various disciplines. The Stick Project had the potential to do that, and I was excited to test it.

A single word can have ample connotations for both English and second-language users. In literary criticism, it can have multiple and diverse interpretations. It was up to the English and Visual Arts teachers to create a visual journey of their created “stick” and to document this journey and its evolving collaborations through the students’ threaded discussion in their on-line class site. The students had to begin with a “stick” of their choosing. Each week, much like the Visual Arts and Writing processes themselves, students would add or edit the stick so that its form altered throughout the journey. Thus, they were not simply “doing a piece of art and finishing it;” the art and text was an on-going process of change and learning over time.

The Suitcase Project

Over 200 students were asked to critically reflect upon their journeys as teachers; they were expected to refine and mold their “suitcases” to visually illustrate their reflective practices. In this way, traditional critical writing was represented visually.

Through the process, the students learned that representation is rarely static. Their “suitcases” were highly transformed over time. What we are today is not what we will be tomorrow. The pedagogical process of continually coming into new ideas and skills, and being able to critically connect discipline-specific ideas and skills to create a new, fused idea was learned. The culminating activity was a gallery showing – a kind of public assessment – of all of the suitcases. As a metaphor, the “suitcase” represented the journey of our students through Education – from one place and approach to teaching to another.

From: Lee Bird - Section 4 on 09/29 at 12:12 PM
Title: The life history of my stick

I just wanted to tell everyone a little bit about my stick. My stick was given to me from David Makkittuq, an Inuit artist. You see, I used to live in Nanavut for about 2 1/2 years. The stick began as a hockey stick that David cut up and made into a kakivak. This fish spear sat in my house for a while. When this project started I could not find a stick that I thought would be neat or interesting to use. Then I came across the kakivak. So, now this kakivak has changed considerably already. It has been painted blue and has buttons glued to it. I am just wondering how else I could change it's present state.

* Special thanks to Lee Bird for allowing her work to be shared

Response

From: Kara Smith - 06/14/07 at 10:32 AM
RE: Suitcase Project

The idea for the suitcase project was born from the children's book, Hana's Suitcase, by Karen Levine. The story, taught by our Language Arts students, details the journey that one class makes researching and discovering the history of a suitcase owned by a girl sent to a Nazi concentration camp during WWII. Wayne and I saw the "suitcase" as a metaphor for our students' learning, and for our own process-based approach to teaching. The journey that Hana's suitcase made from its beginning in Hana's home, to its end in the [Japanese] museum, is a wonderful symbol of the journeys each of our lives makes in education.
Throughout their learning journey as teachers, they were literally and symbolically discovering their own diverse and unique, innovative approaches to teaching and learning. In the English methodology class, students were studying the novel and text, and in Visual Arts, techniques to apply to the process of visual literacy. Together, they composed the cross-collaboration of active discovery learning.

The Car-Science Project

Following the success of the stick project and the suitcase project, Wayne, Kara and Geri discussed the possibilities of furthering the collaboration by integrating science. During this time the Windsor Endowment for the Arts, “CarTunes on Parade,” public art project was on display in Windsor and Detroit. Wayne was chairperson for the Education committee of the project and was actively involved in developing educational material for the project.

We decided to incorporate the CarTunes educational material into a “CarScience” themed project. The CarScience project brought pre-service teachers together to create an interactive display involving an interpretive representation of nature and technology. The students in Wayne’s art classes created maquettes based on the elementary science curriculum. The science students organized the maquettes to represent a scientific phenomenon, theory, and/or natural occurrence. The project is now a permanent exhibit at the Canada South Science City and developed into an interactive science pursuit. When K-8 students visited the science centre, they are given the challenge of exploring the features of the display and making connections between the maquettes as representations of a particular phenomenon.

The Science Methodology class chose a design from the Art class, addressing the curriculum expectations that related to the display and created a full size model for K-8 student interaction. An Open House, inviting members of the Canada South Science Centre, the local schools, and community, was the culminating activity organized by the Science and Art students combined. The students displayed a full size car that would be autographed by all the visitors using some visual representation.

I (Geri) found that this project had the Science Methodology students excited about the nature of science and how it can be displayed through a visual medium. The students worked with the cars created by the art students and developed a system of classification that mimics nature.

Interestingly, the groups did not meet; however, the art class worked on individual science phenomena, while the science class created an integrated theme from the work of the art class. I was so impressed by the way the students represented their understanding of science through collaboration and creativity. With this, I hoped the students would reflect on ways of teaching in science that are integrative and innovative to motivate young minds.
This was a great learning experience for the concurrent education science students. They began to realize the connection between the disciplines and the way to develop creative curriculum based on fundamental concepts. These students are reflecting on intuitive learning rather than structured instruction for visual literacy. As Fry (1963) notes, “we are given our eyes to see things, not to look at them. Life takes care that we all learn the lesson thoroughly, so that at a very early age we have acquired a very considerable ignorance of visual appearances. We have learned the meaning-for-life appearances so well that we understand them, as it were, in shorthand” (p.47). One of the concurrent students reflected on the experience by saying:

I am very much a science student and have never really liked doing art work for fun. At first thought I saw the CarTunes as simply that, art work that some people did for fun. I first heard about the CarTunes in my art teachable class. They also reappeared in my biology teachable class. I found that incorporating the CarTunes across the field of education gave me an important lesson as a teacher. Art work is an important way for some students to learn, and incorporating it in different subjects, such as science, is a key element of teaching.

The Tetrahedron Project
Like the other projects already discussed, the tetrahedron project, which is still emerging, has also gone through its own share of iterations. To be sure, “math,” “fun,” and “interesting” are not usually words I (Darren) hear in a sentence from our students. So when I have introduced mathematical engagements like the fractal tetrahedron, it almost seems quite incredulous to them! This can’t be math – it is too much fun! That much may be true.

In my mind, the fractal tetrahedron (made from plastic straw) represents an example of aesthetics and beautiful mathematics. It is also “complex,” in the mathematical sense; it is self-organizing and exhibits self-similar fractal forms. The challenge, however, is getting the students I work with to understand what this object might say to them in terms of a variety of mathematical ideas: there are patterns, various things to count, 2D and 3D shapes, notions about similarity, proportion, scaling, and much more. The object actually can say a lot!

To be honest, I had not quite known how complex a mathematical object this was until Wayne I started to talk about this strange object hanging from the ceiling in my office. To make a very long story short, Wayne and I have continued to “play” with this idea of math and art. So much so, in the Fall of 2006, we built a similar structure as part of a fire sculpture festival. In spite of a rainy Saturday, we returned the next day to erect a 15-foot high fractal tetrahedron from straw – and then at night we burned it! In the process of putting together this wonderful structure, I learned some very interesting things – about myself! Learning is messy. I am not surprised to hear such a thing; it does, however, seem to be something that I don’t always get to experience! Even more, the problem solving that we used throughout the planning and constructing stages of the sculpture was hardly a straight forward process. To be sure, the aesthetic dimension of mathematics can communicate some very complex ideas all-at-once.

We are far from done with this project: in fact, we are just beginning. This project has “ignited” a great deal more for me than just how I could teach others mere mathematical concepts from one of the most disliked of subjects areas. The project has prompted me to think about how mathematical ideas can be communicated in ways that go far beyond the usual pen-and-paper expressions of abstract math-
What started with seemingly simple ideas was transformed across and within various projects. Learning, in this fashion, has not been so much a sequence of moments and events, but an on-going iteration of ideas, conversations, interactions, and possibilities that could never have been pre-scribed in advance. In other words, learning could only be said to be emergent (Davis, Sumara, & Luce-Kapler, 2008).

But learning possibilities require certain things. They require diversity, interaction, a certain amount of redundancy, and a kind of non-linear network of interaction (Davis & Sumara, 2006). As a Faculty of Education, we are de facto a multi-disciplinary faculty of education, a group of creators who teach teachers how to teach. Thus, the diversity we bring to this place is exactly what healthy learning organizations and communities need (Stanley, 2006). At the same time, we are all educators and our similarity creates a necessary excess or redundancy. We are highly interactive in that we talk with one another about ourselves and our work, and we collaborate with one another. And, the highly engaging surprising results of our work could only suggest that we are always and already in a complex network of non-linear possibilities.

This particular picture of how we work and who we are, in fact, was validated by an exciting moment a couple of days before the STLHE conference as we were putting the finishing touches on this paper. That morning, Wayne came into Darren’s office and handed him a short article by Charles Reigeluth (2006) from a recent special issue of TechTrends on systemic change in education. In it, Reigeluth addresses exactly what we have just described and experienced over the past few years. That is, we have co-evolved through periods of disequilibrium, transforming ourselves through a set of “strange attractions” in a self-organizing fashion.

With rich learning engagements, those connective possibilities are able to take flight. We are not machines; therefore, we are not entirely predictable nor can learning be clearly directed nor controlled—although we might try or think that we can. Of course, truly simple, machine-like phenomenon can be known—like a clock. But we don’t deal with machines. It’s a Faculty of Education, not a Factory of

Some Final Thoughts

For us, this series of collaborations has brought to the fore a number of important notions and gentle reminders. Life in our local learning ecologies is all about learning and, sometimes, it is quite messy.
Education. The notion of a predictable and controllable world is one well-rooted and sedimented into our collectively shared world. Moreover, the attendant aesthetic has changed, too. However, as these examples might suggest, learning and life can and do look quite differently.

To end, we would like to respond to one comment in particular that was raised by one of the reviewers on the “methodology” of our reflection on our projects. It seems to us that if we are honest about our work, we must conclude that any “methods” we used could only be described as follows: The notion of a “methodology” very much reflects a “wider intellectual tradition” (Stacey & Griffin, 2005). Much of the literature on qualitative methods, as Stacey and Griffin suggest, still “preserve something of the stance of the objective observer, where the researcher’s emotions and fantasies are to be kept out of the research as much as possible” (p. 2). Of course, this idea is seldom questioned today and is generally recognized as an ideal. We are not involved in a detached manner – a false paradox. Our research method is, therefore, quite subjective, iterative, and reflective in nature.

Our work together is necessarily on-going and our reflection on our experiences is always the felt experiences that we have with one another which give rise to particular narratives of relating to and with ourselves. That is, it is the narrative experiences and themes that arise in our interactions that constitute the research reported here. Thus, not only is our work inherently a social participative process, but our research is as well. As a report on the experiential nature of our collaborative instruction with one another, we can only conclude that when we engage in research, we do so to transform ourselves – individually and collectively. Herein lies the benefits of our interdisciplinary research and the inherent playfulness of our work which demands our on-going interactions and conversations. Our methodology is, as Stacey and Griffin write, “essentially exploratory and emergent” (p. 10).

References


The debate surrounding employment and support for sessional teachers, part-time faculty, or associate lecturers, has been around for many years (Abbas & McLean, 2001; Tait, 2002; Knight, 2002). Within the UK higher education sector, there are at least 50,000 sessional teaching staff currently employed, with a high proportion in disciplines such as art and design (Bryson, Kenny, Morris, & Price, 2007). The Part-Time Teachers initiative was started in 2001, through the Learning and Teaching Support Network, and revived by the Higher Education Academy (HEA), in 2005 with the establishment of a part-time teachers’ network (Higher Education Academy, 2006a).

The challenges facing the professional development of this group of faculty is universal. It was estimated that 40% of instruction in the United States, was being delivered by adjunct faculty members (Wickun & Stanley, 2002). In Australia, the National Tertiary Education Union claimed that in 2000 the equivalent of 15.4% of full-time faculty were employed as casual, sessional teaching staff. Sheffield Hallam University is a “Post 1992” university with approximately 28,000 students and 1,100 full- and part-time faculty, supported by approximately 1000 sessional contracts delivered by 232 sessional teachers.

**The Context**

Sessional teachers come from a range of backgrounds with different professional and teaching experience (Bryson, 2006):
• full time professionals outside the institution e.g. accountants, National Health Service professionals;
• portfolio workers, e.g. teachers within more than one higher education institution or further education college;
• freelance/consultants, e.g. artists and designers;
• part time professionals, e.g. journalists;
• sole employment as associate lecturer;
• retired faculty;
• graduate teaching assistants; and
• technicians.

Within the context of this study, sessional staff are defined as those who have a larger teaching role than a guest speaker or visiting lecturer but do not have a fractional contract (i.e. 0.5 full time).

This raises the question: “How do you communicate learning, teaching and assessment developments and institutional processes to this hard to reach and transient group?”

Methodology

The research examined the international and national context, drawing on the Dearn Report (2002) and the public exposition of the institutional commitment to professional development. In the UK, the publication of the sector standards for teaching and learning in higher education (Higher Education Academy, 2006b) also raised the profile of continuing professional development for all higher education teaching staff, which includes sessional teachers.

The Staff and Educational Developers Association (SEDA) JISC email list was used, alongside contacts through the International Consortium of Educational Developers (ICED), to identify different modes of delivery for sessional teaching staff development. A workshop during the SEDA Educational Developers conference was used to identify the needs of sessional teaching staff from a developers’ perspective (Bradley & Beckingham, 2006). An internal Learning, Teaching, and Assessment (LTA) conference was used to identify needs from line managers, academics in LTA roles, together with library and student services support staff.

A pilot questionnaire was developed and administered through an LTA mid-year conference. Of the 90 sessional teaching staff involved, 28 returned the postal questionnaire. The mail shot questionnaire (see Appendix) was then sent to all sessional teaching staff holding current contracts. Of the 232 questionnaires sent out, 42% were returned within two weeks.

Findings

Institutional support

Most Higher Education institutions offer courses for sessional teaching staff and graduate teaching assistants – some accredited at master’s level, others certified with or without academic credit. In other cases, sessional teaching staff were supervised on the flexible learning module by faculty in LTA roles. However, because of the nature of sessional employment, a regular timetabled course is not convenient for all staff.

There were three distinct stages in the development cycle for sessional teachers: pre teaching, early teaching, and established teaching – each stage requiring different levels of information and guidance. All aspects of teaching and learning were seen as important by all groups of staff, together with expectations of what, why, and how something should be taught. Understanding the composition of the student cohort was also important, for example, having access to student profiles and their prior learning experience. Other information such as course definitive documents, module handbooks, and university regulations including academic integrity were also seen as essential documents. Line managers and learning support staff (e.g. librarians, student services staff) focused on the operational aspects and administrative functions when commencing teaching. Educational developers focused on the module: learning outcomes, course descriptions, teaching, and learning issues during the early stages of teaching.

When teaching has commenced, the infor-
formation needed to support sessional teaching staff still include some administrative functions such as induction, timetabling, finance, student support, and technical support. The following learning and teaching aspects also increases:

- learning contracts for disabled students;
- attendance monitoring policies;
- course information;
- assessment – marking and feedback;
- use of the virtual learning environment (VLE);
- resources to improve practice;
- university regulations;
- personal support for the member of staff; and
- development opportunities.

Educational developers thought that getting feedback from course teams, and review of learning and teaching were also important at this stage. The longer term needs of sessional teachers included:

- assessment;
- guides to good practice;
- plagiarism;
- personal development planning;
- e-learning; and
- university-led initiatives like widening participation, ethics and enterprise.

Educational developers suggested a deeper understanding of pedagogies and a theoretical underpinning of different practices in learning and teaching, such as problem-based learning within the subject discipline, is required.

The sessional teaching staff were asked about their specific needs: 46 related to their development and 24 related to university processes. They requested this information be communicated through induction packs sent out with their initial contact, and where possible, sent before start of teaching, or through face-to-face delivery. This correlates with the data collected from the line managers and support staff. Specific development needs expressed, related to VLE training, closely followed by teaching skills. The findings from the sessional teachers emphasizes the importance of professional development to this group.

Barriers to Engagement with Development

Engagement in any professional development can be damaged if institutional procedures such as the payment for contracts or the timeliness of payment are ignored. Inconsistency between different contracts within the same institution exacerbates this issue further; for example, some sessional contracts include additional time for marking, and for other contracts, marking is included in the allocated contact time. This fosters the notion of exploitation of this group of staff, where goodwill does not pay the mortgage. Of course, this may not be an issue if sessional teaching supplements other earnings, but for many it is their sole source of income.

Recognition and the feeling of “being valued” also rates highly when asking for commitment to professional development. Sessional teachers are often isolated, teaching outside of the normal Monday to Friday 9-5 context, thus reducing contact with their subject group and discipline staff. How do they benchmark their teaching? Being an integrated member of a course team and subject group is an essential part of the development of the sessional teacher.

The Way Forward

As we adopt different teaching approaches to cater for diverse student cohorts, through distance or blended learning in addition to face-to-face delivery, we should also provide flexible development opportunities to meet sessional teaching staff needs. Sessional teaching staff want to deliver good quality teaching and learning experiences. However, without access to information and feedback on current learning, teaching, and assessment practice, it is easy for this group to remain within their comfort zone. As one associate lecturer said, “stay safe and do what you are familiar with.”

There is a need for an induction process for
all new sessional teachers, which includes different role expectations between full time and sessional teachers, to establish a common understanding between line managers/course leaders and the sessional teacher. This should cover the administrative elements such as:

- identity cards;
- computer logins;
- email addresses;
- access codes; and
- key contacts – library and student services and available support.

We should not assume that a sessional teacher understands the support functions available within our own institution; culture and local practice is unique to each higher education institution. Assessment processes and procedures are another early requirement:

- key dates – examinations and exam boards;
- turnaround time for feedback;
- feedback procedures;
- policies relating to extenuating circumstances; and
- plagiarism.

Issues around assessment criteria also need to be addressed, such as a clear understanding of the different academic levels and criteria for marking different activities. The sessional teacher may not be familiar with the assessment of group presentations, annotated bibliographies, videos, etc. Other areas to be addressed include second marking, adaptations required for disabled students, moderation, and the role of the exam board at an appropriate time.

Capturing and sharing good support practice for sessional teaching support is the next stage of this project. Pockets of good practice have already been identified through the questionnaire, and progress made. In 2005, a newsletter was developed for sessional teachers, “LTA Matters.” A mid-year LTA conference was organised to allow sessional teachers to meet other part-time and recently appointed faculty, along with members of full-time faculty with LTA roles within the faculty. The conference took the form of a faculty induction, with sessional teachers funded to attend by the central Educational Development Unit. The conference included sessions from the library, student services as well as the Learning and Teaching Institute. Based on the conference feedback, a VLE site was set up specifically for sessional teachers as a key reference point for information, and learning and teaching materials relevant to the faculty. For sessional teaching staff who choose, appraisals have been instigated within the subject groups, providing an opportunity to discuss work and development needs.

One of the identified development needs related to creating and maintaining VLE sites and a resource pack has now been created. This has been distributed to all teaching faculty members, with assurances that sessional teachers also received a copy. A university-wide LTA orientation event is also being developed with a view to including all new academic staff in an induction specifically relating to LTA; this will also include new sessional teachers. The aim of the LTA orientation event is to share with new staff the ethos of LTA at the institution, what makes LTA special, learner focused teaching and learning, the diversity of the student groups, and entry qualifications of our students. A pilot distance learning short course leading to Higher Education Academy registration has also been established with a view to co-teaching with subject discipline faculty and academics in the Educational Development Unit.

**Conclusion**

As an institution we are reliant on sessional teachers but the integration and support could be better and more consistent. The two quotes below demonstrate the inconsistency of support within the institution:

I enjoy being an Associate Lecturer but I do feel marginalised as my contract is limited. I tend to teach or be available for students at weekends and evenings therefore there isn’t a community of practice.

I’ve been very impressed with the support,
guidance and help I’ve received, and how my input is valued. This is mainly down to the people in my dept. I have taught at Sheffield University too and never had the kind of support I receive at Hallam.

- Quotes from questionnaire

There is one group of sessional teachers which has not been consulted because of the difficulty in identification. These are members of staff, who do not hold academic posts but deliver sessional teaching. They do not receive the same rights of a sessional teacher and even less support and development. These are the marginalised of the marginalised!

References


Appendix

Associate Lecturer Questionnaire

We are undertaking a project to identify the development needs of Associate Lecturers. And would be grateful if you would spend a few minutes telling us about your experience at SHU, what information or support you were given and would be useful in your Associate Lecturer career. The results of the questionnaire will be anonymous but will feed into the Associate Lecturer Professional Development project.

Approximately how many years have you had an Associate Lecturer contact?

How many contracted hours do you have for the academic year 2006 -2007?

0 - 29  30 - 60  60 plus

How many modules do you contribute to?

Do you work for SHU in another capacity?  Y / N

Optional:
Faculty/ies
Division or Programme area/s
Subject group/s

What information were you given, or provided with web links, when you first started, please tick relevant columns?

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<th>Received</th>
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<th>Used</th>
<th>Found useful</th>
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<tr>
<td>Claim/payment information</td>
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<td>SHU Card (Learning Centre/ ID/ Access)</td>
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<td>PC login code</td>
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<tr>
<td>SHU email address</td>
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<td>Contact details of course leader, Administrator etc</td>
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<td>Details of where to collect post</td>
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<td>Induction to SHU</td>
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<td>Fire awareness training</td>
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<td>Details of access to a photocopier</td>
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<td>Course handbook</td>
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<td>Module register</td>
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<td>Quality and University guidelines</td>
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<td>Associate Lecturer handbook</td>
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<td>Induction to Blackboard</td>
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<td>Blackboard (VLE) basics guide</td>
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<td>Attended a Learning</td>
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</table>
Sessional Teaching Staff

Centre Induction
Legislation about disabled students and equal opportunities
Other:

What information/activity would support your needs as an Associate Lecturer now and how should this be supported or communicated?

<table>
<thead>
<tr>
<th>Needs</th>
<th>Support</th>
<th>Communicated</th>
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What are the three most important issues/concerns you have as Associate Lecturer?

Any other comments about being an Associate Lecturer at Sheffield Hallam University:

Please give your contact details if you would like to chat, face to face or over the telephone, about your experience or if you would like to find out more about the project.

Name:

Email:

Telephone number and best time to contact:

Please return this to Sally Bradley, Sheffield Hallam University, Learning and Teaching Institute, Level 7 Adsetts Centre, Howard Street, Sheffield S1 1WB or use the pre paid envelope provided.
Alternatively contact Sally Bradley on s.a.brady@shu.ac.uk

Many thanks for taking the time to complete this questionnaire.
Section II

In the Classroom
Clinical and Practicum Education in the Professions: The Student Voice*

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Randy Wimmer
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Undergraduate students in professional education programs typically rate their clinical or practicum experiences as the most important component of their entire pre-service preparation. This essay addresses the value of students’ views regarding the effectiveness of practicum programs. We summarize the views of 546 post-practicum students from three professional disciplines (engineering, nursing, and teacher education), concerning what they considered to be the most positive and negative aspects of their respective practicum/clinical field-experiences.

Our data analysis revealed three positive themes across the disciplines: the supportive interrelationships that students experienced; their own professional achievements; and their personal contribution to the welfare of their clients/pupils. Three negative elements also emerged: individual personal/professional challenges; site-based interpersonal conflicts; and policy or procedural problems with the program. Implications are raised for practicum administrators regarding the contribution of the student voice to clinical program enhancement.

* We, the authors of this essay, acknowledge the funding support of the Social Sciences and Humanities Research Council of Canada for our research project, of which this essay forms one part.
Although the student voice is often downplayed by policy-makers and program administrators (Clift & Brady, 2005), we believed that post-practicum students could provide a valuable source of evidence concerning the effectiveness of practicum programs (Ralph, Walker, & Wimmer, 2007b, in press). Moreover, Schrantz (1993) asserted that program administrators should respect not only students’ personal observations about a program in which they are involved, but welcome their perspectives regarding the daily operation of the practicum.

Background to the Study

Prospective professional practitioners regularly report that the practicum/clinical experiences in their pre-service education were critical in preparing them for their first position in their respective professions (Carnegie, 2006; Goodlad, 1984). The importance of this practical component, together with a growing global shortage of professionals in a variety of fields, requires that professional education institutions evaluate the effectiveness of the practicum components of their programs (Canadian Council on Learning, 2006; World Health Organization, 2006).

We concurred with Angelo (2004) who asserted that students are the only individuals who have direct, daily, and intimate involvement with all aspects of the teaching/learning situation. Our review of recent research on professional education (Ralph, Walker, & Wimmer, 2006, 2007a) has confirmed what earlier studies had found, and what students have consistently reported. This finding was that the practicum/clinical component is typically characterized by definite strengths (which logically should be maintained and promoted) and by chronic weaknesses (which should be ameliorated, but which appears to be a difficult goal to achieve).

Positive and Negative Features of the Practicum across Disciplines

Some of the most recent research regarding the education of professionals is being conducted by the Carnegie Foundation for the Advancement of Teaching (2006) through its Preparation for the Professions Program for undergraduate education of clergy, engineers, lawyers, nurses, physicians, and teachers. With respect to the three disciplines addressed in the present essay, Silva and Sheppard (2001) identified innovative strategies in engineering undergraduate education – such as the expansion of hands-on learning curricula, student-centered learning, and cooperative education opportunities. In 2006, Sheppard further suggested that there needed to be a better connection between the academy and professionals in the field.

Regarding the nursing portion of Carnegie’s Preparation for the Professions Program, Benner and Surphen (2007) examined the integration of three apprenticeships in nursing pre-service education (e.g., strengthening novice nurses’ intellectual capacities, improving skill-based clinical practice, and developing the ethical dimensions permeating professional responsibilities). The authors identified key characteristics of nursing teachers who have demonstrated excellence in helping their students to accomplish this integration process, such as: treating clinical students as collaborators in the nursing role, and engaging them in professional dialogue and exploration of their own thinking with respect to ethical issues related to actual cases.

The teacher-education practicum has also been consistently characterized by definite strengths and recurring weaknesses over the years. For instance, Lortie (1975), Neville, Sherman, and Cohen (2005) and Whitcomb, Borko, and Liston (2007) found that the quality of the teachers’ pre-service education and their practicum experiences varied widely, and that many practicum students lacked skills in professional reflection and self-evaluation.

Methodology

In conducting our larger multi-disciplinary study on the future of the practicum/clinical component of professional pre-service education (Ralph, Walker, & Wimmer, 2007b, in press), we found ourselves in
accord with Clift and Brady (2005), who maintained that the voice of prospective practitioners is seldom heard in educational reform research. We recognized that this student perspective must be considered by program administrators as they pursue innovative initiatives. In our view, to exclude students’ ideas concerning the revision of practice-based experiences would amount to bypassing some critical information related to program enhancement.

As part of our SSHRC-sponsored study in 2005-2006 and 2006-2007, we administered a print survey (on-line or in a face-to-face, classroom setting) to post-practicum students from three professional faculties (engineering, nursing, and teacher education) at one Canadian university (Ralph, Walker, & Wimmer, 2007c, in press). The students had recently completed their respective practicum or internship programs. The survey consisted of two questions: What for you was the most positive aspect of your practicum or internship experience? and What for you was the most negative aspect of your practicum or internship experience? The engineering and nursing students received an on-line version of the survey delivered through their respective internship/practicum offices, while the education students completed their surveys in post-practicum classroom settings. All ethical procedures required by the university were followed, and both the on-line and handwritten surveys assured student anonymity and confidentiality.

Sixty-three post-internship engineering students responded to the on-line survey and two follow-up e-mail reminders, for an overall return-rate of 52%. Thirty-three senior-year nursing students responded to the on-line survey and/or two email reminders, which yielded a total return-rate of 30%; and the return rate for the teacher education post-interns was 98% (n=450). We collated and categorized the students’ written responses and identified emerging patterns and themes, using the constant comparison technique of analytic induction (Gay, Mills, & Airasian, 2005). During this analysis, we continuously examined and re-examined the survey data, noting distinctions for each discipline, observing similarities and differences within each discipline, and seeking regularities and/or common patterns across disciplines (McMillan & Schumacher, 2005).

Positive and Negative Findings

Although the three disciplines had unique strengths and weaknesses, in this essay we highlight the preliminary findings that seemed common across the programs (a more detailed report of these results, together with illustrative student comments, is available elsewhere, Ralph, Walker, & Wimmer, 2007a, 2007c). The most positive aspects identified by students reflected three key themes, one of which was students’ satisfaction with being able to apply their academic theory in real-world settings. A second major benefit was the positive/supportive professional and personal inter-relationships that students enjoyed during their clinical experiences. A third important strength of the practicum that students reported was the personal growth they experienced in their professional competence and confidence.

Three key themes emerged regarding the negative facets of the practicum. The most prominent problem in all three disciplines was students’ concern about not receiving adequate mentorship or supervision during clinical practice. A second negative aspect was related to students’ own personal and professional challenges (e.g., experiencing time-management difficulties or financial problems). A third counterproductive feature that students identified was related to inappropriate or ineffective program policies/procedures/practices that they believed should be ameliorated by the university practicum organizers.

One sensible way to address these weaknesses would be to disseminate the findings of this and similar studies, so that interested practicum educators and administrators from several institutions could discuss these results and investigate innovative ways to ameliorate the deficiencies. Moreover, a logical venue for such interdisciplinary deliberations could be the annual conferences of such organizations as the Society for Teaching and Learning in Higher Education, as well as a variety of related publishing outlets that focus on cross-disciplinary collaboration and research related to pre-service professional preparation.
Implications

The research results described in this essay highlight the preliminary findings from our larger study on the future of the clinical/practicum phase of education for the professions (Ralph, Walker, & Wimmer, 2006, 2007a, 2007b, 2007c, in press). One key implication for practicum-program leaders is that they need to prevent interpersonal difficulties between mentors and their protégés, so that communication barriers (real or perceived) do not hamper students’ learning, and to adjust program policies/procedures so that inadequacies and inequities (real or perceived) are recognized and eliminated.

For example, university leaders could provide incentives to enhance the recruitment, reward, and retention of effective clinical supervisory-personnel. University collective-bargaining agreements might have to be modified in order to formally recognize faculty work in clinical/practicum situations; and graduate-school fee policies could be amended to provide free tuition and/or graduate credit for practicum supervisors who wish to pursue further education. Furthermore, practicum organizers could also provide supervisory personnel with formal training related to the mentoring/coaching process (Ralph, 2005). A third implication is that program administrators could make modest, incremental adjustments to their pre-service academic programs and coursework in order to provide learners with additional targeted clinical-experiences earlier in their professional training. Organizers would also have to ensure that these program-adjustments would incorporate principles of deep rather than shallow learning (Ramsden, 1992), active learning (Prince, 2004), and experiential learning (Kolb, 1984).

Fourth, program planners could collaborate with all stakeholder-organizations involved in the clinical/practicum program to help alleviate the financial stress reported by some nursing and teacher-education students. Possible solutions could be: (a) to provide practicum students with monthly stipends, honoraria, or bursaries to help defray their moving/travel/accommodation expenses typically associated with rural or remote practicum placements; (b) to provide practicum students with full or partial remuneration in exchange for the professional services they render to the clients/institutions they serve during the practicum, as was the case with Engineering internships; or (c) to remove, reduce, or subsidize the tuition fees that most students must pay for their field-based practicum.

In conclusion, we concur with Pearcey & Elliott (2004) who asserted: ‘Student views are necessary…but more importantly these views need to be acted upon’ (p. 387). We urge program leaders not to bypass students’ observations and insights regarding practicum reform.

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Exploring Strategies in Facilitating Cultural Diversity: A Freirean Approach

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Shibao Guo
University of Calgary

The student population in Canada’s higher education institutions is becoming increasingly racially and culturally diverse. Canadian higher education has the obligation to build inclusive teaching and learning environments where the needs and aspirations of students from diverse cultures and backgrounds can be addressed in an equitable manner. Using a Freirean approach, this paper aims to develop a process for deriving useful and practical strategies to meet the challenges of creating culturally and linguistically inclusive classroom environments.

Introduction

The student population in Canadian higher education institutions is becoming increasingly racially and culturally diverse, reflecting the greater diversity in Canadian society. This demographic change can be attributed to the growth of the immigrant population as well as increasing enrolment of international students. When immigrant and international students first arrive at a Canadian university or college, they may be faced with a different cultural environment than the one they are accustomed to. If there is a large gap between students’ cultural background and the dominant culture of the classroom, they may feel alienated and isolated. It is the responsibility of Canadian higher education institutions to build an inclusive learning environment where the needs and aspirations of students from diverse cultures and backgrounds can be addressed in an equitable manner.

The purpose of this paper is to suggest a process for deriving useful and practical strategies to meet the challenges of creating culturally and linguistically inclusive classroom environments. This process can be used in professional development workshops for instructors, designed to address issues of teaching and
learning for diversity. Since each classroom environment is unique, rather than presenting a prescriptive cookie-cutter approach or a very broad and general set of strategies for fostering inclusivity, we suggest a process for developing strategies that are relevant to a specific learning situation. This process would take into account the course content being taught by the instructors attending the workshop, the make-up of their student groups, and the instructional skills and experiences of the workshop participants. The process would also consider the particular challenges of the teaching situation. The challenge for educators is to understand how to best create inclusive teaching and learning environments. These inclusive environments can benefit students from majority as well as minority groups.

Outline for a Workshop

The following outline for a workshop is derived from our ongoing work in the area of cultural diversity and inclusive teaching (Guo & Jamal, 2007). Our workshop usually starts with an overview of the changing context of teaching and learning in higher education and the models that are commonly used in addressing cultural diversity in higher education. This provides workshop participants with a good understanding of the context of teaching and learning, the magnitude of cultural diversity, and the theoretical frameworks. Next, workshop participants could brainstorm the issues and challenges that they face when teaching in culturally diverse classrooms. This is an important step because it helps participants become more focused when they begin to explore pedagogical strategies. Finally, participants would work in small groups to develop possible solutions in response to the issues and challenges that they have brainstormed. The workshop could end with participants sharing their specific strategies with the larger group to facilitate the exchange of knowledge. At the end of the workshop, participants would leave with a set of strategies that they can implement, evaluate, and refine to meet the needs of their students, along with suggestions from facilitators.

In designing and conducting the workshops, we used Freire’s pedagogical principles of problem posing, cooperative learning, dialogical engagement, and learning through praxis (Freire, 1970). The use of these principles will facilitate the creation of new knowledge based on the existing skills and experiences of workshop participants, and build on that knowledge to address new contexts and challenges. We would try to avoid using the banking model of education, which treats learners as empty vessels to whom instructors deposit information. We hope that this outline for a workshop will be useful to faculty members as well as instructional designers and faculty development staff who are interested in building their knowledge and expertise in regard to issues of diversity within the scholarship of teaching and learning.

The changing context of teaching and learning in higher education

The first step in the workshop is to outline the context in which change can be created in educational settings, and to remind participants of the components of the teaching and learning environment to be considered when implementing change.

The challenge of promoting cultural diversity in higher education settings can be addressed by promoting change at different levels. These include change at the individual level of attitudes towards difference and diversity, in the classroom environment, at the level of the institution as well as at the broader level of the community (Kitano, 1997). Sustainable and long term change has to be implemented across all four levels, and change at each of these levels has to be created within the context of change at the other levels. The workshop we propose focuses on developing strategies for creating change in the classroom environment, while keeping in mind the importance of changes at all levels.

Changes in the classroom environment can be created by considering the four components of the teaching and learning environment: the students, the instructor, course content, and teaching strategies (Marchesani & Adams, 1992). A starting point for creating an inclusive environment is to understand the changing demographics and the diverse needs,
interests, and backgrounds of students. Students may have different educational experiences, values and beliefs, and conceptions of what is worth knowing, from students of the dominant culture. Instructors’ values, beliefs, and attitudes toward difference and diversity can also have a considerable impact on how students feel in the classroom, and how they engage with course content. Course content should incorporate diverse social and cultural perspectives and reflect the needs and interests of all students. Teaching strategies can play a crucial role in transforming classrooms into sites that both respect diversity and motivate students to learn.

A review of theoretical models

The next step in the workshop is to present participants with some useful theoretical models which address issues of diversity in the classroom. A detailed description of these models can be found in the STL-HE Green Guide, *Cultural Diversity and Inclusive Teaching* (Guo & Jamal, 2007). Participants can consider either one model or a combination of models, depending on their objectives and the specific issues and challenges that they would like to address.

The first model is an intercultural education model that focuses on an individual’s awareness and acceptance of difference and diversity. The model provides a process for a transformation of attitudes and can be used by educators to reflect on their own development as well as encourage and assist this process of development in their students. The model is useful in deriving instructional strategies that can help people to accept, value, and validate difference in others.

The second model is a multicultural education model, and is broader in scope. This model is premised on the view that students come to the learning environment with diverse backgrounds and needs, and that curriculum and teaching practices should respond to this diversity. This model addresses issues of individual difference, suggests strategies for responding to these differences in the classroom, provides ways of integrating new content into the curriculum, and highlights issues of knowledge construction.

The third model is a holistic and integrated anti-racist education model that addresses not only difference at the individual and classroom level, but also at the level of the institution and the community, and focuses on broader issues of promoting social justice and equity. This model emphasizes that meaningful change can only occur when barriers to inclusive education are challenged and addressed at all levels at which they occur.

These three models have different spheres of influence – the intercultural model at the individual level, the multicultural model at the individual and classroom level and the last, the anti-racist model, at the levels of the self, classroom, institution, and community. These models suggest ways in which each of the components of the teaching and learning environment can be transformed and used in different contexts in order to derive useful practices and strategies for inclusive classrooms. The intercultural model can be used to help students and instructors become more aware of an individual’s complex identity and gain a better understanding of the many kinds of difference we encounter in our lives. The model provides suggestions for activities and experiences which would promote and encourage cognitive, affective, and behavioral attitudes towards difference. The multicultural model provides a framework for diversifying and enhancing curriculum content and pedagogical strategies so that they are relevant to students from different backgrounds and with a variety of experiences. This model suggests methods and strategies that can be used to either supplement or enhance course materials in order to provide alternate perspectives, to recognize the process of knowledge production, to acknowledge the validity of non-Eurocentric sources of knowledge, and to adjust instructional strategies and practices, all of which can contribute to a more inclusive learning culture in higher education. Like the previous two models, the anti-racist model includes strategies for creating change at the individual level and classroom level, but suggests how these changes can be extended to the institution and community.

Issues and challenges in a diverse classroom

The theoretical models reviewed in the previous step
of the workshop provide a starting point for examining how teaching and learning environments can be enhanced to promote cultural diversity in the classroom. However, this endeavour has to be embedded within a specific teaching context, since each environment will have its own set of challenges and appropriate responses. In the next step of the workshop, participants could work in groups to brainstorm the issues and challenges they have faced when teaching in a linguistically and culturally diverse classroom. The groups could be randomly assigned or based on some commonality within participants, e.g. course content. Some questions that participants can ask themselves to guide the discussion are: what are the cultural and linguistic backgrounds of my students? What challenges have I faced in responding to these differences? Are my teaching methods and strategies working, and do they respect and encourage diversity? How relevant is my course content to my students, and does it incorporate the perspectives and world views of minority groups?

This activity uses a Freirean problem posing approach to examine the specific challenges in each environment (Freire & Shor, 1987). This approach begins with asking questions rather than providing answers, and builds on existing knowledge, skills, and experiences through discussion and debate. The knowledge that instructors possess about teaching and learning is a valuable repository to draw from, and the problem posing method allows instructors to build on this repository by creating a space for reflection about their practice, and to see this practice in a more critical light. Giroux (1988) describes this as a process of “learning how to renew a form of self-knowledge through an understanding of the community and culture that actively constitutes the lives of one’s students” (p. 73).

Developing strategies to respond to challenges

In the next step of the workshop, participants take the list of issues and challenges developed in the previous activity and develop a set of strategies to respond to these challenges. As a starting point, participants can be provided with some categories of strategies that can be used in instructional settings. These categories include: (1) creating a positive classroom environment that is inclusive of all students; (2) diversifying curriculum content to make it more relevant and meaningful; and (3) using appropriate instructional and assessment strategies and activities for learning (Guo & Jamal, 2007). Participants can then be asked to think of specific strategies within these categories that could be used to respond to the challenges they have faced, and to develop a list of these strategies. The workshop could end with each group sharing their list of strategies with the larger group to facilitate the exchange of knowledge about the variety of ways in which cultural and linguistic diversity in the classroom can be addressed.

The activities in this step of the workshop use the pedagogical practices of discussion and dialogic engagement with other instructors and promote cooperative learning. Dialogic engagement requires a process for jointly engaging with and co-investigating the object of knowledge. It is based on the assumption that this knowledge is never complete, but can be re-created to include new situations and contexts. Existing knowledge can be re-learned in the company of others who share the same object of knowledge (Mayo, 2004), which in this case, is a set of strategies for creating inclusive classrooms. Dialogical spaces are not isolated spaces, but take into account the social, cultural, and political context with which these spaces reside. In a workshop on teaching for cultural diversity, this context would be the context of the classroom as well as the institution and broader community in which the classroom is situated. Freire and Shor (1987) suggest that by participating in a dialogic space and by “reflecting together on what we know and don’t know, we can then act critically to transform reality” (p. 99).

Discussion and Conclusions

The workshop can be concluded with a discussion of how new strategies can be implemented in the classroom. Workshop participants can be asked to share ideas on how these strategies are selected, put into practice, and evaluated. The process of creating inclusive classrooms is an iterative one, and instructors will have reflected on an ongoing basis on
what strategies are most effective, and why. Freire has defined the process of praxis as being the back and forth movement between action and reflection, to achieve the goal of transformative action (Mayo, 2004). Within this process, the relationship between theory and practice is dialectical. On the one hand, theory can be applied to practice; and on the other hand, practice can in turn be used to inform and extend theory. This conception of praxis can be used to transform classroom environments to sites which respect, validate, and foster diversity. Instructors can use existing theories of difference and diversity to develop and implement practical strategies for creating inclusive classrooms. These strategies can be tested in the classroom, and through a process of reflection, instructors can determine their effectiveness. The knowledge gained through reflection can then be used to modify theories and frameworks, and to further refine the strategies.

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In our science learning and teaching environment, how often do we present science as a body of facts, or at best, a compendium of knowledge to which we can add more information, if we ask the “right” questions? In reality, the nature of science is significantly more complex, and the number of iterations we go through to resolve a given inquiry is often considerable. Similarly, how often do we vocalize the hope that our students will develop critical thinking, yet in reality, encourage only logical, linear thinking? Would science become more inclusive if we actually encouraged creative and divergent thinking in addition to logical-analytical thinking? Instead of “What?” can we ask “What if?” or even better, “What if not?” How might we begin to create learning environments where students themselves generate questions that facilitate deeper learning?

Introduction

Why is the sky blue? Why is the sea salty? Where does the sun go at night?

These are just a smattering of the questions you likely asked as a 3-year-old, and the point at which the inquiry base between us and our students began. Although, somewhere between the age of 3 and 18, many of these budding inquisitors have turned into passive producers at best, and they show up in our classes, willing to “learn,” but not at all ready for our expectations of them as critical thinkers.

So how do we re-awaken this latent curiosity and interest in learning? And in particular, how do we re-kindle this kind of thirst for understanding and discovery that is so critical for science? Do we need to consider this at all? After all, is science not a body of facts, waiting to be recounted? No scientist would claim the latter, nor indeed would a scholar in any discipline refute the merit of questioning.

Why then do we so often, albeit unwittingly, present science to students, particularly in early undergraduate years, as a body of facts to be memorized and regurgitated? Without doubt, students do need
to build on previous developments and understandings in their disciplines, and they certainly need to learn the language and fundamental concepts of the discipline, so that not only a common discourse, but also a shared meaning is possible. However, unless this learning of the language and common underpinnings of the discipline does not also result in students being brought more completely into the culture of the discipline and the joy of inquiry, their education is not complete – nor is their real understanding of science as a mode of inquiry.

Nature or Science and Inquiry: Kuhn’s Perspective

Kuhn’s perspective on the nature of science (1962) holds that scientific disciplines work under a given paradigm, or way of thinking, over a period of time. During the lifetime of a given paradigm, scientists proceed with what Kuhn refers to as “normal” science – where we work to confirm that our findings fit the existing paradigm. In other words, we develop questions, which we then seek to answer under the umbrella of the accepted paradigm. Revolutions in science require a paradigm shift, and these also evolve because scientists question what does not fit the current paradigm, why things cannot be explained, what might happen if…, and by pushing the boundaries of current scientific thought. During all stages within the nature of science as Kuhn describes it, inquiry is the key to the process. So, if science progresses through asking questions and then seeking answers to these questions, why do we persist in portraying science to students primarily as a body of already-accepted knowledge? True, our students are novices, but they are not novice encyclopedias; they are novice scientists.

Habits-to-go and Aspirations

Our teaching habits in science and beyond may read like this: we lecture, often for 50 minutes straight; we often test for factual recall; we give “dull,” irrelevant assignments; and we do not share with our students our own scientific habits – that is, we do not “take off the tops of our heads” and show our students how we go about doing our science. In spite of this, if asked, we likely indicate that we would like our students to show a love of learning and engagement with the material. Yet, when we lecture and they passively listen, how can they actively engage? We might add that we wish students to develop critical thinking, yet we commonly present our discipline as simply a body of facts, so where is the room for them to become critical thinkers – critical…maybe! We certainly will claim that we expect our students to become effective problem-solvers, yet we seldom give them real, meaningful problems to consider. How can they really understand, when we neither model questioning nor encourage them to ask questions themselves, or indeed, even consider questioning their readings, notes, or our lectures? In other words, how can they take a deep approach to learning science (Entwistle, 1981) when we only require factual answers, encouraging a surface approach to learning, where students can succeed in the course by memorizing facts and neglecting connections between facts and processes (Ramsden, 1992)? van Zee, Iwasyk, Kurose, Simpson, and Wild (2001) assert that in an environment of respect, where students feel comfortable asking questions, and when invited to do so, do indeed ask questions. We cannot force student questions, but we can contribute to a supportive environment where questioning is accepted and encouraged.

So, what can we do to improve a student’s quest in science? How do we reawaken the latent inquisitor? What follows is a number of ways in which I have attempted to re-awaken the thirst for discovery and meaning from a scientific perspective. This is not at all intended as an exhaustive compilation of ideas, but rather a starting point from which to springboard.

Re-awakening Questioning

Modeling questioning behaviour

In an undergraduate science class, when we present material to students solely through an uninterrupted lecture, what message are we conveying about science today? Some may argue that a lecture is the only way
to cover the content. We ourselves like to listen to a good lecture (Think of the last lecture you attended. What proportion of the material presented do you actually remember?). Others may suggest that we “know” more than the students, and it is our duty to pass on the vast amount of amassed knowledge in our discipline. After all, students need all of this to be better prepared for the next course, grad school, work, etc. Still, others in the profession, especially those teaching at the first-year level, would contend that class size is too large to even think about teaching in any other way. However, numerous studies suggest that learning happens in an environment where active engagement rather than passive “participation” is the norm (Entwistle, 1981; Fink, 2003; van Zee et al., 2001).

Does this then mean that we should discard the lecture altogether? Not at all – we simply need to keep in mind that 20 minutes is a “good” attention span; students do not “learn” by simply listening and writing down everything we say; and asking, “Any questions…?” in the last couple of minutes of class, is not the best way to achieve engagement and inquiry on the part of students.

More than our words or their readings, students can learn from our behaviour. For this reason, perhaps one of the most important avenues to questioning that we can share with our students is if we too, are questioners, and we make this explicit in our teaching. One key way in which we might do this is to incorporate more inquiry into lectures, and we can do this even in large class settings. In addition to asking students to clarify or classify something during our lecture session, we can also consider such forms of questions as: “What if,” or “Consider X by looking from a new perspective - what might happen then?” We might consider introducing what van Zee and Minstrell (1997) refer to as the “reflective toss” question, in which a student statement or response is followed by the instructor asking a reflective question. This reflective question encourages students collectively as well as individually, to elaborate on the idea, and in so doing, to take more responsibility for their thinking. Our lectures become enhanced when we ask questions throughout and encourage student questions, both in relation to what we are presenting, and also in response to the questions we pose. When we do this we not only model questioning skills, we also encourage students to stop, think, and re-activate their inquisitiveness. Indeed, as positive side effects, we break up the class as a whole, which serves to refocus attention and also allows us to clear up misconceptions and confusions before they become entrenched.

Thinking out loud when a student asks a question, asking ourselves how we might solve a problem, discussing how we go about solving a problem, and talking to students about “good” questions and how to use questions to think, are additional key ways in which we can contribute to helping students in the lecture room develop the type of inquiry we expect of them as novice scientists. As with the previous suggestions, these interactions can be accomplished in large classes just as effectively as in small class settings. In addition, when we ask questions in class, we should regularly remind students that they too should be asking themselves similar questions when they study. When we make the process of inquiry explicit to our students, we both speed up and deepen their mastery of the process of inquiry.

Presenting a challenge or introducing incongruity

Beginning a class with a problem, dilemma, or “trick” question related to the material at hand, is always a good way to capture the imagination and thinking process of students, particularly if much discussion is generated. For three to five minutes at the beginning of class, students can exchange ideas and possibilities related to the dilemma of the day – and as before, this activity is not restricted to small classes. I have often followed this class exchange of ideas with a vote on “who thinks what.” Depending on the nature of the dilemma, noting the diversity of ideas is often sufficient to help students think of more than one way to find an answer, or alternatively, if the dilemma does have a “better” answer, then this helps focus the discussion on why a particular response might be “better.”

While in the middle of material on a given topic, the introduction of an apparent incongruity or
anomaly is always a source of questioning and speculation. Constructivist theories on learning tell us that we create new knowledge based on prior knowledge (Mayer, 1996). When new material cannot be explained in terms of our prior knowledge, we can ignore it. If, on the other hand, the new anomalous information is not so far removed from our current schema, we may modify our schema in order to understand (Piaget, 1983; Kastens & Ishiwaka, 2006). If we present puzzling ideas or information that is not too remote from their recent learning, students can experience a temporary discordance, and may subsequently respond by changing their preconceived notions.

Using images to encourage questioning
In many disciplines, using images provides another avenue for students to access information and understanding. Images form an additional means of communication and are particularly valuable for visual learners. Instead of always presenting the image with an explanation, we can ask students questions about the image, and again, this interaction can take place in a large class setting as readily as in a smaller class. Alternatively, we can ask students to develop a set of questions about an image. This is particularly useful if we use images to introduce a topic, or images that are unusual and require some thought. In the past, when I have asked students to generate questions based on an image, I have asked them to also divide their questions into ones they might classify as “factual” and ones they might consider “more than simply factual.” Interestingly, this has raised a further sticking point with students; many students have difficulty determining what might be considered a “factual” question versus what might be a “more than factual” question. In other words, students really do not have a clear sense of the nature of questioning, what it is we might be questioning, the language around questioning, and how critical effective questioning really is; we must be their guides as they work through their broadening sense of inquiry.

Timing and sensitivity in questioning
If our questions are high stake, then only the most confident student will consider venturing a response. Questions with only one correct answer and those that have a mark attached to them are examples of what we might call “high stake” questions, and typically close down student inquiry. Similarly, questions asked early in the term may need more sensitive treatment. Early in the term, and when starting a new topic, I will often ask students how many of them have ever visited/seen/heard something related to the topic. As they respond with a show of hands, asking each student to briefly identify their experience has increased participation, opens up discussion, and allows me to draw on prior experiences. Similarly, beginning a topic with a question for which there is not simply one correct answer, such as “Given the following 3 choices, how many would chose 1, 2, and 3 respectively?” is another effective way to involve all students, and to start them thinking about the “why” of their choices. These two examples are “low stake” questions, and pose little or no threat to even the shyest student in a classroom, as they are the “expert” on their own experience and choices – and they can readily be asked to any number of students at a time.

Is Questioning the Answer?

Bloom (1956) developed a taxonomy of questioning, which at the lowest level involves recall of knowledge, and at a higher level, synthesis and evaluation, leading to deep learning. Although Bloom’s taxonomy has stood the test of time, more recently, it has been modified to include questions that encourage creative and divergent thought (Anderson & Krathwohl, 2001). We should ensure that our questions offer a balance of low level as well as higher level questions, and sometimes include questions that require students to think “outside the box,” so students can move from surface to deep learning as they stretch toward understanding. If we turn the table and emphasize questioning of all kinds in addition to answering, what happens in our classrooms? Do we, in fact, create an environment where science is practiced from an early stage in a student’s undergraduate years, and therefore, do we in the long term, potentially reap
the benefit of a generation of scientists whose inquiry is rich and diverse? And indeed, in addition to elevating the base level of science for scientists, do we also help create a scientifically-literate society that knows how to question, rather than to accept as fact, all they read, hear, and see?

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Creating rituals can revitalize course content and intensify a learning experience. They can increase a student’s commitment to learning, create a sense of belonging, and help the class develop into a community, not just a collection of individuals. Many different rituals, formal and informal, positive and oppressive, occur in the learning environment. An awareness of our own rituals as instructors, the rituals of instruction, remind us of the power and political messages embedded in rituals. Rituals are both memory- and meaning-making. Many of the rituals of instruction are standardized and formalized by the educational institution; however, each instructor, either deliberately or accidentally, forms their own rituals of instruction. The purpose here is to explore rituals created to revitalize or intensify content (McLaren, 1985).

The Accidental Ritual

It was a warm Friday in April and I was teaching Research from 3:00-5:00 to the fourth-year BSW stu-
dents – hardly a great time for the subject, students, or instructor. I knew this was their last class and that they had all been together since first year so I decided to take my newly acquired academic regalia to class. In the waning moments of the class I gowned and then began a talk about the meaning of a BSW, MSW, and a PhD degree, and the importance of lifelong education as a way to avoid burn-out, in a serious but positive way. I became aware of that very still silence that occurs when students are really listening. Then I heard a few audible sniffs. I thought they might be laughing and enjoying my sense of humour, but when I looked across the room I realized a number of students had tears in their eyes and that they weren’t laughter-tears. I had hit a nerve. It had not occurred to them or to me, that this small group of students had taken almost every course together since first year. They had, all of a sudden, come to the enormous realization that “it was over.” I finished talking and there was absolute silence followed by a burst of applause. It was not that I was so good – it was, as a number of students told me after the class, that I was the only instructor who had recognized their last class in a special way.

In my attempt to give to my class that day, they in fact gave me a much more powerful lesson, one that I have carried with me throughout my teaching career. The lesson was about the need to celebrate rites of passage and to bring closure to our classes. I make it a practice now of honouring all last classes with a ritual. I still gown and talk about the three degrees, but I also speak about my hopes for what they learned in the class for life-long learning. We adjourn to a more informal setting and a tea party. It has been almost 40 years since I began my university education and yet I can remember distinctly the very few instructors who in some way made their classes different and special places to be, and in so doing, built within me a sense of belonging and a sense of their love for learning and for their subject.

A Typology of Rituals

McLaren (1985) identifies a typology of rituals, which include: rituals of revitalization, intensification, and resistance. In this paper, we will focus primarily on creating rituals that revitalize. Rituals of revitalization may include: rituals related to repeated rules and codes of behaviour; beginning the second term of the same course; and summarizing materials already covered. One of the revitalizing rituals related to rules and codes that I have created was designed to help students remember the six values of the Canadian Association of Social Work Code of Ethics as follows: 1) respect for inherent dignity and worth persons; 2) pursuit of social justice; 3) service to humanity; 4) integrity of professional practice; 5) confidentiality in professional practice; and 6) competency in professional practice (Canadian Association of Social Work, 2005). Students learn these in first year, apply them to ethical dilemmas in second year, review them before entering field practice in their third year, and again in field orientation before entering a final field practice in fourth year.

In an effort to make these values “stick” and to make the review more interesting, “the candle ritual” has evolved. I prepare a short written segment for each of the values drawn from the Code, which is read by volunteers from the audience of students, field instructors, and/or faculty as they “light this candle.” We light a beginning candle for the profession of social work and we end by lighting a last candle for those no longer with us, who inspired us in our career paths. In fourth year, field orientation takes place in December and so I add another candle to remember the Montreal Massacre. This ritual is conducted in second- and fourth-year classes and is now well on its way to becoming a school tradition.

Within our classrooms, there are many informal and formalized rituals of instruction such as: the presentation of the course outline at the beginning of a course; the use of learning laboratories; guidelines for papers; and the examination process. These rituals delineate instructor-student roles and the expectations for learning. Individual instructors develop their own class rituals. One instructor always concludes class with the question, “what did you learn today?” and does a brief “round-the-room” for answers. The ritual shows the instructor which points the students identify as most important. This ritual also clearly sets the expectation that something is to
be learned. Another instructor has a “doodle” break in the middle of every class to help refocus the class attention.

How to Make a Ritual

When creating a ritual, it is often helpful to think about rituals in which you have participated and how they affect you, and then to think about rituals which you did not find effective. The use of rituals in teaching is somewhat like the exclamation mark in writing, something not to be over-used, but when used well, serves to focus attention, stress importance, and mark something as being worth remembering. Why do we sing Auld Lang Syne at New Year’s? Why do many rituals use lighting candles? Why do you want to create or use a ritual? What issues might be problematic in using a ritual in your classroom? What cultural sensitivities should you be aware of amongst your students? How will this ritual benefit, augment, and/or highlight your learning goals?

Having considered all of the above, you have decided that you want to make a ritual for your classroom. At this point, you are ready to engage in the following process: 1) decide what type of ritual you wish to create; 2) determine why you think a ritual would be a good way to convey the learning you have in mind for the class; 3) decide how often this ritual should occur; 4) decide when the ritual should occur (Do you want to have an ritual at the beginning, at the middle or at the end of each class or do you want to have a ritual after all the class presentations are completed?); 5) decide where your ritual will occur (In the class room or in a different setting?); 6) decide what props, costumes, music, and dialogue are needed; 7) decide how long your ritual will be; (Church of the Larger Fellowship, 2002) and then 8) consider how you will know if the ritual has had the desired effect.

The easiest rituals to create are those that are patterned after other recognized rituals. Care must be taken to ensure that your “re-creation” does not offend or ridicule the original ritual. As my class presentations are usually group interactive, multi-media presentations using art, drama, music, dance, mime, and role-plays, I give awards – like mini-Oscars. The award is re-named for the class, for example, if the textbook is by Smith, I will award “the Smithies.” Each group of presenters or each individual presenter receives an award which is presentation specific such as “Best limited presentation using animated power point” or “Best limited presentation using music to illustrate social work theory.” A small inexpensive statute, often a pencil or a pen with the university name, or a small decoration or candle, is given as the award is announced. The awards acknowledge the strength of each presentation, but also bring closure on that part of the course.

Cautions Related to Developing and Using Rituals

Creating rituals can cause discomfort. Caution needs to be used in creating rituals. Rituals should never become a “habit.” Instructors should review why the ritual is being used and critically consider whether there are any students who might find the ritual offensive.

Rituals should not be destructive. They foster community, but it is essential to remember that they also exclude and point out similarities as well as differences. They have symbols, but some symbols change and develop negative meanings over time. Rituals or parts of the ritual might become culturally insensitive over time (Young, 1999). They are effective when they are not over-used and change from a ritual to a routine. Rituals do not always convey what is intended and may invite their own unique meaning-making which may enhance or detract from the intention of the ritual. Historical and cultural contexts need to be carefully considered. However, in spite of the cautions, if well-used, rituals can add richness and value, and inspire both instructors and students (Grimes, 2006).

Conclusion

Rituals, large and small, elaborate or simple, give our classes meaning, variety, and vitality. They can
enhance content and intensify the commitment to learning. They offer an opportunity for increased involvement and development of a sense of community and belonging. However, they must be carefully considered because their potential for harm is as great as their potential for positive outcomes. Creating rituals offers an opportunity to highlight important concepts and adds an element of surprise which is often in and of itself an effective technique to engage learning. We all need to be aware of the rituals we engage in when we teach, the power they hold, and the impact that they may have on our students and the learning environment.

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Evolving Toward Laughter in Learning

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Lowman (1995) described the relationship between teacher and student and student engagement as the two most important ingredients in learning in higher education. Humour builds teacher-student connection (Berk, 1998) and engages students in the learning process. The bond between student and teacher is essential for learning, satisfaction, and retention. Humour helps students to learn better, remember more, improve problem-solving, absorb and retain information more quickly, and reduce their anxiety about subjects like math and science. Humour also reduces classroom management problems. This essay reviews research findings that support the use of humour in teaching and it provides strategies that teachers can use to bring more humour into their classrooms.

Introduction

As we explore the evolving scholarship of teaching and learning, it remains clear that motivational and interpersonal aspects of students’ experiences are central to effectiveness. In fact, in his classic text on teaching mastery, Lowman (1995) identified the two most important ingredients of teaching to be teacher-student connection and student engagement. One powerful way both to enhance teacher-student relationships and to increase student engagement in learning experiences is to use humour in the learning environment.

The purpose of this essay is to share ideas, perspectives, and benefits related to laughter and humour in learning. After exploring the context and reasons for using humour, I will provide specific possibilities and examples of how to include humour in university classes.

In addition to some of the apparent benefits of adding humour and laughter to learning experiences, most of us live in academic environments that would do well to increase their lightness. Perhaps Henry Kissinger said it best, “University politics are vicious precisely because the stakes are so small.” When we learn to use humour in our classes, we may experience the pleasant side effect of building a more humourous perspective to counter our over-developed ability to take ourselves seriously.
Support for Laughter and Humour in Learning

Laughter helps you learn?
There are many general benefits of laughter including health (e.g., enhanced immune function, pain reduction, stress relief). With respect to pedagogical factors, laughter improves catecholamine levels, which increase mental functioning (Fry, 1984); and helps the functioning of both hemispheres of the brain (Derks, Bogart, Bartolome-Rull, & Gillikin, 1997; Goldstein, 1976; Svebak, 1982), which has a direct impact on learning; and inducing laughter prior to and during a topic primes students’ brains to increase alertness and memory. Following laughter, there is also greater interpersonal responsiveness in question and answer sessions and cooperative learning activities.

What about humour?
Similarly, humour offers a variety of general benefits beyond what is found in the classroom. For example, humour has the ability to sell, convince, entertain, and communicate. There are potential financial benefits of developing one’s sense of humour as there appear to be both more job opportunities (applicants with a better sense of humour get more jobs) and promotions (those with jobs, other things being equal, tend to get more promotions when they are seen as having a sense of humour). Furthermore, humour can enhance overall well-being as it changes one’s perspective away from stress. Henry Ward Beecher said, “A person without a sense of humour is like a wagon without springs – jolted by every pebble in the road.”

For our focus here, what is essential is that humour builds the teacher-student connection (e.g., Berk, 1998), and this connection is essential for learning, satisfaction, and retention. As John Cleese put it, “If I can get you to laugh with me, you like me better, which makes you more open to my ideas.” Humour engages students in the learning process and it can improve problem-solving and performance on right-hemisphere tasks (e.g., spatial-temporal reasoning; recognition). Studies (e.g., Bryant & Zillman, 1989; Opplinger, 2003; Schmidt, 2002) have shown that with humour, (a) students learn better and remember more; (b) people absorb information more quickly; (c) many kinds of information are retained longer; (d) there is a reduction in anxiety about subjects like math and science; (e) there are fewer classroom management problems; and (f) students are more motivated to learn and retain information if they are happy and amused.

There is also an effect of humour on students’ perceptions. For example, humour has been seen to increase students’ enjoyment of learning, perceptions of how much they learned, and positive feelings about the course and instructor (Wanzer & Frymier, 1999). A sense of humour is one of the most desirable characteristics of an effective teacher (Check, 1986; Fortson & Brown, 1998; Powell & Anderson, 1985).

Using Humour in the Classroom
Many of our experiences as students and as teachers reinforce what is found in the literature about the advantages of having a classroom sprinkled with laughter and humour. Yet there are many reasons to beware using humour. Some forms of humour can hurt, create distance, and be counter-productive to teaching and learning (Table 1). We consistently seek positive humour to promote students’ experiences and progress. Goodman (1983) provided a list of helpful comparisons to distinguish the kinds of humour we desire in class.

Teaching Ideas for Humour in Your Classroom
There are many specific ways to bring humour into a college or university classroom. The list here includes ideas that do not rely on the instructor’s comedic timing, or “being funny.”

Read aloud something comical or begin class with an amusing overhead
A simple way to add humour and warm the mood of a class is to provide something amusing for students to look at or listen to as they enter the classroom.
Use humourous quotations (on the class subject)
You can add mirth to a topic by searching out and sharing quotations. You can involve the class by having a box where students can share their own favourite quotations.

Share personal humourous anecdotes
Our lives are filled with moments of levity, especially when we are able to laugh at ourselves. We can make ourselves more human and accessible by sharing our stories with students, and we can encourage students to do the same.

Humour on course outlines
One of the first ways we “meet” our students is when they read our course outlines and handouts. Adding jocular remarks, cartoons, or bits of amusement will lighten what can be a bureaucratic document.

Humour on exams
Especially for students who are anxious during a testing situation, humour on an exam can relieve stress and tension and enable students to perform more to their potential.

Using games
One of my favourite ways to bring fun to the classroom is by creating games based on television shows such as “Who Wants to Be a Millionaire” and “Jeopardy.” I have found that the games can be used to highlight or review important information and they do not necessarily have to be used in full. For example, five Jeopardy “answers” could focus on the main points from an article, along with substantial lecture-and-discussion-time between each item.

Faces, gestures, and movements
Sometimes lightening the classroom or bringing out a laugh is as simple as making a face or gesture. You may already have some “quirks” in your repertoire that you can use more intentionally. When the class is tense, the laughs often come easily when you make a clear move to relieve the tension.

Using music
There are various methods to include music to alter the classroom ambience. Again, it need not be “funny” but it can make the environment more welcoming and comfortable. Playing tunes as students enter the class is one option. Using short clips during a presentation can help to make a point and increase attentiveness.

<table>
<thead>
<tr>
<th>Laughing With:</th>
<th>Laughing At:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. going for the jocular vein</td>
<td>1. going for the jugular vein</td>
</tr>
<tr>
<td>2. based on caring and empathy</td>
<td>2. based on contempt and insensitivity</td>
</tr>
<tr>
<td>3. builds confidence</td>
<td>3. destroys confidence through put downs</td>
</tr>
<tr>
<td>4. involves people in the fun</td>
<td>4. excludes some people</td>
</tr>
<tr>
<td>5. a person makes a choice to be the ‘butt’ of a joke (laughing at yourself)</td>
<td>5. a person does not have a choice about being made the ‘butt’ of joke</td>
</tr>
<tr>
<td>6. amusing – invites people to laugh</td>
<td>6. abusing – offends people</td>
</tr>
<tr>
<td>7. supportive</td>
<td>7. sarcastic</td>
</tr>
<tr>
<td>8. brings people closer</td>
<td>8. divides people</td>
</tr>
<tr>
<td>9. leads to positive repartee</td>
<td>9. leads to one-downsmanship cycle</td>
</tr>
<tr>
<td>10. pokes fun at universal human foibles</td>
<td>10. reinforces stereotypes; singles out group</td>
</tr>
</tbody>
</table>
Using movement (students)
A languid body is less engaged and short “body-breaks” or activities can generate fun and re-engage students. Like everything else in the world of humour, it is a matter of personal taste and what you find useful. After fifteen or twenty minutes in a lecture situation, students could take thirty seconds and simply stand up or do something more “silly” like a bit of the chicken dance.

Using costumes/décor/props
For those of you who are concerned you do not have the delivery of Jerry Seinfeld or the story-telling brilliance of Bill Cosby, you can inject humour by coming to class in costume, using props (e.g., a magic wand), or decorating the class in some fashion. I have seen professors arrive as a historical figure or theoretician and present material from a first-person perspective. Students often greatly appreciate seeing us out of “uniform” and in costume.

Forms of delivery
In addition to the specific ideas suggested so far, other forms of in-class delivery of humour include opening jokes, Top 10 lists, cartoons, skits/drama, and, perhaps the best humour is that which is spontaneous. Humour can be included on any form of written material as well as websites. An advantage of adding humour to a course website is that you can provide options that students can select or not based on their own personal preferences.

Cautionary Notes and Closing Suggestions

The dictum, “when in doubt, leave it out” may be a helpful guideline for the use of humour. Some experts suggest the “AT&T Rule” proposing that all uses of humour should be appropriate, timely, and tasteful. Whereas we can go too far to the point of sterility, we want to do our best to avoid humour that will tend to alienate or create distance.

There are other specific concerns to be aware of in order to use humour effectively in the classroom. Because some humour is culturally and historically dependent, it is important to be mindful of international students, and humour that relies on experiences that students have not shared. How well humour will work can also depend on how long the class has been together. Some humour may relieve first day jitters; other humour may succeed after the group has developed rapport and bonding.

We generally want to provoke some form of laughter when we deliver humour in our classes. Whether or not students laugh depends on many factors including the physical arrangement of the class, class size, class atmosphere, and the ability of students to make eye contact with one another and the instructor. A key point to remember is that humour tends to be based on building up tension and then some kind of punch-line resulting in laughter and a release of tension. Thus, when it’s clear that we have tried to be funny and there is no laughter, what remains is the built up tension. If we just move on without some response or acknowledgement, we are trying to teach through the tension. It is important to note that the joke was unsuccessful. Great comedians (recall Johnny Carson) often get their best laughs when a line fails. The “comeback” line allows the audience to laugh and relieve the tension. Sometimes it is as simple as saying “or not” or “you might have noticed I was trying to be funny.”

Like everything else in our teaching, the effective inclusion of humour is a matter of ongoing attempts, reflections, and refinements. Ultimately we hope that humour will enhance our relationships with our students and enable their engagement and learning. Good teaching is hard to define. It may be best to express the elements of good teaching in metaphors that invoke the imagination. Parker Palmer tells us that good teaching is akin to weaving a fabric of connectedness between student, teacher, and subject. The weaving cannot take place without a loom. The teacher is the loom on which the fabric is woven. The loom itself is a work in progress: to be available, teachers need “inner work.” Good teaching is not “the right move,” but rather it demands that I, as a teacher, question myself. The search for mirth keeps me in the exploration.
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The Medicine Wheel: A Versatile Tool for Promoting Positive Change in Diverse Contexts

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This essay describes the utility of employing the medicine wheel with university students in both counselling and instructional contexts. A brief description of the medicine wheel, its history, symbolic significance, and use in diverse contexts is discussed. The preliminary data suggest this to be a valuable tool in addressing both the academic performance and psychological adjustment issues often faced by university students.

Introduction

College students may face a myriad of adjustment issues when attending college, with stresses of financial burden, academic pressures, and absence from family, friends, and support networks (Drum & Baron, 1998). College counsellors, acutely aware of these stresses, offer counselling in order to guard against potential mental health issues such as anxiety, depression, and negative emotional disruption (McCarthy, Fouladi, Juncker, & Matheny, 2006). The counselling field recognizes that there must be tools and models in order to allow for the prevention of psychological difficulties which may be visible in university counselling centres (Romano & Hage, 2000). For decades, those employed in the counselling and psychology professions have utilized a variety of approaches to effect change in their clients. Counsellors and psychologists apply concepts from theories, such as psychoanalysis, humanism, behaviourism, and cognitive-behavioural therapy. Educators also use different approaches to effect positive growth in their students. To enhance student learning processes, professors use various pedagogical techniques including written materials, lecture, computer technology, media presentations, guest speakers, experiential exercises, and small group discussion. The medicine wheel (MW) is an innovative example of an experiential learning exercise used to promote personal growth in the classroom. Yamagishi and Houtekamer (2005) describe in detail how two elementary school teachers use the circle of courage (i.e., a MW) as an assessment and goal-setting tool to address students’ problems and needs. They discuss their development of the tool and how they apply it when working with children and other populations. The purpose of this essay is to illustrate the versatility of the MW, both in
counselling settings and especially in the college classroom context. In both situations, the goal is to foster personal development and growth among students. A brief discussion of the history and symbolism of the MW, and examples of its use in both a counselling setting and two classrooms will be described.

The Medicine Wheel

Although MWs have been used by many cultures throughout the world, they are often associated with Native American tradition. The MW is a circular structure often made of stone. Many versions of the MW exist and the purpose of the circular wheel differs somewhat across tribes. One Native American spiritual teacher indicates that the MW is a healing and connection tool to be used for the uplifting and betterment of mankind. Storm (1972) described it as the essence of Native Americans’ way of life, a key to understanding the universe; it serves as a way in which individuals achieve wholeness. The MW “provides a framework for growth and direction in one’s life” (Brink, 1989, p. 45). A wide variety of MWs exist, each being slightly different given the diverse values/beliefs of a tribe (Coggins, 1990; Garrett, 1996; Pepper & Henry, 1991; Simonelli, 1993).

Most representations of the MW involve two vertical and horizontal lines bisecting at the midpoint, placed within a circle. The importance of the circle is echoed throughout indigenous literature, writing, and research: it has significant cultural and spiritual meaning among indigenous people (Bowen, 2005; Lavallee, 2007). Native spirituality tends to be circular in nature (Walters, Simoni, & Evans-Campbell, 2002). Native American healing practices are incorporated within a holistic and circular framework: “[t]he circle is a key symbol in Native American philosophy and is sacred in Native American spirituality” (Rybak, Eastin, & Robbins, 2004, p. 26). According to Black Elk (Neihardt, 1932), the central symbol involved in everything Native Americans do is the circle because the world is viewed as working in circles. For example, the sky is round; the earth is round; birds make their nests in circles; the life of a person is a circle composed of a cycle of life phases; individuals and families are circles within a larger community circle.

The MW circle is divided into four quadrants. The number four is very sacred to indigenous people, since it refers to so many aspects of Native American life. These aspects will be covered in the next section. The MW is also very sacred in that it represents the very essence of Native Americans, as a whole. The wheel can also be considered a symbol that functions as a metaphor for life symbolizing the developmental stages from birth to death.

Anishinaabek Medicine Wheel

The Anishinaabek (also known as Chippewa, Ojibwa) are a Native American/First Nations people residing primarily in the Great Lakes region, including Canada. The nation is made up of several tribes, bands, and clans that share both similarities and differences. Therefore, the use of the MW among diverse tribes is both tribe-specific as well as representing common functions across all tribes. One Anishinaabek version of the wheel allows people to break down complex life situations into small, manageable pieces. The goal is to understand the world and live effectively and positively within that understanding (Rheault, 1999).

For the Anishinaabek, the four quadrants represent many different ideas or concepts and their relationships to each other, the universe, and the individual. Examples include the four directions (east, south, west, and north), four seasons (spring, summer, fall, and winter), four colors (yellow, red, black, and white), four sacred medicines (tobacco, cedar, sage, and sweet grass), four sacred animals (i.e., eagle, deer, buffalo, bear), four stages of life, (child, adolescent, adult, and elder), and four directions of human growth (mental, physical, emotional, and spiritual).

The Versatility of the Medicine Wheel

MWs have been utilized in a variety of healing settings. White Bison (an American Indian owned,
non-profit entity) incorporates the wheel with a 12-step re-entry curriculum for recovery support and relapse prevention. The program focuses on Native Americans who are completing treatment, returning to the community from incarceration, or who have been working on their recovery journey and wish to provide support to others experiencing similar situations. The MW and 12-step program is designed in a series of modules that enable people to meet their individual needs. For example, steps 1 through 3 focus on Finding the Creator; steps 4-6 focus on Finding Yourself; steps 7-9 focus on Finding Your Relationship with others; steps 10-12 focus on Finding the Wisdom of the Elders (Wellbriety Programs, 2004). Dapice (2006) focused on how the MW can be used as a conceptual framework and integrative approach to respond to the issues of health and wellness of Native Americans. Most significantly, the author proposes that the MW is needed in the medical world to help enrich the health of people indigenous to the United States. At the Professional Development Program, facilitators for the Phoenix Institute of Victoria integrated the medicine wheel in “Shamanism for Women: Traversing the Worlds of Self” (2007). The program focused on a deeper connection to women’s traditional healing, discovering personal healing through ritual, self-discovery of one’s spiritual path, and building a spiritual community of women’s medicine. Facilitators used the MW and its four directions to describe the women’s journey related to birth (East), courage and strength (North), healing and compassion (West), and questing for a vision (South). The workshops are for women who wish to face the challenge of navigating through their many selves, to reconnect with their own strength and resources as they weave their personal life stories (Shamanism for Women, 2007).

Application of the Medicine Wheel in University Counselling Situations

A professor’s goal is to help students learn; however, many other issues, including adjustment, coping with illness, and isolation, may impact learning in the classroom. The first author of this paper began using the MW in Fall 2006 at a university counselling and testing centre, with students distressed over coping with a significant other’s terminal illness, surviving a terminal illness, transition from high school to college, and the numerous challenges for married and unmarried couples. All of these issues have affected the students’ academic performance in the classroom before counselling.

The following case example describes how the first author used the MW during the healing process of a female domestic violence victim who came to the university counselling and testing centre seeking services due to academic disruption. It appeared the client had established an identity based on verbal and nonverbal feedback from her allegedly abusive father. Subsequently, she was unable to realize her true identity. It seems her challenge was to live according to an identity separate from that of her psychologically abusive father. Throughout the therapeutic process, the client established identity lists using the MW, and tracked her progress on the four MW quadrants across the counselling sessions. Periodically, the therapist and client revisited the MW in subsequent sessions to determine the client’s progress. At one point, the client reported a decrease in how much she lives the abuser’s identity of her – she made a mark on the adult quadrant arc – and an increase in how much she now knows and lives her identity of herself – she marked on the adolescent quadrant arc.

Use of the Medicine Wheel in Two Different Undergraduate Classes

The second author utilized the MW in quite a different context – the university classroom. The first class the MW was piloted as a tool for helping students in goal setting, and future planning was an undergraduate capstone diversity course; the second, an introductory prerequisite lifespan human development course. The first week of a diversity summer class the authors presented the symbolism of the MW to Native American culture in class. A lecture on goal setting was then covered with an eye to life plans/career aspirations. Students in this diversity class (mostly
seniors ready to graduate) then responded individually to a single sheet of paper containing three MWs with the life domain labels of academics, major-career, and interpersonal relationships portrayed above each wheel. The students were instructed to plot two points of each of three MWs similar to the case example above: where they currently feel they are in terms of developmental growth in that domain, and second, where they hope to achieve in that domain. They were also asked to note specific short- and long-term goals needed in order to achieve their ideal level of growth in all three domains. The authors returned two weeks later (this was a concentrated 5-week class meeting daily), and repeated this process. Preliminary inspection of the plots from pre- to post-assessments revealed progress had occurred on all three domains for 90% of the students – indicating personal growth. Students shared their feedback on this experiential exercise and indicated it was something they had never experienced before, yet felt very positive and offered that it helped them focus on personal goal achievement growth.

The second class, the introductory human lifespan course, is comprised of approximately 200 freshmen, and this class serves as a prerequisite course for those majoring in social work, human development and family studies, and nursing. Instead of presenting the symbolism of the MW in Native American culture, the authors first described the four colours, four directions, and how these directions represent four distinct life phases experienced by humans. Students learned that the top right quadrant is coloured yellow and represents new beginnings or infancy; the next quadrant down in clockwise fashion, coloured red, representing change and growth or adolescence, next, black, representing responsibility and maturity reflecting the adulthood phase, and top left quadrant, white in colour, reflecting wisdom and inner reflection or elderhood. As with above, three coloured MWs on a single piece of paper were presented to the students. They were asked to again indicate their self ratings on where they were at in terms of goals and progress in three domains-academics, major-career, and mental and physical health. We reassessed the same students four weeks later and with the same MWs. Students reported that they had kept the MW rating sheet (we returned a copy for their personal use) in their notebooks and looked back at it often to see if they were progressing in these life domains. The majority rated this activity as valuable and worthwhile on an evaluation sheet we provided after the post-assessment. This highlights the importance and utility of utilizing this personal growth and goal setting tool early on in the students’ academic careers. Since the majority of students reported reflecting and checking back on their ratings on the MWs, we felt that using this tool can be especially important with freshman, early in their academic career, as a motivator and a tool for them to track their progress.

Final Note

During a specific consultation, it was indicated by a colleague of the first author that the MW also seems to take the form of a projective instrument. In effect, a student client projects her/his life challenges or situations. For the first author, the colleague’s rendition currently serves as one more method for depicting a person’s struggles and healing process, and potentially to establish treatment goals that promote positive change and growth for the client. In the second example, applicability of the MW was demonstrated in promoting positive personal growth among undergraduates in a traditional classroom context. Our essay highlighted the versatility of the MW across contexts and for very different outcomes. Counsellors and teachers may want to consider using this valuable tool to intervene with college student adjustment difficulties, while optimizing personal development among all students.

References


Clicker Lessons: Assessing and Addressing Student Responses to Audience Response Systems

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This project began in response to a perceived need to assess students’ perceptions with respect to the emerging use of audience response systems (clickers) in several mid- to large-size undergraduate courses at the University of Victoria. We developed and validated a “Clicker Use Survey” to gather students’ opinions with respect to clicker utility and the impact of clicker use on their learning. With the collected data we generated a set of baseline distributions to support assessment of various clicker use protocols and created a self-evaluation tool to share with instructors to support teacher reflection on the efficacy of their clicker practices. We also provided a sample self-evaluation to model the use of the tool. Links to the survey instrument, baseline data and self-evaluation tool, and sample self-evaluation are provided.

Introduction

Classroom communication and interaction are influenced by many factors. In traditional large classes, communication tends to be between the teacher and a few keen and vocal students. The sheer number of students makes it infeasible to hear from every student and the traditional teacher-led question-answer process often fails to promote real discussion. Many students choose to simply listen and passively take notes, relying on others to be the active participants in the class. This silent majority includes students who may remain silent because there are limited opportunities to contribute, lack confidence in their ability to articulate their ideas or questions, or avoid participation for fear of embarrassment or other social constraints (Dickman, 1993; Reynolds & Nunn, 1997; Pelton & Francis Pelton, 2003). Many of these students are on the verge of a teachable moment – with connections ready to be made, misunderstandings ready to be challenged, or interesting, unpopular or politically incorrect opinions needing to be discussed. By remaining silent, the students forfeit opportunities to learn and deny similar opportunities to their classmates who may not be ready to articulate similar questions, ideas or concerns.
Reviewing existing research shows that techniques that promote and support student participation yield students who pay more attention in class, use in-depth thinking and reflection, learn from one another’s reasoning and mistakes, evaluate their own misconceptions, perform better on tests, have greater retention, and have improved attitudes toward learning (Francis Pelton & Pelton, 2006). Audience response systems (also known as ‘clickers’) were created to increase participation and engagement of audience members in large presentation halls or classrooms where traditional teaching conditions might not support much interaction. The systems allow the instructor to present prepared or ad-hoc questions and response options to students and permit them to select and anonymously submit their responses through a wireless ‘clicker’ (typically radio frequency, but older systems also may use infra-red). Student responses are captured and processed in the instructor’s laptop. The resulting distribution can then be presented graphically to the class via a data projector to support assessment, discussions, group activities, etc. Replacing or supplementing the traditional lecture and note-taking classes (passive learning) with this type of interactive process appears to support learning by increasing productive communication of processes, understandings and ideas and encouraging student engagement (Horowitz, 1988; Burnstein & Lederman, 2001; Guthrie & Carlin, 2004; Pelton and Francis Pelton, 2003; Pelton & Francis Pelton, 2006).

The Project

The apparent benefits of using clickers in a classroom have encouraged both individual instructors and institutions of higher education to introduce them in courses. This naturally leads instructors to question how their use of clickers impacts student learning. This project was designed by existing clicker users to help to more formally assess students’ attitudes towards the use of clickers in several mid to large size undergraduate courses. We developed and validated a “Clicker Use Survey” to assess students’ perceptions of clicker utility and the impact of clicker use on their learning and learning related behaviours, and published a collection of baseline distributions for the survey questions to support teacher self evaluation.

The study context

We collected data from 11 different mid- to large-enrollment undergraduate courses at the University of Victoria that were using clickers in their classes in the current year. Classes ranged in size from 40 students to over 200 students. Classes covered a wide range of subjects, mainly in the sciences and social sciences (anatomy, anthropology, astronomy, chemistry, computer science, geography, mathematics, and psychology).

Two different audience response systems were used in the classes surveyed – the CPS (Classroom Performance System) by eInstruction and the iClicker. These systems were selected because they both used radio frequency communications (previous experience had suggested that infra-red systems were not suitable for most large classroom situations) and they supported at least two operating systems (an important feature when seeking to make a campus wide recommendation).

The eInstruction system had advantages with respect to included functionality but these advantages were tempered by a higher threshold (more time and effort required to learn) and friction (more time required to transform lessons and initiate use in classrooms) as well as a higher cost or fee structure. The iClicker system was easier to set up and use, the costs were lower, and the software necessary to use the tool is open source (this potential for community based enhancement and customization was appealing to many instructors).

Some instructors chose to assign marks to clicker use – either for participation or performance. Other instructors were only interested in using student responses to support student engagement in classroom activities and assess student understanding of the topics, and so, did not track individual participation. Originally we hoped that there might be some potential to examine the impact of the differences in response systems and differences in participation tracking on student perception of clicker utility, but other factors obscured the effects.
Methodology

The Clicker Use Survey shown in Figure 1 includes questions on several demographic variables (gender, number of university courses completed, percentage of classes attended, and frequency of bringing the clicker to class), followed by 18 Likert type items assessing attitudes toward clickers and clicker utility. Students were also invited to make comments on anything pertaining to the clickers. These comments were explicitly encouraged in the verbal instructions given as the surveys were being distributed and again in print form on the bottom of the survey. The consent form also included a request to compare response patterns to student grades.

The authors and participating instructors (all somewhat familiar with audience response technology) devised the items in the questionnaire to cover the apparent issues associated with the use of clickers in the classroom. The development process was guided by informal classroom feedback, student evaluations, an analysis of comments made on an anonymous online forum (Slashdot, 2005), and experiences associated with the introduction and evaluation of other educational technologies. The instrument was piloted, item response distributions were assessed for functioning and suitability and minor revisions were made prior to administration to all classes. No attempt was made to control or influence the instructors’ adoption or use of clickers in their classroom – leaving several variables unmanaged – but also providing a more authentic view into the issues surrounding the adoption of such devices.

The responses were tallied for each of the levels in each Likert question in the survey. The order of the responses was reversed in negatively worded items to facilitate cross item comparisons. A cumulative ‘score’ or scale is not presented here because although we believe that we are examining evidence to support the validation of the instrument and the underlying latent construct (i.e., perceived clicker utility in the classroom), we do not believe that we have sufficient data to justify the assumption that all of the items would load perfectly onto a single scale or that values generated would fall on a linear scale.

The following sections provide a short summary of the observed response distributions and a qualitative analysis and interpretation along with the results of a simple factor analysis (suspending our concerns about the aggregation of non-linear Likert data). We also present a tool (Pelton, Sanseverino, & Francis Pelton, 2007) to support instructors wishing to apply the “Clicker Use Survey” to qualitatively evaluate the efficacy and utility of clickers in their classes. Future papers will examine relationships between demographics, grades, and student responses (both Likert and open-ended).

Results

The Clicker Use Survey was presented to the 11 classes at the end of their respective terms in an 8 month period. Informal observations suggested that more than 90% of the students attending classes on the days that the survey was administered consented to the study and completed the questionnaire. A total of 1107 questionnaires were completed, representing approximately 70% of the students enrolled in the participating first- and second-year classes.

Four conditions were anticipated to affect student assessment of clicker use. The teaching style was expected to have a substantial effect and while we cannot control this effect, it is hoped that the baseline distributions resulting from this research will allow instructors to self-evaluate the response distributions from their classes in juxtaposition to a ‘typical’ response distribution. A second expected influence on perceived utility is the use of grades or marks to encourage or coerce students into purchasing (if necessary), registering, and using the clickers in the classroom. Third, the specific system used was expected to have a minor effect on student perception of response systems because of the differences in registration, daily setup, and fluidity. And finally we anticipated that there would be a negative effect on perceived clicker use if the students were required to purchase their own clicker units. However, once the data was collected and the conditions in the classrooms examined we found that all of the classes that used the tracked model, and all of the classes that offloaded equipment costs to students, used the eInstruction system.
Clicker Use Survey

To evaluate the effectiveness of clickers, it is necessary to ask for honest responses from students using the devices. Your co-operation is very much appreciated. Your responses are confidential and only anonymous comments and aggregate results will be disclosed.

Student ID: ___________________________  Check One:  Male _____  Female _____

How many units (1 course = 1.5 units) of University level courses have you taken (including this term)?  _________

What percentage of classes in this course did you attend?  ____ 0-25%  ____26-50%  ____51-75%  ____ 76-100%

How often did you bring the clicker to class:  ____Never  ____Sometimes  ____Most of the time  ____Always

Please respond to each question by circling one number from 1 to 5.

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Undecided</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Class time passes more quickly when we use the clickers.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. When we use the clickers my participation increases in other ways too.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. I found the use of clickers to be distracting and unhelpful.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. I feel uncomfortable sharing my responses via the clickers.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Learning with clickers improves my understanding of the course content.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Learning with clickers gives me confidence to ask more questions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. Using the clickers encourages me to spend more time preparing for class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. Using clickers encourages me to attend more classes.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. Using the clickers promotes more focused discussion during class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. I would like to use the clickers in other courses.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. The graphs provided by the clicker system are useful.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. I benefit by seeing how other students respond to a question.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. Using the clickers in class is too time consuming.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14. I would do better in this class without the clickers.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15. I had difficulties getting my clicker to work in class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>16. I would have liked to use the clickers more often in class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>17. At first, learning with the clickers was enjoyable but later I was bored.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>18. Using the clickers helped to better prepare me for quizzes and exams.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Please write any comments you would like to make on the back of this form.

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In addition, it was observed that the instructors using the tracked model tended to have fewer years of teaching experience. Thus, three of our conditions were confounded and so the data does not support a full exploration of all of our intended comparisons of conditions. However, the aggregated response distributions for the survey questions were still perceived as useful both for the validation of our instrument and as a baseline of perceived clicker utility to identify trends examine interventions and support self-evaluation.

To provide an example of the results collected from the survey, a selection of class distributions, as well as a baseline distribution (all students) for question #16, “I would have liked to use the clickers more often in class,” is presented in Figure 2. In the baseline distribution (all students, front, light blue bars), we see that across all classes, the students were generally content with the level of clicker use. For some classes (e.g., 1 and 4), the response distribution includes a substantially larger “strongly disagree” component than the baseline. Possible reasons might include, overuse of clicker questions in classroom, the instructors’ skill in using clickers in the classroom, or negative grading affected students’ desire to use clickers (both of these classes associated grades with clicker use).

Various facets affecting students’ perceptions of clicker use can be assessed using the collected data. For example, in Figure 3, we compare response distributions from classes where participation was tracked and marks were associated with clicker use and the other classes that did not link marks to clicker responses or participation. We have reversed all negatively oriented questions to facilitate evaluation and comparison across items – 1 indicates a very negative attitude or opinion and a 5 indicates a very positive attitude or opinion. Note that while all tracked classes were using the eInstruction system, both systems were used in untracked classes. In addition, tracked classes tended to have instructors with fewer years of teaching experience. The baseline combines all classes and we see that the student response distributions from the tracked classes were substantially negatively affected. Possible reasons for the observed differences in the distribution include experience of the instructor or negative attitudes in response to tracking participation.

As we reviewed each of the survey item response distributions, we noted that the baseline distribution provided a useful starting point for the evaluation and interpretation of group and individual class results. For some questions, the variation observed across groups or classes was minimal, while for others the class effect was substantial. Other papers examining the distributions of each question and the student comments are in progress.

Some general observations arising from our examination of the response distributions include:

- students generally felt comfortable sharing responses;
- students agreed that seeing the response distributions in class was beneficial;
- class distributions were less positive when marks were associated with clicker use; and
- clicker use did not seem to yield substantial increases in student preparation or confidence to ask questions in class.

These observations were consistent with a cursory review of student comments in connection with the Likert question response patterns.

We began our factor analysis by including all items and found that perhaps two or three factors might be present in the raw data. However upon reflecting on our search for the intended factor of clicker utility we decided to remove questions 4, 7, 8, 15 and 18 – as they spoke most directly to other issues such as personal comfort (4), learning habits (7, 8), technological struggles (15) and format of class assessments (18). The second factor analysis provided moderate evidence to assert a single factor (46.8% of the variance accounted for in the first factor and the screen plot suggested a single factor). This factor analysis evidence in concert with the examination of response distributions, the iterative item construction process using experienced clicker users, the piloting and refining process, and the consistency of observation distributions with classroom observations and classroom descriptions suggests that the Clicker Use
Survey can be used to meaningfully assess the utility of clickers in individual classrooms.

**Self Evaluation Tool**

The Clicker Use Survey is freely available to the academic community to support institutional and self-evaluation of classroom clicker use.

The authors have created a self-evaluation tool to support instructors wishing to examine student perceptions of clicker utility as adopted in their own classrooms. This resource has been published in the form of an Excel spreadsheet (Pelton, Francis Pelton, & Sanseverino, 2007) that contains the baseline survey response distributions for 1107 students along with preset data entry fields for the instructor to enter his/her class response distributions. Comparative distribution graphs are automatically generated once the instructor has entered a set of class data, and these can be copied and used in self-evaluation reports.

Finally, an exemplar self-evaluation report (Francis Pelton & Pelton, 2007) is provided as a model to help other instructors generate supporting documentation for their own teaching dossiers.

The Clicker Use Survey was designed to assess student perceptions of the use and utility of clickers in the classroom. The items were generated, piloted, refined, and evaluated by instructors familiar with the use of audience response systems. When this response system expertise is combined with the intuitively interpretable baseline data and distributions and the adequate loading of the items on a single factor (given the inherently multifaceted nature of the classroom context), it provides adequate validation evidence to support the practical application of this instrument in assessing the perceived utility of clickers in the classroom, the examination of the relative
efficacy of various clicker related protocols, and the examination of changes over time in the instructors ability to effectively use clickers in their classroom. The authors welcome comments, queries, and suggestions on this resource from other educators.

References


The purpose of this paper is to share our experiences involving a creative approach to service learning that was implemented in a Human Development and Family Studies graduate course. In our departmental pursuit of evolving scholarship and promoting scholarly teaching and learning (Kopera-Frye, Hilton, & Cavote, 2003), this course represents an example of how one can promote higher-level learning among our future professionals. This service learning approach utilized in this particular course focuses on needs assessment and program evaluation, a direction not usually found in typical service learning projects that involve a social volunteerism approach. By discussing the theoretical basis for the project, course format, and providing some qualitative/evaluative data, we will contribute to the knowledge base on innovative ways to promote scholarly learning. Challenges and issues that need to be anticipated before designing this type of service learning experience will be highlighted.

What is Service Learning?

History of Service Learning

As early as 1902, John Dewey spoke to the National Council of Education and proposed that educational institutions broaden their roles to include community-building, an approach termed “education in the community” (Dewey, 1902). In his speech entitled, “The school as a social center,” he suggests that the resources of the school be paired with the place of community as a source of citizenship education and community growth. Dewey’s approach called for teaching students to be democratic, participatory, and interactive, forming the foundation for approaches such as service learning. This idea of learning beyond the walls of the classroom received further attention during the
1960s as various governmental, educational, and agency-sponsored activities were developed for students, including service learning (e.g., internships with Congress, or agencies). In the mid-1980s and 1990s, national groups such as the American Association of Higher Education (AAHE) and Campus Compact launched service learning initiatives (e.g., AAHE’s Service Learning Project) in institutions of higher education, thus promoting service learning across many institutions (AAHE, 2000; Gray, Ondaatje, & Zakaras, 1999; Kellogg Commission, 1999). Between 1985 and 2004, Campus Compact, a leading training organization for service learning in the U.S., served 960 public and private two- and four-year colleges and universities and currently has 30 state-based campus offices. Evidence that service learning is an invaluable, growth-promoting experience for students has clearly emerged from the movement to support it as a powerful pedagogical tool. Service learning has been defined as a “structured learning experience that combines community service with preparation and reflection” (Connors, & Seifer, 1997, p. 9). Further, Zlotkowski (2001), who has written extensively on the service learning approach, adds that the linkage of student learning with off-campus experiences naturally draws upon socially complex learning environments. The most direct benefit of this approach is that service learning allows the students to apply classroom information, concepts and content to “real world” situations, provides a reflective opportunity for the students, demonstrates caring for others and a strong sense of community, and identifies and meets community needs (Callister & Hobbins-Garbett, 2000; Connors & Seifer, 1997; Solomon Cohen & Milone-Nuzzo, 2001; Whitbourne, Collins, & Skultety, 2001).

A further element of the service learning experience is that a structured assignment requires students to reflect (e.g., in a journal) or produce a product involving their experiences (e.g., a presentation or needs assessment). This contextual-based learning requires the student to reflect, and learn about, the larger political, economic, social, and cultural forces that shape the activities or services provided by the community agencies in addition to examining the human interactions within these contexts. With this approach, the faculty member becomes more of a facilitator than an informant (Connors & Seifer, 1997). As a facilitator, the instructor can aid the student in creating a useful experience, thinking creatively about how to serve the agency, while learning/exploring an area that the student wants to learn more about; all requiring the instructor to be flexible and adaptable to new pedagogical techniques. Service learning projects can involve a variety of community sites (e.g., courts, religious organizations, county programs) and may include activities such as volunteerism, internships, and field experiences. However, these projects are distinguished from volunteerism in that the experience is connected to classroom learning and course requirements, and it is distinguished from field placements and internships in that it involves students in social problems and addressing unmet community needs (Connors & Seifer, 1997; Eyler, Giles, Stenson, & Gray, 2001; Gray, Ondaatje, Fricker, & Geschwind, 1999).

Effects of Service Learning

In a report documenting the effects of service learning on college students and faculty from 1993 to 2000, researchers (Eyler et al., 2001) found the following benefits for students: a) personal outcomes for students – enhanced personal identity and growth, learned leadership, and communication skills; b) social outcomes – positive effect on reducing stereotypes and facilitating racial and cultural understanding, increased sense of social responsibility, and commitment to service; c) learning outcomes – academic learning, application of classroom information to the “real world,” and critical thinking and problem solving increased; and d) career development – the sites often employed students post-graduation. The report also details the benefits to faculty (e.g., increased satisfaction with student learning), costs (e.g., no faculty rewards to do service learning), and impacts, both positive (e.g., positive effects on student retention) and negative (e.g., lack of faculty rewards), on the institution and community agency (e.g., useful service provided to agencies).
Our Human Development and Family Studies Department and Course

The University of Nevada-Reno (UNR) is a land-grant institution with a Fall 2005 graduate and undergraduate student enrollment of 16,336. Based on the Fall 06-Spring 07 academic year data, the Human Development and Family Studies (HDFS) department has seven teaching faculty, approximately 19 graduate majors, 155 undergraduate majors, and 64 minors. Students may choose from three areas of concentration: child and adolescent development, family studies, and adult development and aging. The mission of the HDFS Masters program is to produce graduates who have appropriate information and skills for understanding and working with diverse individuals and families and a background in theory and research methodologies essential for pursuit of further graduate education. Courses, practicum, and internship experiences provide students with knowledge and skills to: 1) work in positions that improve the lives of individuals, families, and their communities; 2) critically evaluate and contribute to the improvement of theory, research, and practice in the field; 3) utilize an accurate understanding of the interaction of the bio-psycho-social elements of human development, with in-depth expertise in at least one developmental stage; and 4) integrate information on the processes of diverse family systems with current issues and conditions affecting families.

Three of our teaching faculty also belong to a PhD Interdisciplinary Social Psychology program, with one faculty member serving as the director. The Interdisciplinary Social Psychology program currently has 34 PhD candidates, and many of these students take our HDFS graduate level courses; the course, which is the focus of this paper, was comprised mostly of doctoral students enrolled in the Interdisciplinary Social Psychology program.

The service learning course

The course, entitled “Program Development and Evaluation,” meets for one 15-week semester. Topics covered in this course via lectures and readings include: program design, needs assessment, types of program evaluation, goal attainment scaling, client satisfaction, qualitative and quantitative methodology, data collection and sampling, multi-method approaches, selecting data collection tools, making sense of evaluation data, dealing with politics and ethics, cost-benefit analysis, and writing effective reports. The instructor provides a foundation for designing a needs assessment and evaluation during the first three weeks of the semester. Concurrently, the students are told to partner with a site in the community, determine how they can provide a service to this site in the form of a needs assessment and multi-year evaluation plan targeting one of the sites’ programs, journal and log their reflections/observations at the site (average time spent at each site is 5 hours per week), attend class weekly, and then prepare a written proposal for the needs assessment and evaluation of a program by the sixth week of instruction. This proposal is a collaborative arrangement between the student and the community site, and has to be a realistic assessment as well as provide a plan which will be implemented in the site’s program. Part I of the evaluation plan is a complete description of the site, program, and stakeholders, etc. Included in this initial part of the plan are the following: relevant literature pertaining to the assessment and plan, conceptual framework guiding the program, overview of the program’s purposes, characteristics of the program’s participants, complete description of each session or program activity. Part II of the evaluation plan contains the following elements: an abstract, program definition/description, identification of the targeted subcomponent of the program, stakeholders, an eco-map of the program that describes relationships utilizing systems theory, activities, evaluation questions, evaluation design, sample description, methodology for evaluation, instrumentation, data analysis, cost-benefit analysis, management plan, and timeline for the evaluation. This portion of the plan is due by week 12 of the course and a formal presentation is made to the class so that they can critique each others’ plans. Feedback is given to each student and then the student modifies the plan and presents it to the community site by the end of the semester. The
needs assessment and evaluation project is one-third of the course grade, with essay exams, article summaries and critiques, and participation comprising the remaining two-thirds of their grade.

Evaluation of the project
From the instructor’s point of view, the service learning project proved to be an extremely valuable pedagogical tool. Students indicated via self-learning reflection rating sheets that they wanted to further pursue the notion of becoming consultants in program design and evaluation as a career upon graduation. They prepared extraordinarily creative, yet realistic evaluation plans that were “doable” within the community agencies. Several students indicated that they were in charge of actually implementing the plan at the site and would be conducting the evaluation long after the class had ended.

It was refreshing to see the students “feel and do” program evaluation as opposed to just reading about it without having the opportunity to apply their knowledge. While most service learning projects typically involve providing some social activity to the site participants (e.g., assisting with a senior hot lunch program and relating their observations to course readings), this particular service learning project was far more intense and required much stronger application of knowledge (e.g., designing an actual program evaluation for the agency that could be implemented to improve the program). Students were able to deliver a product based on active observation. The project also nicely aligns with the HDFS Department’s mission and program assessment learning outcomes.

An evaluation form was given when they turned in their final products which queried how valuable, worthwhile, and pleasant this SL project was in addition to an open space where they could write-in any other comments. On their evaluation sheets, all agreed that it was only when mapping their evaluation and starting the implementation, that they understood the various nuances, mechanisms, and politics of doing program evaluation. Students said that they now clearly understood the contextual and social problems (e.g., soft funding and unpredictable monies for program continuation) facing community agencies. The knowledge learned in class came “alive” in the community, as one student described it. This knowledge could not be taught to them in any deep, meaningful way in a classroom lecture. All students were very excited about the work they were doing and their evaluations of the course were overwhelmingly positive. Although it is conceivable that some students might not be comfortable with being so intensely involved in community programming, this was not the case with any of the graduate students in this particular course. From the service recipient standpoint (i.e., community site), all agencies agreed that they would want to work with students when this course was offered again. Site personnel reported that some of the evaluation plans created by students were better than they had seen offered by independent consultants. Furthermore, they reported that they had learned more about the how and why of conducting an evaluation from mentoring the students. The fact that the agencies invited the students (in all cases) to continue to work with them after the class had ended is indicative of their enthusiasm for the service learning experience.

Challenges to utilizing service learning
The service learning approach can be a positive experience for faculty, students, and community partners alike. However, implementing this approach is not without its concomitant challenges, including: 1) the time needed to monitor service learning versus the standard lecture; 2) the typical lack of reward given to faculty for undertaking intensive teaching experiences; 3) fitting the experience into a single semester, if that is the constraint imposed on the course; 4) limited institutional support for faculty who want to do something innovative instead of traditional (e.g., standard lectures); and 5) negotiation of the politics between the institution and the community sites. Student challenges, which have been identified in the literature (Eyler et al., 2001), include: 1) being insufficiently prepared with information in the classroom to support the field project; 2) feeling uncomfortable in some community settings; 3) limited timing for the project to be completed by students (one semester versus multiple semesters); 4) intra-group conflict between students, which is typical in some
service learning projects; and 5) feeling powerless in negotiating the politics of the community agency.

Issues for the community service recipients that have been identified in the literature include: 1) the timeline of student experience is not compatible with organizational goals and tasks; 2) discomfort in reporting problems with students to the instructors; 3) providing valuable experiences for students is difficult when a community site is unprepared; and 4) little control of how the service learning experience is carried out, because the instructor and the institution are perceived as being in charge. The point in acknowledging the challenges is that an instructor needs to think about these issues and develop strategies to solve them before the experience is designed. For an excellent review of the issues involved in service learning, see Eyler et al. (2001). These researchers provide a comprehensive report summarizing national data on the effects of service learning across projects that were conducted between 1993 and 2000.

We have provided a model of service learning that departs from typical service learning activities by including a much more intense, real-world evaluation project, with a product-focus, as part of a graduate course in HDFS. While the literature documents the benefits of any type of service learning experience, this course offers product-based strategies that could be adapted for use with many other courses. The full power of the “learning by doing” method resulting in scholarly learning was realized when the graduate students were held accountable for producing a realistic evaluation plan that could be implemented as part of a targeted program within a community agency. We believe that pedagogical techniques, such as the product-based service learning project that we have described, are essential in the training of future professionals. This is the ultimate goal of many programs and institutions—producing competent, well-rounded, professionals who have a sense of commitment to society.

References


Many of us learn by watching others. We also learn by doing. I think these two sentences sum up the value of peer observations. This is a technique that I am not always consciously thrusting onto my students, but it nevertheless occurs quite frequently. I teach in a science lab and ask my students to critically review anonymous work from other students in the same second-year class. They find this very enlightening as they are effectively viewing the diversity within the class through the instructor’s lens. In a different senior two-semester class, I ask the new students to attend the final oral presentations of the senior students. They watch how others present familiar material (the new students have also done the same experiment), and know that they will present another experiment the following semester. This exercise gives the new students a chance to reinforce or reject presentation techniques.

Moving closer to the instructional realm, the participants in Instructional Skills Workshops (ISW Network, 2007) spend more than half of their time analyzing the mini-lessons of their co-participants in a non-expert atmosphere. It proves to be a very powerful way for many adults to learn and to develop their own techniques.

In this paper, I wish to relate our experiences with two programs that we currently offer for instructional development. Neither program is a new concept created at this institution, but in the interests of promoting peer observation, they may be helpful to others who wish to construct their own ideas. These two ideas, along with many others, have been brought to our attention by the electronic newsletter, Tomorrow’s Professor (Reis, 2007).

Teaching Squares

Anne Wessely from St. Louis Community College is credited with the creation of Teaching Squares.
(Rhem, 2004). Briefly, four instructors agree to work together over the course of a term. Each instructor visits one or two classes given by the other instructors in their scheduled courses. Only one observer is present at a time, and each visit is followed-up within a few days, by a one-on-one discussion - often over coffee. The intention is that all discussions will be from the point of view of the observer’s advantage. In other words, the observer identifies which teaching techniques work and which do not by watching an undergraduate audience react to the class, instructor, etc. The original concept is emphatic about avoiding the critical approach of a peer evaluation.

We have offered this program since January 2005 to instructors on campus. We have had some forty instructors from a wide variety of disciplines participate. Most participants have been pre-tenure faculty with several years of experience, or experienced instructors in non tenure-track positions. In addition, there have been three graduate students and five tenured faculty members. About 60% of these volunteers are female, but to draw a meaningful conclusion to this statement, a full analysis of disciplines and gender balance is needed. This will be done once the total numbers have increased. Classes have been in every form imaginable – large undergraduate classes, small graduate seminars or workshops, laboratories, problem-based learning groups, etc.

My role has been that of administrator. Before the term begins, I am responsible for advertising and holding information sessions. I now find that many who sign up do so by recommendation, but I still do explain, in detail, the depth of commitment of time and effort. In the current climate, time is viewed as a very precious commodity. A distinct advantage of this particular program is that there is a relatively low demand on a participant’s scheduled time. Typically, each observation takes 60-90 minutes, with a 30-minute discussion scheduled a few days later. For a group of three undergoing two cycles of observations, that amounts to 4-6 hours of observation and 4 hours of discussion for each participant.

Once I have a commitment, I ask for a copy of the volunteer’s average weekly schedule. I find that arranging the groups is the most challenging task to administer. Typically, the compatibility of schedules often proves to be the limiting factor in creating the groups. Other criteria that I employ include diversity of discipline and social connectivity. There is generally a feeling of reluctance to work in a group of colleagues within the same discipline. Some attribute this to an air of departmental distrust; others find that the expected familiarity with the course content a distraction. On the occasions when friends have joined the program, there has been a preference to work in separate groups. For many of the above reasons, we tend to run triangles rather than squares. The consequence is that the number of observations is likely to be less, but conversely, it makes the chance of a second cycle within the same term more appealing. This amounts to a trade of less variety with perhaps more depth in the observations.

The next step is for the group/triangle to meet with the administrator. Taking time for personal introductions, and describing the course is important. Naturally, syllabi are exchanged, but it is useful to understand why each participant has chosen to join the program, while they are teaching this particular course. It is at this time that we discuss the planned irregular perturbations of the weekly schedules and I explain the framework (Figure 1).

The bulk of the meeting is devoted to creating a robust agreement of confidentiality. It is important to recognize that all groups develop their own persona and will emphasize different themes. On several occasions, a need for this discussion has not been perceived, so I usually present a few items that could be considered (included below). Although I am unaware whether we have had a major breakdown of confidentiality, it is very clear that the ground rules for the post-observation discussions must be clarified. In contrast to the original concept of teaching squares, some participants do want a degree of evaluation included. As the administrator, I try to explain the advantages of avoiding criticism, but some groups determine that they prefer to treat this as a mock-tenure evaluation, or would like to have written comments from peer observers to include in their teaching dossiers. The group is intended to be self-directing, so I remain the impartial administrator but ensure that everyone receives a written version of the final agreement.
Confidentiality items related to the group atmosphere:

• to support one another in a collegial fashion with respectful, constructive comments based on the observer’s experience in the class;
• to have a preliminary communication prior to an observation, to set the context of the forthcoming class;
• to be free to ask for specific and focused feedback;
• to not allow future objectivity to be compromised by this teaching squares experience; and
• to be able to modify this agreement by mutual consent anytime.

Confidentiality items related to the process:

• to confine specific details of an observation to the ensuing one-on-one discussion;
• to provide clear and constructive feedback in a timely fashion – normally within a week. This may be either oral or written if requested, but it will remain an informal document;
• to be able to use the ideas generated in discussions beyond the boundaries of this group, but with no names or identifying labels; and
• to translate teaching ideas into how it might affect the observer’s teaching.

After this meeting, I present the group with a schedule describing the week in which each observation
should take place. The refining of the dates is left to the individuals. I encourage them to have a brief pre-observation communication by phone or email - unlike the post-observation meeting which is strongly recommended to be face-to-face.

Apart from checking with the group collectively by email, I leave them alone to run through their one or two cycles of observations. I arrange a meeting at the end of term in a social environment, such as over a hosted lunch. It is heart-warming to hear the level of constructive discussion around teaching issues. Many instances of positive reinforcement are cited and the overall results have been sufficiently inspiring as to encourage participation in a new group in a subsequent term. Some groups have retained cohesion beyond that term and the conversations have often moved towards building a partnership for a scholarly activity in teaching. A final social meeting is arranged so that parallel groups can meet and exchange ideas, as well as have a senior university administrator present a certificate of participation. This informal ceremony has proved to be very useful advertising for future groups.

Lecture Club

A variation of this type of observational learning is described by lecture clubs (Sommer & Sommer, 2006). In the summer of 2007, we ran a pilot version of this program (Secanell, 2007). On six occasions, a group of five graduate students and I visited an undergraduate class at the same time. Each visit was arranged by the administrator in advance with an exemplary instructor. Prior to the first visit, we met to discuss our confidentiality agreement and also to have a practice observation. We viewed a ten-minute video clip of an instructor teaching, recording our notes individually. We followed this with a discussion of what we had seen and how the techniques might apply to our own disciplines. We then reviewed the same video clip to check on the accuracy of details. Although this is a poor mimic of a true observation, it did give us a chance to hear what points each participant noted, and how they were expressed in the discussion.

A few days after each classroom visit (a moderate interval of 3-5 days was preferred) we met for a one-hour discussion. The instructor was not present at this debrief, and the facilitator’s (administrator’s) role was to provoke the discussion with “what if?” and “how would you do that?” questions. Again, the atmosphere is intended to be non-judgmental and peer- rather than expert-based. The cycle continued throughout the term, using different instructors and different disciplines.

I anticipated that the lecture club would appeal more to graduate students, who most typically do not teach in a setting that is as intense as a formal lecture, and might therefore feel less likely to join teaching squares, which would require them to be observed. Participation in the lecture club could be viewed as less threatening for new instructors, and as observers, they can adopt a passive role. Surprisingly, half of the participants in the lecture club in Spring 2008 were faculty (one tenure, one pre-tenure, and one sessional). More details will be presented in a forthcoming presentation (Berry & Korpan, 2008).

Summary

This article is intended to describe the mechanical proceedings of facilitating groups for peer observation. It will be evident from the above descriptions that the strength of the concept is that each group develops its own agenda and outcomes. Better learning takes place when the details can be developed by each group using a scaffold provided for them.

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Section III

Assessment
Program-Level Assessment of Learning Outcomes in a Faculty Certificate Program on the Scholarship of Teaching and Learning

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Introduction

On an international scale, higher education reform is having a profound impact on organizations and institutions, where there are now mandates and requirements to implement explicit learning outcomes and assessment policies for all undergraduate curricula (Bresciani, 2006; Hubball & Burt, 2004; Hubball & Burt, 2007). Program-level learning outcomes are a central component of learning-centred curricula and inform students what they can expect to achieve from a program of study so that they may organise their time and efforts, and prepare for assessments. They also connect segments of a curriculum, thus enhancing transferability of student learning, communicate curriculum/program goals in a meaningful way to a broader community, help to determine the extent to which learning has been accomplished, and guide faculty and administrators (within resource constraints), in part, to determine program(s) of study, course objectives, appropriate learning experiences, and assessment and program evaluation strategies (Barab & Duffy, 2000; Hubball & Gold, 2007). This paper highlights program-level assessment of learning outcomes in an 8-month Faculty Certificate Program (UBC-FCP) on the scholarship of teaching and learning (SoTL) at the University of British Columbia (UBC).

Program Context

The UBC-FCP on SoTL began in 1998. UBC, Canadian, and International faculty members participated in the program to investigate critical curriculum and pedagogical issues within their department (e.g., curriculum re-design, evaluation of curricula, PBL, staff development, web-based learning), while some faculty members embark on this program for personal reasons to improve course design, teaching, learning strategies, and assessment practices. The UBC-FCP has graduated nine multidisciplinary faculty cohorts since 1999. UBC President Stephen Toope awards the Certificates to graduating faculty at Green College in May following completion of the program. Faculty graduates include national and international

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teaching award winners, CRC’s, full professors, tenured faculty, tenure-track faculty and instructors from across UBC campus (Hubball & Poole, 2004; Hubball, Pratt, & Collins, 2005; Hubball & Burt, 2006; Hubball & Albon, 2007)

The aim of the UBC-FCP is to enhance SoTL in multidisciplinary settings. Essentially, SoTL is an approach to academic work that integrates research, teaching, and learning. The literature differentiates between scholarly approaches to teaching and learning, and the scholarship of teaching and learning (Richlin, 2001; Kreber, 2001; McKinney, 2004). In the context of the UBC-FCP, the following operational definition for SoTL guides curriculum, and teaching and learning processes. Scholarly approaches to teaching and learning refer to on-going professional development, reflection, and initiation of positive changes to curricula and/or pedagogical practices. Taking this concept to the next level of rigour, SoTL refers to the dissemination of practice-driven curricula and/or pedagogical research in peer-review contexts.

Action Research and Program-level Assessment of Learning Outcomes

Action research (AR) methodology is at the very heart of SoTL. In this context, AR was employed to strengthen the underlying theory/rationale for learning experiences within a program, and gain authentic data on which to (cyclically) reflect on the effectiveness of processes and outcomes (Altrichter, Psch, & Somekh, 1993; Hubball & Clarke, 2004; Hubball & Levy, 2004; Wolfe, Hill, & Evers, 2006). Action research methodology was employed to address four specific research questions pertaining to program-level assessment of learning outcomes:

1) What are the critical factors when developing program-level learning outcomes?

The following data were gathered to address the above research questions: a critical review of faculty members’ SoTL portfolios; program literature sources from the website and curriculum materials; cohort members’ program evaluation feedback pertaining to the quality of program, teaching and learning experiences; focus group interviews with cohort members’ video footage of research presentations; and instructors’ debrief and review of lecture notes.

Results

1) What are the critical factors when developing program-level learning outcomes?

The following framework and critical elements guided the development and implementation of program-level learning outcomes:

Learning context strategies. This refers to a comprehensive needs assessment which was conducted by consulting with various sources (e.g., a focus group of UBC faculty members from various academic ranks and disciplines who were committed to the SoTL and willing to participate in a pilot-program) to guide the development of program-level learning outcomes.

Planning strategies. This refers to the logistics of program scheduling, as well as the development of explicit core program-level learning outcomes; i.e., in the context of the SoTL, UBC-FCP faculty will demonstrate: 1) the acquisition, application and integration of SoTL knowledge; 2) research skills, including the ability to define problems and access, retrieve and evaluate SoTL information; 3) a critically reflective practice and problem-solving abilities with respect to SoTL; 4) responsible use of ethical principles; and 5) effective leadership, communication, and interpersonal skills (Table 1 shows how specific learning outcomes relate to UBC-FCP learning experiences).
Program-level Assessment of Learning Outcomes in a Faculty Certificate Program

**Assessment strategies.** This refers to the implementation of a wide range of assessment methods (e.g., self-reflection, peer-feedback, instructor feedback, and external peer-review) to assess program-level learning outcomes.

**Programming strategies.** Depending on Prior Learning Assessment (PLA), each faculty participant in this FCP context follows an individual learning plan which combines theory, practice, and critical reflection. Guided by the program-level learning outcomes, faculty participants have on-line weekly assignments, as well as a meeting each month, and at different locations on campus to engage in a wide range of independent and/or collaborative learning experiences.

2) To what extent are learning outcomes reflected in program learning experiences?

A faculty member’s SoTL portfolio is a compilation assignment used to demonstrate how program-level learning outcomes (listed above) feature in a wide range of authentic learning experiences. Table 1 captures the range of UBC-FCP learning experiences that are employed to address the five UBC-FCP program-level learning outcomes.

3) When and how do faculty members demonstrate learning outcomes in this context?

For example, feedback on a faculty member’s teach-

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**Table 1**

<table>
<thead>
<tr>
<th>UBC-FCP Learning Experiences and Program-level Learning Outcomes</th>
<th>Evidence of Learning in UBC-FCP</th>
</tr>
</thead>
<tbody>
<tr>
<td>External Peer-review and Record of Progress (1-5)</td>
<td>Through question and answer format, the external assessor examines the candidate’s understanding of SoTL concepts and to what extent these have been applied in classroom and curricula practices.</td>
</tr>
<tr>
<td>Teaching Dossier (1-5)</td>
<td>E-portfolio/Written evidence of teaching philosophy, as well as contributions, impact, and assessment of teaching practices. Integration of SoTL literature sources within text.</td>
</tr>
<tr>
<td>Teaching Log (3,5)</td>
<td>Weekly written evidence of teaching reflections pertaining to what has been learned, analysis summary, and implications for further classroom practices and further learning.</td>
</tr>
<tr>
<td>Learning-centred Course Syllabus (1,4,5)</td>
<td>Documentation of clearly presented syllabi with course learning outcomes and integrated assessment, evaluation, broader curriculum concepts, references, and tentative schedule/course format.</td>
</tr>
<tr>
<td>Action Research: Peer-Review of Teaching Practices (1-5)</td>
<td>Written documentation of lecture planning, peer-review criteria, observer’s feedback, and a reflective statement pertaining to what has been learned, analysis summary, and implications for further classroom practices and further learning.</td>
</tr>
<tr>
<td>SoTL Interview (2-5)</td>
<td>Written evidence of research questions, data responses, and a reflective statement pertaining to what has been learned, analysis summary, and implications for classroom practices and further learning.</td>
</tr>
<tr>
<td>Self-Directed Learning Project (1-5)</td>
<td>Written evidence of a publishable paper/SoTL proposal for conducting classroom/curriculum research. Includes literature review, research questions, research methodology, implications for study results, references, and dissemination plans.</td>
</tr>
<tr>
<td>Pedagogical Research Presentation (1-5)</td>
<td>Visual and written evidence of conference presentation pertaining to a SoTL research project. Includes abstract, literature review, research questions, research methodology, implications for study results, and references.</td>
</tr>
</tbody>
</table>
ing dossier is provided at four key incremental stages throughout the 8-month program. Further, an external review takes place at the 40 and 60 percent (informal formative feedback provided toward each SoTL assignment within the faculty member’s portfolio) stages of the program, as well as during the final month (formal summative process) of the 8-month program. In the context of a wide range of UBC-FCP learning experiences, this not only allows for progressive development of each assignment within the SoTL portfolio, it also staggers the completion deadlines for overall SoTL assignments and demonstration of program-level learning outcomes.

4) What are the overall reflections for implementation of program-level learning outcomes in this context?

The flexibility, quantity, and quality of overall program-level learning outcomes are critical issues when shaping teaching, learning, and assessment experiences. In many cases, learning experiences integrated multiple and overlapping program-level learning outcomes. This was not viewed as excessive, redundant, or repetitive, but rather an indication that program-level learning outcomes can be interpreted in different ways and demonstrated in many authentic ways. Too many program-level learning outcomes, however, can create surface learning rather than deep and meaningful learning. Not all faculty members were aware of the implicit connections between program-level learning outcomes and program experiences. Furthermore, a number of faculty members were unsure about the priority of program-level learning outcomes over personal and alternative outcomes. Thus, the development and implementation of program-level learning outcomes is not an exact science. Furthermore, programs involve complex, multifaceted, and contextually-bound program realities and are influenced by many people at various levels of implementation.

Conclusion

Universities and academic units face considerable challenges in developing, adopting, and implementing program-level learning outcomes within university curricula. Despite well-coordinated, innovative, and strategic attempts to implement program-level learning outcomes, they are unlikely to fully occur as intended due to the highly complex world of curriculum practice.

This article provides a flexible and iterative framework to examine whether and how program-level learning outcomes are implemented in a faculty certificate program. Data from this study suggest that educational leadership, learning context, planning, programming and assessment processes were critical factors in the development and implementation of program-level learning outcomes.

References


A Research-Based Approach to Participation Assessment: Evolving Beyond Problems to Possibilities

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This research study, undertaken across a department, presents the results of two focus groups in which twenty undergraduate students offer their views on participation assessment and its underlying goal of student engagement. Barriers to fairly assessing participation are discussed along with their solutions. Assessing participation, though, isn’t just about identifying and then dealing with problems, as necessary as that is. It’s also about fostering and acknowledging personal and academic growth on the part of the student and, as strange as this may sound, on the part of the professor.

Introduction

This paper uses a fundamental pedagogical principle – learner centredness – to address two issues that continue to vex most post-secondary educators: how to assess student participation and, perhaps more tellingly, how to achieve its underlying goal of student engagement. All the conclusions were derived from our School’s students during two 90-minute focus groups. The first focus group consisted of 11 participants, all third- or fourth-year students; the second group consisted of nine participants, all in second year.

Directly asking students for their views on these two issues seemed like a logical approach since both issues intimately involve the students themselves. It also seemed like a logical approach since faculty efforts to address these issues have so often been impeded by factors that are either beyond their control, such as increasingly large and anonymous
classes or perceived as their own inherent failings, such as personal bias.

The study was originally intended for a specific, somewhat limited, audience: our faculty colleagues in the School of Hospitality and Tourism Management at University of Guelph. We wanted to know our students better and to share among ourselves ways of assessing participation fairly and engaging students fully. However, we think the insights we achieved on all counts may resonate with students and their teachers within a broad range of disciplines.

What is Participation?

Before participation can be assessed, it has to be defined. As the literature reveals, however, defining participation is not a straightforward task. It’s hard to imagine any educator disagreeing with the notion that participation involves speaking up, “initiating questions, answers and giving comments” (Kao & Gansneder, 1995 p. 136). Some, though, might balk at accepting the broader view offered by Forster, Taylor, and Davis (2002), who credit being open to others’ ideas and adaptable as elements of participation. And any educator who accepts the latter’s definition would probably be open to (if not enthusiastic about) its logical conclusion: full participation may involve complete silence (Lave & Wenger, 1991).

Our focus group participants expressed a similar range of views as they answered the first question posed to them: “How do you define participation?” Two distinct categories of response emerged.

The second-year students defined participation as having “a face to face” component. Participation, for them, meant actively speaking up in class. Other forms of participation that they had experienced, such as written comments submitted after class or electronic participation, based on e-mail or chatting, were unanimously rejected by this group. One student characterized it as “not really participation because you are behind a mask of a computer.” Another explained her rejection on this basis: “you are communicating, but you are not being social.”

In contrast, the more senior students offered a much broader definition. Participation, which one defined as “active involvement,” could take different forms, which do not necessarily involve speaking up in class: written comments sent to the professor, weekly quizzes, and even attendance were all cited as acceptable forms of participation. The student who argued that attendance could be a legitimate form of participation explained that “actively listening is part of it.” Some students simply are not comfortable talking in front of others, but they come to class regularly and are actively engaged in the material. This engagement should be acknowledged. In contrast, those students who attend infrequently but speak expansively when they do show up should not be rewarded with high participation grades. Their lack of attendance indicates a lack of commitment to the course.

What are the Benefits of Participation?

To assess participation, faculty need clearly-defined benchmarks or goals. The ensuing paragraphs essentially explain the goals of participation from the students’ perspective.

Considerable overlap existed between the two focus groups’ responses to this question. The benefits cited included the following: motivate students to come to class prepared; encourage attendance; foster understanding of and interest in the material; help students remember the material; and help students stay focused during class discussions. For the most part, these responses – somewhat predictably – centre on increased learning of the material.

The benefits of classroom participation also extend to the work world – participation makes students known to faculty, who can then be approached for a job reference; and it hones speaking skills, which are useful in the workplace.

Another benefit that was discussed – and, in fact, emphasized – by the second-year group involved self development and sense of community. No students actually used those terms to describe the benefits, but participation, which they had earlier de-
fined as actively speaking up in class, was important insofar as it helped “you learn a lot about yourself.” Part of that learning involved “the process of being comfortable (with yourself) in the class;” gaining “insight about yourself” and “self confidence in your own ability.”

Participation also leads to a better understanding of others. Being exposed to “many perspectives and life experiences” was seen as essential in terms of developing one’s social skills. And, as one student declared, “You need to learn how to participate…[because]…you are here to learn social skills, not only the actual knowledge.”

Several second-year students also emphasized the important role that participation plays in making them feel at home in the unfamiliar and somewhat daunting environment of first-year university. One student summarized this sentiment: “It’s a little scary to have a participation mark, because you don’t know the people yet. But at the same time…it’s good to have participation just so people can get to know each other and start to feel comfortable in engaging themselves.” Another remarked on how participation had allowed her to reinvent her persona from “[the] shy kid in high school” to someone who “at the end [knew] almost everybody and [was] very comfortable to talk with people.”

Lack of clear participation assessment criteria. Typically the criteria had not been clearly explained, and because every professor seemed to approach assessment differently, students were left wondering how they were being graded and whether or not the criteria themselves were fair (eg. did they take into account the course objectives, the students’ different learning styles, personalities, and English language ability?).

Quantity versus quality. Students expressed frustration over irrelevant, repetitious discussion that occurred when their classmates tried to fill a quota of comments in order to receive high participation grades. One student, however, commented that “quantity is also important;” in other words, to receive the maximum benefit from participation, one has to participate a lot.

A setting that isn’t appropriate. In some classes, participation is inappropriate and shouldn’t be assessed: classes where students cannot easily see and hear each other because of the physical set up (eg. fixed seating in rows) or the number of students in the room; and classes that deal primarily with factual information (as opposed to philosophical, discussion-based courses).

The professor’s ability/desire to assess fairly and objectively. This was, by far, the largest concern in both groups. Students expressed doubt that the professor was assessing fairly when he or she demonstrated the following behaviours or attitudes:

- seemed in a hurry and focused on eliciting “gunfire responses” (rather than facilitating a discussion) or, alternatively, allowed discussions to go on too long;
- repeatedly asked the same student(s) while ignoring others;
- denigrated student comments;
- provided no response to student comments;
- did nothing to alleviate student fears of being embarrassed or being “wrong;” and
- did not learn students’ names, use name cards, or take attendance.

How is Participation Assessment Viewed by Students?

While all 20 students agreed that participation is important and needs to be a major part of their education, they had conflicting views on participation assessment: eight of the nine students in the second-year group said that they would participate even if no grade were assigned; no one seemed particularly attached to the notion that they had to be rated on their participation. However, all 11 students from the more senior year emphatically agreed with the statement, “If [a professor] expects participation, there should be a grade attached to it.”

In any case, both groups expressed concern about participation assessment based on the following issues:
One student summed up a recurring sentiment when he said, “so much comes down to the Prof.”

**Discussion**

Many faculty include a participation grade in their courses as a way of promoting student engagement. Assessing this engagement, however, is difficult. It’s hard, after all, in the present climate of increasing class size and faculty workload to monitor, reflect upon, and assign a numerical value to individual student contributions. An additional problem lies in the discrepancy between students’ expectations of their grades and what the faculty member believes they deserve (Gilson, 1994; Melvin 1988).

Information gleaned from the two focus groups might be helpful in addressing these concerns. For example, the following student suggestions are concrete and relatively straightforward for faculty to implement:

- Explain the evaluation criteria and the assessment method at the start of the course. This doesn’t just ensure that the students understand how their participation is being measured; it also ensures that the professor has thought about it thoroughly and knows from the outset exactly what it involves.
- Use more than one measure to assess participation.
- Learn the students’ names or use name cards.

Most of the student comments, though, were not centred on the nuts and bolts issue of how to assess participation. They centred on the more delicate minefield of faculty personalities and capabilities. In short, the students openly questioned their professors’ credibility in terms of being able to assess participation. Building up (or in a very few cases, maintaining) this credibility might require faculty to work on the following classroom management skills:

**Tolerate.** Faculty must recognize that “quality” and “quantity” are not necessarily antithetical. The path leading to insightful, valuable comments may be a winding one, full of vaguely expressed ideas and questionable logic. Tolerating – and even encouraging – the latter is sometimes the only way to reach those valuable comments.

**Moderate.** Faculty must balance the above objective with an efficient use of class time. That means being able to moderate a complex discussion so that no one in the room questions that course objectives are being met, that time is being spent well, and that everyone has an equal chance to have their say and be fairly assessed.

**Advocate.** Making sure that everyone in the class “has an equal chance to have their say” isn’t simply a matter of acknowledging everyone who raises their hand. Faculty may need to advocate on behalf of those students who do have something to say, but are reluctant to enter into the fray. Students, who are quiet, shy, and whose first language is not the language of instruction, may be part of this group who do want to participate, but who need active encouragement from the professor. And last, as strange as this may sound, faculty may also need to advocate on their own behalf. Focus group participants used a recurring adjective to describe those professors who fostered an engaged classroom climate: passionate. Faculty who showed a passion for the material and for teaching it, were more likely to be perceived as credible and more likely to foster a climate of engagement. In other words, students would not only participate more in this professor’s class; they would also be more likely to accept as valid his or her assessment of their participation.

**Conclusion**

Faculty often feel that the only way to have student involvement is to assign a grade to that involvement. Our focus group findings, though, show that this is not necessarily the case. The second-year students sent out a clear message: the goal of personal growth is a powerful motivator for their engagement. Therefore, perhaps faculty do not need to assess participa-
tion in order to get participation. Perhaps what they need, instead, is to create a classroom environment that fosters the student goals of self and social growth. The participation that ideally results from this environment would reflect the academic and personal growth of both student and faculty member.

References


As well as content, what are we teaching our students and what opportunities can we take to influence their current and future success as graduate students, professionals, and contributors to a wider society? One thing we can teach them is a sense of professionalism; however, that is defined in different disciplines and varying career paths. By substituting for the often vaguely-defined “participation” component of a grade a “professionalism” mark, a place is created for students to learn and exercise mature approaches to their work and their roles within the university. Presented as a proactive and positive element within the student’s control, instead of a punitive grade component, the professionalism mark can result in dramatic changes in class behaviour, participation, attitudes, accountability, and self-motivation. The following scenarios outline different situations, which may ring true to a number of instructors and which professionalism marks might address.

Scenario 1

Over the course of one’s teaching career, there are many students who stand out. For many instructors, however, the ones we remember best fall into one of two categories: the very good ones and the very bad ones. You have probably taught some combination of these two very different students: Cindy and Josh.

Cindy is always on time for class, often early, so she can get herself settled and ready to work. In class, she shows exemplary engagement and responsibility: she asks appropriate questions always aimed at clarifying a concept or stimulating a class discussion. She is respectful of the other students, and sits in the front row, so she will not be distracted. If she does miss class, she offers a doctor’s note, even if one is not required. Her work is always handed in on time and is well-prepared. When she visits the instructor during office hours, she is prepared with questions and ideas for papers or future projects. She is happy with whatever grades she receives, and if she does poorly on an assignment or a test, she blames herself for not managing her time or energy. You think she would make an ideal graduate student due to her work ethic, engagement, and sense of responsibility.

Josh, however, is very different. He rarely comes to class, and when he does, he sits in the back row. When he is not surfing the internet on his com-
puter or nodding off, he is asking what will be on the test (even if we have already discussed this), or disrupting class by his late arrival. He hands in papers with huge fonts, weird margins and a lot of typographical errors. His work is always late and accompanied by lame excuses. He will typically do things like take out 2-hour loan material for two days, choosing to pay the fine rather than return the material for other students’ use. He only submits some assignments for the course, doing the minimum amount of work to pass. When he gets a low grade, he complains. Although you imagine he will not make it through his undergraduate years, he always seems to come back. In short, he tries to get away with every trick in the book (and often succeeds).

Although we would like to be as understanding and compassionate with all of our students as we can, there is no question that we have all taught a Josh and a Cindy at some time in our careers. The conundrum appears when we put these two students into sharper focus. Cindy tends to have test anxiety and often freezes up in exams. Also, her writing skills could be stronger. Josh, on the other hand, always seems to pull things together for tests and deadlines. You suspect that he has plagiarized from the internet, but you haven't been able to prove it. Both students therefore end up with a B- in your course. To you, as an instructor, this seems grossly unfair. You often wish there was a way of reflecting in the final grade the true gestalt of each person – a way to reflect the negative aspects of one and the very promising aspects of the other.

Scenario 2

You have allotted a certain amount of your syllabus to participation marks. This prompts one of your more garrulous students to constantly sidetrack your class with frivolous questions, comments, and non sequiturs. You want to encourage all of your students to contribute, so you do not want to appear as though you’re trying to censure this student. Yet, you feel she is mostly trying to make up points in the area of participation. You don’t want to give her full points for this component, but you cannot deny that she has participated. At the same time, another student is brilliant and has many interesting ideas, all of which she puts into her papers. She is painfully shy but is always in class, clearly engaged with the material. Yet, she does not participate in the traditional sense. Other students who simply show up for class and do not seem particularly engaged wonder why they do not get full marks for participation, as they think this actually means attendance.

In general, your students have started to fall into bad habits. They arrive late for class and sometimes talk in the back row. They work on their day planners, other coursework, or surf the internet during class, asking questions which show they have not been listening to class discussion or preparing the material. Sometimes they hand in work that has not been proofread, or they do not show up for office hour appointments that they have made. They email only moments before an exam to say they were too ill to write it, or they forget deadlines entirely. You may feel on the whole that your students are positive, pleasant, and collegial, and are not intentionally trying to be disruptive. Sometimes they just do not realize what they should or should not do in certain situations. They seem to you to be somewhat oblivious. You wonder how they will hold down a job. Regardless of how high their marks might be, you realize that it is the attitudes and behaviours of these students that will make or break their chances at graduate school or a successful career.

The “Real World” of Music

I was dissatisfied with the traditional “participation” mark because I really did not know what it meant, and because I wanted to teach my students the skills I thought were just as important as the course material.

I teach music history mostly to majors in a Bachelor of Music program at Mount Allison University, and I have to admit that the idea for this component was inspired by professional practices in the world of classical music performance. If someone has a professional job as a singer or instrumentalist and he arrives five minutes late for a rehearsal or performance, he might literally never work again. If a per-
former goes into a recording studio not having learned her part, she may never be engaged again. There are codes of conduct, preparedness, and accountability – professionalism – the difference between making it as a musician and failing. Every disciplinary field and its expectations of personal skills are different, but on reflection most instructors would agree that some aspect of professionalism ranks high in the indicators of success for their area of interest.

Although there are many ways in which professionalism could be measured or areas in which it should apply, I came up with the following list of ways that students can earn marks for professionalism. I do not list these in my syllabus as commandments, but engage the students at the beginning of the course in a discussion of these kinds of behaviours:

- Attend every class unless illness prevents you.
- If you are going to miss class, email your instructors in advance to let them know.
- Be on time for every class – be in your seat and ready to work when class starts.
- In class, pay attention to what is going on, whether during a lecture or discussion.
- Read ahead in the syllabus and ask questions about upcoming assignments in good time.
- Read all of the instructions for assignments and tests before formulating your questions about them.
- Hand in every assignment on time or early.
- Make sure your written assignments are typed, formatted, and presented in a professional way (correct spelling and grammar, no typos, stapled, double-spaced).
- Think of questions and comments that would help to generate class discussion and engage other students.
- Sit somewhere you can be seen and heard clearly by other students and the instructor.
- Plan your time so that you can use library and reserve materials, computers, and printers well in advance of deadlines.
- Always show attentiveness and respect to the comments of other students.
- Actively try to find ways to make the course a better experience for everyone.

Although students can earn points throughout the semester, they can also lose many through one profoundly unprofessional activity. I take heart that there are fewer ways to lose professionalism marks:

- Miss class or arrive late for class.
- Talk to others, sleep, eat, or give your attention to other work or activities during class.
- Hand in material late.
- Hand in assignments that have not been adequately researched, written, proofread, printed, or bound.
- Ask questions that are answered by the syllabus.
- Ask questions that suggest your only interest is in the grade.
- Treat the instructor or other students with a lack of respect (talking while they are talking, ignoring their comments or questions, or asking the same questions repeatedly).
- Hoard reserve or other materials that need to be used by other students.
- Fail to pull your weight in group work assignments.
- Ask for higher marks before carefully and relentlessly critiquing your own work.

In each one of my syllabi, I include the following paragraph, encapsulating what has just been enumerated:

The component of the grade for professionalism consists of a combination of attendance, appropriate participation in class discussion, conduct and presentation of work, and preparedness for class discussion (i.e. it is obvious the student has completed assigned listening and reading).
Implementation

I assign 15% of the grade to professionalism, which means that it constitutes enough of the overall grade to make students take notice. I first introduced it during the winter term, the second half of a year-long core course. Although it took some of the students by surprise, it immediately changed the tenor of class time for the better. Since then I have used it in every course (5 per year, for 3 years). Because it is such a substantial part of the grade, implementing the component is not for the faint hearted. Losing a great number of marks in this area can mean the difference between passing and failing a course. Any student of the “Josh” variety will contest this grade, which is why it requires careful and consistent documentation. For each class, I keep a sheet of paper with the date, course, and an attendance roster organized into a table. Beside each name are columns to record lateness, absenteeism, inappropriate behaviour, and participation. A quick check mark in one or another column as a student enters the class late or when another offers a great comment makes it easy to document without distracting me too much from the class. A larger spreadsheet with all student names and dates and short symbols (“L” for late, or “++” for participation) makes the system easy to use when it is time to calculate final grades. Although it only takes me seconds to record these details in class, it takes about 30 minutes at the end of term to collate and calculate the grades. Students are free to make appointments to go over their professionalism grades, but I have found few who feel the need to do this.

I was concerned that this approach would seem too controlling to the students, interfering with their rights as human beings to attend class or not, and participate or not, according to their own needs. I also thought that the students who lost marks in this area would be confrontational and demand justification for my evaluation of their professionalism. I feared it might make students shut down or refuse to participate. Although I did have a few people who balked at low professionalism marks (which is why documentation is important), I found that most students responded to low marks with surprise – they simply did not realize that they were engaging in the behaviours. This led to some very fruitful discussions as to how they could improve. Students very quickly not only picked up on what I was trying to get at, but started to incorporate it into their way of seeing the educational enterprise. Most of the negative behaviours virtually stopped. I started getting course evaluations back that thanked me for the “professional” way in which I ran the course. Students, who were weak academically, were given a tremendous opportunity to let their hard work and great attitudes go rewarded. I feel that this has made students even more responsive, receptive, and engaged. I have to admit that I rarely have to document any losses in the area of professionalism. However, I do stress that the way in which the concept is addressed — as an opportunity instead of punitively — predicts its success. Also, this is very difficult to achieve in large classes (over 40 students) unless an instructor has teaching assistants who can develop ways to assess professionalism.

Summary

This essay has outlined some concrete ways in which instructors can assess and give feedback to students on aspects of their course professionalism. One of the objectives of university-level teaching is to prepare students for future roles as researchers, graduate students, and professionals in a variety of fields and occupations. Indeed, students and employers alike want university education to prepare them for what we have all affectionately come to call the “real world.” In addition to enhancing the classroom experience for all of your students, teaching and rewarding professionalism adds a component of actual content to your courses that will allow your students to come away from your class with a greater sense of their own place in their community and their world.
Multiple-choice questions are widely used in higher education and have some important advantages over constructed-response test questions. It seems, however, that many teachers underestimate the value of multiple-choice questions, believing them to be useful only for assessing how well students can memorize information, but not for assessing higher-order cognitive skills. Several strategies are presented for generating multiple-choice questions that can effectively assess students’ ability to understand, apply, analyze, and evaluate information.

Introduction

Multiple-choice testing is one of the most commonly used forms of assessment in college and university settings. Compared to constructed-response test questions, such as essays, multiple-choice questions enjoy several important practical advantages. For instance, for a test of a given length, well-chosen multiple-choice questions can provide a broader coverage of course content than constructed-response questions, and moreover, their scoring is generally more statistically reliable. In addition, with large classes, the time and effort required to grade students’ written answers can be enormous. In contrast, the grading of multiple-choice tests is far easier, especially when students have used a response sheet that is scored using an optical scanner.

Despite these substantial advantages, many teachers tend to have quite a low opinion of multiple-choice testing. One major reason for this was brought to me in full force several years ago during a discussion I had with Jenny, an award-winning science teacher. As so often happens when two teachers get together, the conversation soon turned to work-related matters – favourite topics to teach, how to get students to read the assigned readings, strategies for generating discussion in the classroom. At one point in the conversation, I mentioned my then new-found interest in multiple-choice testing and was about to tell Jenny about a research project that I was just getting off the ground. However, before I could even get started, she cut me off at the knees. “Multiple-
choice? Are you serious? I would never dream of using multiple-choice on my tests! All they are good for is finding out how well students can memorize, and who cares about that?"

At the time, I was quite surprised by Jenny's strong reaction to my mention of multiple-choice testing, but since then I have come to realize that a great many teachers are much like Jenny – that is, they believe that multiple-choice tests are only good for assessing students' ability to memorize, and that they are not useful for assessing higher-order cognitive skills. Research that my students and I have recently carried out at Brock University suggests that this perception is actually quite widespread. In a broad survey of teachers at Brock, we found that about 90% believe that multiple-choice questions are an effective way to assess students' ability to remember information. However, far fewer of them believe that multiple-choice questions can effectively assess students' ability to understand (46%), apply (23%), analyze (59%), and evaluate (16%) information (Anderson & Krathwohl, 2001). Thus, the belief seems to be quite common among university teachers that multiple-choice questions are primarily useful for assessing students' ability to memorize, but not much else.

Although I would certainly agree that multiple-choice questions are an extremely good way to test students' memory, I would also argue that they can do much more than this. Like a number of others who have thoughtfully considered this issue (Haladyna, 1999; Linn & Gronlund, 1995), I believe that multiple-choice questions can indeed be used to assess the higher-level cognitive processes mentioned above – understanding, application, analysis, and evaluation. For the past several years, I have been presenting workshops at colleges and universities across Canada in which I familiarize teachers with strategies for generating multiple-choice questions that will do more than test students' ability to memorize. One such strategy involves taking an existing multiple-choice question that tests memory and "ramping it up" to a higher cognitive level. I will provide here just one example of how this might be done. Consider the following question that might be found in the multiple-choice test bank accompanying an introductory psychology textbook:

**Question 1.** In classical conditioning, what name is given to a stimulus that elicits a particular response even in the absence of any prior training?

A. conditioned stimulus  
B. unconditioned stimulus*  
C. activational stimulus  
D. discriminative stimulus

This question asks students to do nothing more than remember a fact – namely, that an unconditioned stimulus elicits a particular response without any prior training. Note that to answer this question correctly, students do not have to know anything at all about the details of classical conditioning or how it works; by doing nothing more than remembering the definition for unconditioned stimulus, they can answer Question 1 correctly. Indeed, students who cram the night before the test might very well memorize the definition for unconditioned stimulus, answer Question 1 correctly, and then promptly forget the information immediately afterward.

Unfortunately, low-level items like Question 1 are often encountered in test banks, but the good news is that we can use this item as a starting point to generate a question that requires students to have learned something important about classical conditioning. So how might we ramp this "remember" question up to a higher cognitive level? One way would be to require students to demonstrate some understanding of what an unconditioned stimulus is in the context of a situation that they have not previously encountered, like this:

**Question 1-Revised.** Right after a rat smells menthol, it is always given Drug X, which reliably induces substantial water intake. Eventually, the rat drinks water whenever it smells menthol, even when it is not injected with Drug X. In this situation, what is the role of Drug X?
A. conditioned stimulus  
B. unconditioned stimulus*  
C. activational stimulus  
D. discriminative stimulus  

Notice that the four alternatives that are provided have not changed at all, and the correct answer is still alternative B. However, Question 1-Revised requires students to have an understanding of the concepts underlying classical conditioning, and furthermore to be able to classify the role of Drug X in this research setting that they are seeing for the first time. With Question 1-Revised, students who have simply memorized the definition for unconditioned stimulus will be at a loss, while students who have truly learned about classical conditioning and understand how it works will likely be able to answer this question correctly. 

It is also possible to generate questions that assess higher-level cognitive processes by requiring students to read material as part of their course work and then asking multiple-choice questions that depend on their having determined the author’s point of view, bias, values, or intent. To illustrate, let’s consider a question that I have recently used in a psychology course that I teach. In the course, students read How to Think Straight About Psychology, an outstanding book by Keith Stanovich (2007) that provides a thoughtful examination of critical issues in the sciences generally and in psychology in particular. I provide students with study questions that serve as a guide as they do their reading, and in class we touch upon many of the issues that are dealt with in the book. Question 2 is typical of the type of question that I would ask students on a test. Note that, as in the previous example, students have not encountered the particular situation that is presented in the question. 

**Question 2.** According to census data, people are having fewer children nowadays than they did 50 years ago. Your friend Anne tells you that she does not believe this because the young couple who live next door to her are both under 30 and already have four children. If Keith Stanovich were told about this, what might you reasonably expect him to say?  

A. The census data must be wrong.  
B. Anne’s comment illustrates valid probabilistic reasoning.  
C. Anne’s comment illustrates the use of “person-who” statistics.*  
D. The young couple provide an exception that actually serves to prove the rule.  

To answer this question, students must have read and understood Stanovich’s discussion of what he calls “person-who” statistics, which involve the (mis)use of data from a single case to argue against some well-founded statistical conclusion (“How can you say the odds of winning are against you at the casino? I know a person who went to the casino and won $10,000!”). Note also that Question 2 does not simply ask students whether they can recognize the definition of person-who statistics, but rather it requires them to understand the underlying concept. Moreover, it calls on their analytical skills by requiring them to attribute to the author a particular point of view and to apply that point of view to a situation that they have not previously encountered. Thus, Question 2 goes far beyond simply testing students’ ability to remember information that they have encountered in the course. 

A third strategy that I encourage teachers to consider involves the use of interpretive exercises, which are sometimes referred to as item sets (Haldyna, 1992). In an interpretive exercise, students are first presented with novel introductory material, such as a reading, scenario, data set, chart, or map. They must then use the skills that they have developed in the course to answer a series of multiple-choice questions that relate to the introductory material. The following is the introductory information from one of the interpretive exercises that I have used when teaching introductory statistics: 

Madame Clousseau claims to be a psychic – that is, she claims to be able to predict
future events with a level of accuracy that is substantially better than chance. To examine her claim, Professor Jones brings her into his laboratory and tests her under carefully controlled conditions. He tosses a standard, fair coin 300 times and has Madame Clousseau predict what the outcome will be for each toss. He finds that she correctly predicts the outcome for 157 of the tosses. When he carries out the statistical test to analyze the results, Professor Jones lets alpha equal 0.05 and he uses a two-tailed test.

This research scenario, which of course the students have never seen before the test, is followed by a series of four-alternative multiple-choice questions, such as “Which statistical test should Professor Jones use to analyze the data?” and “What would be the critical value(s) for the test statistic?” Note that students can correctly answer these multiple-choice questions only by referring to the introductory information. Moreover, answering correctly is not simply an exercise in fact-finding. Rather, students must be able to understand and interpret what they have read, and they must then call on the statistical skills that they have developed in the course to answer the questions correctly. Thus, this interpretive exercise goes well beyond testing whether students remember facts and concepts that they have encountered in the course, and instead calls on a variety of higher-level cognitive processes.

Generally speaking, interpretive exercises are quite robust because they can be used for testing in a wide variety of disciplines. For instance, a teacher of poetry might have students read a poem for the first time and then answer multiple-choice questions dealing with its form, style, and content. Or a music teacher might have students listen to a recording for the first time and answer multiple-choice questions that involve the identification of vocal and instrumental components as well as elements of form.

I have presented several strategies that can help teachers to generate multiple-choice questions that assess higher-level cognitive processes. I am fully aware, of course, that multiple-choice questions have clear limitations. For instance, they are not at all useful for determining whether students can structure an argument, develop novel ideas, or invent something new. Such abilities are best assessed using other techniques, such as essays, term papers, and projects. Nevertheless, multiple-choice questions can be used on tests to assess higher-level cognitive processes in ways that many teachers seem to overlook. Moreover, some teachers who have underestimated the value of multiple-choice questions may find that they can play quite a useful role in the assessment process. This is especially true for larger classes in which the grading of written answers can involve considerable time and effort.

References


In 2005, the undergraduate advisory committee at the University of Toronto Mississauga found that across all disciplines, writing proficiency was the skill weakness that generated the greatest concern. Students reported that they often found writing tasks intimidating, and suggested that effective feedback and guidance would improve their writing. In response to these findings, the Dean’s office created the writing development initiative. Thirteen departments participated with a wide range of strategies to improve student writing. One successful participant was a first-year undergraduate course in biological anthropology (n=255 students and 7 teaching assistants). We created a writing improvement model that involved defined objectives for teaching assistants and additional contact hours between teaching assistants and students. These measures significantly improved the students’ writing skills. In addition, the intensive training and monitoring of teaching assistants’ grading by the instructor and director of the Robert Gillespie Academic Skills Centre contributed to a reduction in grading disputes. The success of the pilot project led to an extension of the writing development initiative for the 2006-2007 academic year.

In an interdisciplinary survey at the University of Toronto Mississauga, all disciplines agreed that writing proficiency was a crucial skill for undergraduate and graduate success. The widely ranging writing abilities of first-year students were a common departmental concern. Writing assignments took various forms depending on the disciplines, and the goals of the assignments often differed (e.g. technical skills, communication skills, demonstrating logical thinking, developing an argument, etc.). Many students also reported that they found written assignments to be daunting, and they often did not understand what writing a successful paper required of them. In response to these concerns, the Dean’s office implemented a writing development initiative. The goal of the pilot project was to provide additional resources
to improve student writing skills, while allowing the departments to implement different programs to meet the unique writing objectives of their disciplines.

The following is a summary of the writing initiative that was implemented for the first-year undergraduate course in biological anthropology and archaeology. We decided to execute the writing initiative as part of a holistic approach to curriculum development for the department. In this forum, the curriculum of individual courses was integrated toward the development of key learning skills for the entire undergraduate program (Shapiro, 2003). In first year, the objective was to develop basic writing and research skills in preparation for the critical thinking and analytical skills that would be required in higher years of post-secondary education (Cukras, 2006).

**Objectives**

In Anthropology, we came up with three essential skills that we wanted to develop for first-year students. The first skill was for the students to be able to support a thesis (which was provided by the instructor) with a logical argument. The second skill was for the students to organize the argument in a proper format (i.e. introduction, body, and conclusion), and the third objective was to teach the students how to properly research an academic subject (especially in regard to appropriate online resources). The objectives were achieved through a number of avenues.

**Assignment Format**

Two short tutorial assignments were assigned to the students (5 -7 pages). The assignments were designed to address the goals of the writing initiative. The assignments were kept short so that the students could put together a cohesive paper and the teaching assistants could effectively grade all of the assignments. The thesis for the assignment was provided for the students with specific questions for them to answer in their paper. The same format was required for both assignments so that the students could use the feedback from the first assignment to help them write the second assignment. A larger grade weight was designated for the second assignment to encourage students to use the feedback. A choice of topics and research methods were involved in each assignment. This allowed the students to investigate an area of interest to them. The varying research methods were designed to teach the students how to use the internet as an effective research tool and discern an appropriate academic source.

**Criterion-Based Evaluations**

An assignment package was distributed to the students at the first lecture. In the package, each assignment was accompanied with a handout providing specific instructions on how to research and write the paper. The package also included a handout on how to avoid plagiarism, and a copy of the criterion-based assessment sheet that would be attached to all graded assignments. The assessment sheets gave the teaching assistants (TAs) and the students a grade breakdown of clearly articulated criteria on which the assignment would be assessed, a process identified by the literature as the best practice (Hobson, 1998). This was designed to provide the TAs and the students with a consistent and clear grading method, as well as to ensure that all of the students would receive proper feedback on their assignments.

**Additional Teaching Assistant Hours**

A meeting with the TAs was set up at the beginning of the term to review the assessment process. This ensured that there was a consistency in grading, and that all teaching assistants understood the writing initiative objectives. The TAs also graded the same students for the first and second assignments in order to ensure that this consistency in grading was maintained for each student. Additional TAs were hired to allow for extra time to fill out the assessment forms, and to increase the contact time between the TAs and their students. Additional office hours were set up between the first and second assignments to allow the
students to get proper feedback before writing the second assignment.

Supporting Workshops and Resources

Two writing workshops from the Robert Gillespie Academic Skills Center were conducted to deal specifically with the writing objectives of the assignments. Also, the Centre gave special attention to TAs to provide students with feedback on their written work that would lead to actual improvement. A representative from the publishing company gave an in-service presentation at the beginning of the term to explain the online resources in the field. A library liaison ran a tutorial to teach students to use the library resources effectively. The instructor negotiated with the publishing company to bind a writing manual with the textbook at no extra charge to students.

Results of the Pilot Project

The implementations associated with the writing initiative have been successful. The overall class average of both tutorial assignments was quite high (69.4% and 70.4% respectively). The student feedback on the writing assessment forms was positive: 18% of the class had an increase of 5% to 20% greater between the first and second assignments; 20% of the class had an increase of 20% to 35% and 6% of students increased from 35% to 55%; 38% of the class decreased in their grade between the first and second assignment, and 18% of the class did not have a change of 5% or greater in their grade.

An anonymous survey at the end of the term was returned by 126 students in the course: 90% of the respondents found the assignments to be relevant to the course material and appropriate in their length and level of difficulty; 74% of the respondents used the feedback on the first assignment to write their second assignment. Of the respondents who did not find the feedback on the first assignment to be a helpful tool to for their second assignment, 40% had not bother to pick up their first assignments, and three students did not complete the first assignment. Only four students requested a reassessment of the evaluation of their papers by the instructor. Feedback from the instructor of a second-year physical anthropology course has also been very positive. She noticed a marked improvement in the quality of writing of the second-year students at the beginning of the 2007 term.

Challenges

The challenge is in getting all of the students to use the feedback on their first assignment to write their second assignment. As I mentioned before, several students did not pick up their papers to review the assessment forms. Some students in the class did not complete either one or both of the assignments.

Another significant challenge is getting the TAs to grade and comment on the assignments effectively. Even with the criterion-based assessment forms and the training session some TAs did not fill them out appropriately. A random perusal of five assignments by each of the TAs did reveal some problems in their comments and grading techniques.

Overall Lessons Learned by the Writing Initiative

Increasing teaching assistant hours is not enough

The quality of TA grading was a fundamental factor in the success of the writing initiative. It was very difficult to hire TAs who were themselves good writers, who were interested in the project, and willing to work to gain proficiency at grading writing quality to improve student writing skills. The TAs must be trained to be effective graders. These training sessions must be part of their paid contract. TA grading must be monitored and lessons learned during training reinforced throughout the course.

Increasing writing requirements alone does not lead to better writers

The expectations and requirements of an assignment
must be clear and easily understood in order to improve student writing. Appropriate feedback and consistent grading also play important roles. Each discipline should put together a formal set of skill expectations for each undergraduate year. The writing assignments can then focus on these goals and build writing skills as the students progress through their post secondary education. In general, it was found that a series of short assignments with clear guidelines was the most effective way to improve the writing of first-year students.

Class time doesn’t allow for writing instruction

The limited lecture and tutorial time is usually devoted to course material, and there often is not enough class time to cover basic writing skills. Basic grammatical errors and issues of plagiarism were often the most frequent problems in the writing assignments. Students must be able to correctly read the course material and the assignment instructions before they can write an effective assignment. Additional workshops and resources outside of the classroom are essential for improving student writing.

Students must be motivated

Students must see the value in accessing the resources that are available to them (i.e. additional teaching assistant contact, writing workshops, using feedback from one assignment to write a second assignment, etc.). The attendance of first-year students at the writing workshops averaged approximately 20 students, and generally, the same students attended every workshop. Similarly, the attendance at the library session was less than 50% of the class, even though it was held during a scheduled tutorial time. Instructors must work with writing experts to evaluate and adjust the assessment criteria as the skills level of the students becomes clear across the term.

Conclusion

Overall, the writing development initiative was a success in improving the specific writing objectives that we set for first-year Anthropology students. We learned through this process that it is important to focus on a few key skills, and not to be overly ambitious. It is a step by step process. Often students improved in one area, but still had problems in other basic writing abilities.

References


Journal Writing as Taking Ownership of Internship Experiences

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Many disciplines employ journal writing as a tool for students to record and reflect on their learning experiences. In the internship program in Communications Culture and Information Technology at the University of Toronto Mississauga students experience the transfer of classroom theory to practice in the “real” work world during a once a week placement. Students use journals to account for these experiences reflecting on the knowledge they gain from their observations and how this knowledge incorporates into everyday work life. However, journal writing has pedagogical affordances that extend beyond recording and reflecting on experience. Language mediates the learning as students choose what to say about what they experience. They take ownership of these connections and make meaning by appropriating these ideas as part of who they are and who they are becoming as industry professionals. Identifying the ways in which students use journal writing to construct their professional selves will contribute to the evolving scholarship of experiential education.

Introduction

The Communications Culture and Information Technology (CCIT) program at the University of Toronto at Mississauga offers an internship course, where select fourth-year students earn academic credit in an experiential work placement during the 13 week academic term. The students complete 100 hours of unpaid work, attend class meetings, and complete four assignments. One of the primary objectives of the internship program is for students to examine the translation of classroom-based theory to practical applications in the work world along with gaining “hands-on” industry experience. Students account for these experiences through a written journal, an oral presentation, and a final research report.

Clark and Whitelegg (1998) named this kind of experiential learning ‘work-based’ learning. Both researchers have been promoting work-based learning throughout the UK as an important part of academic study, even if some consider it “an undesirable dilution of the academic rigor of the honours degree sys-
Their research confirms the concerns of many North American employers that students are lacking an understanding of the requirements of the real work world and are graduating knowing only a part of the education equation. CCIT students begin to develop an understanding of life outside the academy through their initial placement searches, which require them to assess their skill sets, research appropriate companies and positions and look for a possible match. These skills are not typically part of any academic curriculum. Students experience intense contact with their placement supervisors who act as trainers and mentors. According to Clark and Whitelegg, this is the most desirable arrangement for a successful learning experience. The CCIT internship program is not like other Co-op programs as CCIT students maintain a regular academic schedule of courses in conjunction with their work placement responsibilities.

Work/learning journals used within experiential learning programs such as the CCIT internship, provide a space where students can explore, identify, and make sense of the connections between their academic education and several core competencies required by the ‘real’ professional work world. Writing about the connections provides students with the opportunity to move from the position of seeing themselves as students to perceiving themselves as professionals in the work world. My initial examination of CCIT students’ journals over the past two years illustrates how the work journals can be used as a form of student inquiry that requires them to plot their observations, reflect on what they are learning, and analyze how they learn across different contexts.

Writing as a Mediator of Social Experience

James Paul Gee (2000) adopts a Vygotskian approach to writing as a mediator of social experience, that is, an understanding of writing as a mediating activity that enables students to give shape to their experiences for meaning making. Thinking, he (Gee) contends, is “almost always mediated by ‘cultural tools,’ that is, artifacts, symbols, tools, technologies, and forms of language that have been historically and culturally shaped to carry out certain functions and carry certain meanings (cultural tools have certain ‘affordances’ although people can transform them through using them in new settings)” (p. 181). van Lier (2004) maintains that “[a]ffordances are those relationships that provide a ‘match’ between something in the environment (whether it’s a chair or an utterance) and the learner. The affordance fuels perception and activity, and brings about meanings - further affordances and signs, and further higher-level activity as well as more differentiated perception” (p. 96).

Students use the tools, technologies, and language offered to them by the academic culture. Writing about the connections between theories studied in lectures, terminology professed by experts and software used for class assignments provides an opportunity to organize, analyze and evaluate the information they are ingesting in relation to everyday work world applications. Students may ask why it is important that they acquire this information as they learn how the information is utilized across different contexts. Most importantly, students may use the space afforded by journaling to see how they can produce new information, symbols, tools, and technologies that contribute to the changing industry sector.

Writing is a form of information processing that facilitates thought processes and affords opportunities to develop and change ideas and question and alter worldviews (Logan 2000). Vygotsky viewed language as the completion of thought – a way of organizing thoughts for meaning making. I see reflective and analytical writing in particular as ways for students to move beyond experiencing an event, toward understanding what the event means and how it affects what they already know about the world. Using a Vygotskian lens, journal writing is a way of using language to complete thought. The objective of the work journals is to make students conscious of how they learn through their experiences and interactions within the workplace. Language mediates the learning as students choose what to say about what they experience. Reflecting back on the journals enables students to track their learning patterns and processes of personal growth. The work/learning journal provides a space for students to think.
Gee (2000) also claims that individuals create narratives to “make sense of their experiences of other people and the world by emplotting them in terms of socially and culturally specific stories, stories which are supported by the social practices, rituals, texts and other media representations of specific groups and cultures” (p. 182). The internship students experience very particular work culture practices that become part of their storied experiences of work activities. Writing about the work culture they observe and experience enables students to understand how they are also implicated in the social structure of their placement environment and how their own ways of working and interacting contribute to the perpetuation of these cultural practices. Examining the work culture also enables students to see opportunities for change. The learning journals are a site for exploring what else is possible.

Making Connections

Students who recognize the connections between what they learn in the classroom and the transferable skills needed within the work world are more likely to become active participants in their own learning (D’Aloisio, 2006). D’Aloisio describes four primary categories of core competencies inherent within higher education learning that can be linked to core competencies needed within the business world. These four categories include “self-management, information management, communication and teamwork” (p. 226). Self-management and communication are crucial for students juggling internship placement work with a rigorous academic schedule. However the transfer of these skills is not always evident through the practical experience alone. Reflecting on the challenges through narrative-based writing enables students to see how they are adapting and coping as well as learning and succeeding throughout the experience.

Many disciplines employ journal writing as a tool for students to record and reflect on their learning experiences. Journal writing enables students to “work out” their ideas and describe their problem-solving approaches as they develop a reflective practice of consciously analyzing their learning process (Park, 2003). Students use their work journals to apply the information they collect from their work experience and compare these applications with the theories, “symbols, tools, technologies, and [forms of] language” (Gee, 2000, p. 181) studied within the academic context. They become research/participants within their industry sectors, always observing, describing, noting, analyzing, reflecting, and rethinking the events around them.

Many students also write what Park (2003) calls “confessional material” (p. 190). This part of the narrative reveals aspects of their learning and coping strategies that might not otherwise surface in other written assignments. The confessions afford “scope for catharsis, by voicing fears and then moving on past them” (Park, 2003, p. 190). Writing is a way for students to make sense of what they are doing and where they are going as they document their thoughts, ideas and conundrums over time.

Students contextualize their learning through their writing. They may use writing as a mediating activity that enables them to take ownership of the connections they discover. Gelmon, Holland, Driscoll, Spring, and Kerrigan (2006) explain that taking ownership may be measured by the student’s “expressed autonomy and independence” (p. 24). This is evident in the language the students use when they write about gaining confidence in their role as an industry worker, when they have mastered new skill sets and when they complete tasks and problem solve independent of their placement supervisors. Journaling provides a space for students to appropriate these new ideas and potentially explore new identity constructions. The pedagogical implications of journal writing in relation to students’ abilities to make meaning of their real life work experiences are crucial to their self-directed learning within the program. Journaling their experiences affords students the opportunity “to see learning as a never-ending journey that does not necessarily stop outside the classroom or after they have graduated” (Cisero, 2006, p. 231). Motivating students to analyze the transfer of academic skills to core workplace competencies in particular will help them construct meaning around their educational careers. The potential outcomes are that students take
ownership of and become accountable for their ideas and actions beyond the academy. Furthermore, understanding how they translate skills developed within the academic “bubble” to the practical needs of the “real” work world will help students prepare for future professional encounters such as writing letters of introduction and answering interview questions.

Student Voices

Students are asked to describe, reflect, and critically analyze their activities and interactions for each journal entry. They begin the first entry with their learning objectives and then return to those objectives throughout the term as they assess their progress. For many students, the writing becomes more cathartic as they progress throughout the term. The following two samples of student work address common issues including self-directed learning, assessing skills, recognition by colleagues, developing personal goals and meeting expectations.

Susan

“Attention to detail” is repeated time and time again in the job qualification descriptions that I have found through my searches. I always assumed that I had this skill even though I did not really know what it was explicitly referring to. Unless I have learned it in school, I do not know that I can do it. Working on [corporate] fact sheets, however, has helped me both define and enhance my attention to detail...When I read a sentence in my fact sheets I summon all of the information about the company that I know – both implicit and explicit facts and culture – and make sure that the phrase or sentence at hand is aligned with these practices... to many this may seem unimportant or menial (not the skill, but understanding the skill) but it will prove to be useful to me when I am in interviews and able to describe how this process works and how I am able to do this.

Peter

Reflecting on my experience interacting with new volunteers again today, I’ve come to realize that the more informed and assertive a leader is, the more willing their followers seem to be. I say ‘seem’ simply because I’m personally making this judgment that the volunteers were willing to do what I asked. However, I credit my specific knowledgeable directions with obtaining the new volunteers cooperation... I’ve determined that acting confident, regardless of whether or not I am, will play a crucial role in my ability to lead others. This does not suggest that I should fake knowledge to ensure others continue to follow my lead. In a situation where my knowledge is lacking, I would not suggest such claims to those working for me. Instead, I would leave the situation, obtain the necessary resources to provide accurate direction and continue leading with the new information...Considering my interactions with new volunteers as a learning experience in leadership, I’ve become curious as to how other great leaders have structured their leadership abilities. Not everyone leads a group the same way. I would like to be as informed as possible before jumping into any major leadership commitments. I think I will focus much more on my ability to lead others in the future.

Both Susan and Peter use their work journals as a site for thinking and reflection. They wrestle with particular concepts that are meaningful to them by identifying a problem or conundrum, exploring possibilities and then writing their way to some sort of a resolution – it is writing as inquiry. Each incident becomes part of a learning continuum for the students who are working to figure out their positions in a world beyond academia.

Park (2003) names several positive outcomes of students writing about their work placement experiences. I perceive three of these outcomes as occurring in the work submitted by the CCIT internship students. The first is ownership. Students take ownership of their learning and their experiences when they state their learning objectives. They take ownership of their learning and their experiences when they state their learning objectives. They reflect on what they expect to learn from the internship experience in terms of developing hard and soft skills, gaining leadership experience, gaining teamwork experience and understanding best practices within the industry.

The second important outcome of the work/learning journal writing activity is the students’ in-
increased awareness of their learning. They show evidence of understanding how they learn and what it means to become a self-directed learner within the workplace. Through their writing they analyze the problems and obstacles they encounter and articulate the process of finding possible solutions. They appear to recognize this aspect of problem solving as a reflective practice.

The third important outcome of the work/learning journals is realizing an increase in self-confidence. The students see their personal growth in the written reflections of how they have handled difficult situations. They begin to see themselves as professionals that contribute to the industry. More advanced and astute students also recognize cathartic and transformational moments within their written accounts and begin to see journal writing as a form of industry research that will aid them throughout their careers.

As more students engage in experience-based learning, further research into journal writing as a form of student inquiry is warranted. The once mostly descriptive diarizing is shifting to more rigorous examination and analysis of industry practices and standards, organizational behaviour, leadership strategies and self-directed learning. The Internship placement journal is a space that offers students the opportunity to engage in a form of qualitative inquiry that requires them to formulate problems, collect data through observations, analyze that data in the service of meaning making and form conclusions which for some, induces transformative learning.

References


In 2006–2007, we established a writing exercise in two large first-year biology courses. Overall, our exercise, which consisted of multiple drafts of a 500-word essay, offered students a good introduction to how editorial feedback can improve content and style in scientific writing. We discuss our goals, procedures, outcome, and students’ responses to our initiative.

Introduction

Edward O. Wilson is one of world’s foremost evolutionary biologists. He is also a distinguished author whose books have won the Pulitzer Prize for General Nonfiction. In his autobiography, Naturalist, Wilson (1994) described how, as a young professor, he nurtured his ideas concerning biological diversity:

They then turned into narratives, which I began to repeat to myself like stories. I prepared to speak about the matter to others. I imagined how the narrative would look in print, how it might sound in a lecture before a skeptical audience. I rehearsed, edited, and performed in silence. I was a storyteller, sorting and arranging pieces of nonfiction, dreaming in order to fill in the gaps. Then I tried the performance before a real audience. (p. 206)

The Department of Biological Sciences at the University of Alberta offers two introductory courses, Biology 107 (Introduction to Cell Biology) and Biology 108 (Introduction to Biodiversity), with a combined enrollment of nearly 3,000 undergraduates each academic year. These courses include a lecture, laboratory, and seminar component. The student population is diverse, including science, arts, education, and pre-professional students. In Winter 2006, inspired by a university-wide initiative to encourage writing within courses across disciplines and to improve the writing skills of students in our own honors and specialization programs, we decided to change the seminar component of the introductory courses from review-based tutorials to writing workshops. Developing and delivering a relevant writing exercise to 600 to 900 students simultaneously offered a variety of logistic challenges. These included ensuring access to reading materials, standardization of instruction and grading, and expeditious handling
of multiple drafts. Still, we felt our efforts would be well invested and that we might teach students to be effective scientific storytellers.

In developing this initiative, we reviewed and assessed a number of models for integrating writing into diverse curricula (Young & Fulwiler, 1986; Fulwiler & Young, 1990). Our specific goals in Biology 107 and 108 were to: 1) demonstrate that writing can aid in mastery of key concepts in biology; 2) encourage critical thinking; 3) improve communication skills; 4) demonstrate the importance of clear, concise writing in biology; and 5) introduce the use of multiple drafts to improve writing and understanding. We also used the workshops as opportunities to train 28 biology graduate-students in directing and assessing written work. Graduate students were active participants in developing and defining all aspects of the writing assignments. Each was responsible for 74 to 148 under-graduate students.

Our Approach

The remainder of this essay discusses our results and experiences during the winter term, January – April 2007. In this term, students in both courses were asked to produce three drafts of a 500-word essay based on a reading in American Scientist. These readings were related to material and concepts covered in each course but neither topic was addressed directly in lecture or lab. In Biology 107 the reading was on type-A avian influenza. The Biology 108 reading was on global declines in amphibian populations. The essay was worth 10% of the grade in each course, with 60% of the essay grade devoted to biological content. Students were guided in the writing process through attending five 50-minute workshops (class size 34 to 74) and through detailed assessment rubrics.

Figure 1 summarizes the undergraduate student experience in our writing initiative; Figure 2 does the same for the graduate teaching assistants. Near the end of the course, but before students received the marks and comments on their final drafts, we administered an evaluation form comprised of 15 multiple-response questions and requests for written comments as well.

Outcomes

On our evaluation forms, many students, 61.3% in Biology 107 (n = 618 responses) and 67.4% in Biology 108 (n = 608 responses), stated that prior to the assignment they felt their ability to write an effective scientific essay was “good,” “very good,” or “excellent.” After completing the writing assignment, 59.3% in Biology 107 and 54.7% in Biology 108 responded positively that the assignment proved “somewhat useful,” “useful,” or “very useful” in improving their ability to write a scientific essay. Production of multiple drafts definitely aided students in improving their essays. Of students who completed both graded drafts, 81.1% in Biology 107 (n = 667) and 93.6% in Biology 108 (n = 626) achieved higher scores on the final draft. Average numerical scores between second and third drafts increased by 12.3% in Biology 107 and 17.4% in Biology 108. Only 17.1% of students in Biology 107 and 13.1% in Biology 108 felt that they did not receive sufficient comments from their instructors to improve their final essay.

Written comments on the evaluation forms offered the clearest picture of aspects of the assignment that offered students the greatest challenges and that required the most improvement. Comments were consistent with categorical responses on the evaluation forms and further developed themes contained there. An example of a challenge highlighted by student comments was the restricted length of the essay at 500 words. Students felt that their essays would have been stronger if they could have been longer. In fact, a short essay was a deliberate choice on our part. We did not want under-graduate student writers and graduate student graders to become “overwhelmed” by the assignment. Also, conciseness is a hallmark of scientific writing. More is not better, and strict limits are often imposed on commonly produced documents such as abstracts and proposals. We decided to make future essay topics more focused so that the 500-word limit offered a better fit to the skills and previous experience of our students.

We found that a first step towards this goal was to choose readings that can serve as effective cornerstones for essays. Readings must be at the right level of difficulty, assumed background knowledge,
Figure 1
This flow chart describes the activities of first-year students in our writing-to-learn initiative, Department of Biological Sciences, University of Alberta.

Undergraduate Experience

Establishing the “Writing to Learn” philosophy
Visit by Prof. to discuss research and education
Visit serves as topic for low-risk writing (free-write)

Introduction to assignment
Objectives
Question
Resources
Articles
Assessment rubric
Appropriate background information on topic
Assign first draft

Out of Class: Students prepare first draft

Review of first draft
Group discussion: Critique sample paragraph
Paired peer review
Reading aloud
Written comments
Group discussion: Summary of common problems

Out of Class: Students prepare second draft

Students submit second draft for evaluation
• Submission includes peer reviewed first draft
• Critical assessment of biological content (60%)
• Critical assessment of written communication skill (40%)

Students receive assessment of second draft
Group discussion: Common errors
Handout of guidelines for improvement

Out of Class: Students prepare third (final) draft

Students submit third draft for evaluation
Submission includes marked second draft
Critical assessment of content and communication skills
Critical assessment of incorporation of feedback

Students asked to evaluate “Writing to Learn” exercise

Students receive assessment of third draft
Figure 2
Flow chart describing the activities of graduate teaching assistants who acted as instructors in our writing-to-learn initiative, Department of Biological Sciences, University of Alberta.

Teaching Assistant Experience

1. **Pre-session training**
   - Attend University Writing Task Force workshops
   - Attend course-specific writing workshops

2. **Prepare for assessment**
   - Group marking of sample essays
   - Discussion of application of marking rubric
   - Establish guidelines for assessing plagiarism

3. **Course delivery**
   - Small group seminars
   - 2 seminars – preparation for written assignment (background, free-write, peer review, critique)
   - 1 seminar – return second draft (review assessment scheme, guidelines for improvement)
   - Individual discussions with students

4. **Assess second and third drafts**
and information content. We then compose questions and guidelines that direct, but do not dictate content. For example, “Discuss how two socio-political factors affect the spread of type-A influenza (2 of 10 marks).” Delimiting the number of factors and assigning a weight indicate how much of the essay should be dedicated to this discussion, but each student chooses which examples to use. Likewise, such focused directions require that students not only extract information from the reading, but understand, distill and apply it. Our essay topics all require the integration, not just reportage, of scientific evidence to support an argument or conclusion. We strongly encourage students to use only the assigned reading and their textbook to compose the essay so that they do not become distracted by extraneous material that is frequently too technical for them to appreciate as beginning biologists.

At least some students found it difficult to follow and implement suggestions and editing by the teaching assistants. To improve students’ understanding of the editorial process, we formalized peer review and students must now hand in peer-edited first drafts. To aid with revisions of the second draft, we looked for methods to enable instructors to provide more direct(ed) guidance (Hodges, 1997). Teaching assistants now segregate their comments on style versus comments on content, e.g. style in the left margin, content in the right. Also, we encourage instructors to be more positive by consciously highlighting something “good” about each essay. Many first-year university students are not accustomed to receiving and responding to extensive and pointed criticism of written assignments, particularly the blunt and questioning comments that typify reviews produced by scientists.

From the start, preparatory sessions with graduate teaching assistants covered the mechanics of writing the essay, the background reading, and its relationship to the assigned essay. The area where teaching assistants needed the most guidance was the application of the marking rubric as a means of ensuring fair and consistent assessment across multiple drafts. Most instructors were unfamiliar with rubrics. We discovered that the best way to demonstrate the role of the rubric was to have a group of teaching assistants use it to assess a common set of student essays. A discussion followed on expectations for student performance and how to assign marks based on the rubric’s pre-existing framework. For the final draft of the essay, the rubric awarded marks for how successfully the student applied the instructor’s feedback. This feature allowed teaching assistants to evaluate students’ individual progress through various stages of the writing process. One assessment criterion contained in the rubrics of both the second and final draft stated: “Using his/her own words, the student communicates key ideas and information.” This criterion encouraged students to produce original writing and provided instructors with a mechanism to deal with some aspects of plagiarism.

Conclusions

We believe that we have taken the first steps toward establishing a culture in our department where writing is acknowledged as a necessary skill for a successful, satisfying career in science as well as other professional endeavors. Biology 107 and 108 are part of a suite of first- and second-year core courses taken by most biology majors and all specialization and honors students; now these incoming students will all experience dedicated writing-workshops twice, along with long-established lectures and laboratories. We are working to make our exercises and rubrics more effective, and thus demonstrate that good writing has a place in biology. We hope to make students see that writing can contribute to their understanding and appreciation of information. If great data and novel ideas are not woven into convincing, well-crafted stories, they rarely receive the recognition that they deserve, nor do their creators.

Acknowledgements

This initiative was funded by the University of Alberta Department of Biological Sciences and Teaching and Learning Enhancement Fund. Alissa Moeting assisted with manuscript preparation. This essay benefited from comments provided by three anonymous reviewers.
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This paper presents the preliminary findings from the University of Northern British Columbia’s e-portfolio project, entitled the Digital Record of Student Success (DRSS). The e-portfolio requires that the Education Program students provide artifacts of their learning related to the British Columbia College of Teachers’ 13 standards for professional educators. The project will be outlined and sample in-progress e-portfolios will be described. The paper will conclude with a description of the successes and challenges of the DRSS.

Introduction

Following the 1993 Teaching Profession Act and the subsequent 2003 Teaching Profession Amendment Act (BC Ministry of Education, 2003), the University of Northern British Columbia (UNBC), along with all Education programs in the province, provided Attainment of Standards Reports (ASRs) to the British Columbia College of Teachers (BCCT). These reports outlined the criteria on which teacher candidates would be recommended for certification.

Trinity Western University and Malaspina University-College agreed to be the first institutions to submit their ASRs to the BC College of Teachers (Kitchenham, 2006; Kitchenham & O’Neill, 2006). Shortly after, the remaining institutions submitted their respective Attainment of Standards Reports.

In an innovative move, the University of Northern British Columbia’s School of Education concentrated on the BCCT Standards 1 to 10 as evaluation criteria for recommending their teacher candidates for certification (BCCT, 2004). In 2006, the students were required to create an electronic portfolio that outlined each standard, provided one to three artifacts, and included a rationale for each artifact. In 2007, UNBC’s Attainment of Standards Report was approved by the British Columbia College of Teachers.

The E-Portfolio Process

As part of their requirements for EDUCATION 431
(Educational Technology), elementary and secondary students were required to complete an electronic portfolio which served as a precursor to the Digital Record of Student Success (DRSS). The e-portfolio used the 13 BCCT standards for professional educators (BCCT, 2004) as the basis for its structure; however, for the purpose of discussion and homepage layout, the standards were grouped into three broad themes: professional qualities, background knowledge, and capacity to teach (see Table 1).

The students provided one to three artifacts that demonstrated their meeting a particular standard. As well, using critical reflection and critical self-reflection, the students wrote a strong rationale that showed how the artifact exemplified the standard. In this way, the students could not merely state that the artifact worked well because it was a good match but rather had to deconstruct the artifact and discuss its elements which meet the criteria inherent in the standard. They also realized that the number of standards subsumed within a certain theme did not equal the largest number of artifacts. To wit, professional qualities included seven of the 13 standards; however, capacity to teach represented the largest number of artifacts and the most robust arguments as that theme dealt directly with their teaching abilities and experiences.

Using Barrett’s (2000) warning that “a portfolio without standards or goals is just a multimedia presentation, or a fancy electronic résumé, or a digital scrapbook,” the researcher outlined the myriad e-portfolio definitions which included “a digitized collection of artifacts, including demonstrations, resources, and accomplishments that represent an individual,

Table 1

<table>
<thead>
<tr>
<th>Theme</th>
<th>BCCT Standard</th>
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<tbody>
<tr>
<td>Professional Qualities</td>
<td>1 Professional educators value and care for all children, acting at all times</td>
</tr>
<tr>
<td></td>
<td>in the best interests of children.</td>
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<tr>
<td></td>
<td>2 Professional educators demonstrate an understanding of the role of parents</td>
</tr>
<tr>
<td></td>
<td>and the home in the life of students.</td>
</tr>
<tr>
<td></td>
<td>9 Professional educators act as ethical educational leaders.</td>
</tr>
<tr>
<td></td>
<td>10 Professional educators engage in life-long learning.</td>
</tr>
<tr>
<td></td>
<td>11 Professional educators have a responsibility to students.</td>
</tr>
<tr>
<td></td>
<td>12 Professional educators have a responsibility to parents and the public.</td>
</tr>
<tr>
<td></td>
<td>13 Professional educators have a responsibility to the profession.</td>
</tr>
<tr>
<td>Background Knowledge</td>
<td>3 Professional educators have a broad knowledge base as well as an in-depth</td>
</tr>
<tr>
<td></td>
<td>understanding about the subject areas they teach.</td>
</tr>
<tr>
<td></td>
<td>4 Professional educators are knowledgeable about Canada and the world.</td>
</tr>
<tr>
<td></td>
<td>5 Professional educators are knowledgeable about BC’s education system.</td>
</tr>
<tr>
<td></td>
<td>6 Professional educators understand children’s growth and development.</td>
</tr>
<tr>
<td>Capacity to Teach</td>
<td>7 Professional educators implement effective teaching practices.</td>
</tr>
<tr>
<td></td>
<td>8 Professional educators apply principles of assessment, evaluation, and</td>
</tr>
<tr>
<td></td>
<td>reporting.</td>
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</table>
group, community, organization, or institution. This collection can be comprised of text-based, graphic, or multimedia elements archived on a website or on other electronic media such as CD-ROM or DVD” (Lorenzo & Ittelson, 2005), “an organized collection of artifacts or individual, tangible products that verify a teacher’s professional growth” (O’Bannon & Puckett, 2007, p. 78); “a collection of authentic and diverse evidence, drawn from a larger archive, that represents what a person or organization has learned over time, on which the person or organization has reflected, designed for presentation to one or more audiences for a particular rhetorical purpose” (Grant, Rees Jones, & Ward, 2004), “a goal-driven, organized collection of artifacts that demonstrate a person’s expansion of knowledge and skills over time” (Kilbane & Milman, 2003, p. 4), and “personalized, web-based collections of work, responses to work, and reflections that are used to demonstrate key skills and accomplishments for a variety of contexts and time periods” (UBCOLT, 2004). Ultimately, the researcher presented this definition: over a specific set of time, a digitized collection of artifacts that demonstrate satisfactory achievement of a specific set of criteria for mastery accompanied by critical reflection and critical self-reflection on how the artifact meets the criteria.

The sources for the artifacts for the e-portfolios were found in Kilbane and Milman’s (2003) five categories: 1) education and experience; 2) theory and beliefs; 3) curriculum, planning, and management; 4) student assessment; and 5) communication.

As well, the students were reminded that “the quality of the learning that results from the portfolio development process will be in direct proportion to the quality of the self-reflection on the work” (Barrett, 2000). All of the artifacts were represented as Word, PowerPoint, Excel, and Publisher documents, digital video and audio files, scanned images, and additional webpages.

On the technological side, the students began the course by learning how to create a single webpage using FrontPage 2003. The researcher used a guided practice approach so that the students copied what the researcher presented on the data projector screen at their laptops or desktop computers. Simultaneously, they were learning the skills and principles of good web design, which were reinforced throughout the four-month course. A remote control allowed the
researcher to circulate so to ensure all students participated and to work with the slow comprehenders when the time was appropriate. In subsequent classes, the bare bones for the e-portfolio were created so that each ended up with an index page, three theme pages, and 13 standards pages. As the course progressed, the students began to fill in the empty spaces with artifacts and rationales to arrive at a solid electronic portfolio (Figure 1).

We used an action research model that initially required the students to broadly consider which artifacts to place in their e-portfolios. Beginning in the first semester of their two-year program, the students collected as many artifacts as possible and stored them in electronic or hardcopy formats. Next, they began to assign priority to the artifacts so they either placed them tentatively with a standard (in the form of a Word folder) or discarded them for eventual rejection or possible re-assignment. In the subsequent stage of the model, the students created the actual “shell” of the e-portfolio in the form of separate unframed or framed webpages. At this point, the

<table>
<thead>
<tr>
<th>Artifact</th>
<th>Rationale</th>
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<tr>
<td>Diagram of the Classroom</td>
<td>This artifact demonstrates that I create an environment that supports learning for all. It incorporates elements of a cooperative learning environment, an environment which is beneficial to students who may have a learning disorder as well as potential and specific strategies to improve classroom management. This will be rationalized below due to the following reasons:</td>
</tr>
<tr>
<td>Schematics</td>
<td>Cooperative Education: The first reason which supports my artifact for developing a learning environment for all is that my classroom layout emphasizes cooperative learning by the proximity students will be near each other. Having the students close to each other creates an atmosphere where classmates are able to help each other learn, this technique is not as effective in individual seating assignments. Each group of students will consist of four seats in which they have the ability to work together. In the Slavin method of cooperative learning, an arrangement like this allows for the students to engage in competitive classroom events, creating educational teams which promote healthy competition. The arrangement of seats around the periphery creates an area where the students can focus their attention to the front of the classroom but can easily be modified when it involves group work. Also with this arrangement, students can quickly and easily create groups to prevent time wasted during transition periods. If students need individualized structure, the students are able to relocate to one of the areas of the periphery. They are quite easy to displace students who are becoming management concerns. Having a class structure like this also allows, especially in the younger grades, for students to develop socializing skills in a structured environment. Students are given more chances with face-to-face encounters among their peers for the development of academic inquiry as shown in Sharan’s methodology in cooperative learning. Accommodations to Learning Disorders: The next reason why this classroom design supports learning for all is due to accommodations it makes to students who may have a learning disorder. For students with ADHD like symptoms, there is enough room at the back of the classroom for the students to be able to move around and “release” some of that built up energy. The “buffer zone” is located at the back of the class so when students are moving about, they are not going to take as much attention away from me compared to if the student was confined to a particular space. With the focus being at the front of the room may be able to prevent overstimulation of students who are trying to concentrate on a task at hand.</td>
</tr>
</tbody>
</table>
students digitized their artifacts to be incorporated into the main e-portfolio website. After a great deal of time and thought, the students presented their arguments for the appropriate artifacts, matched with the specific standard. The actual writing amount, 300 to 800 words for each rationale, was minimal but the time to reflect and reject took time to ensure that their arguments were well crafted (Figure 2).

As Figure 2 demonstrates, the students delved deeply into their reasoning and ensured that they deconstructed each artifact used as evidence and related that artifact to the professional literature. In this example, the student used a schematic of his classroom to demonstrate that he had considered Slavin’s and Sharan’s work on cooperative learning, sound pedagogical principles for accommodating special needs children, and classroom management theories for positioning in and moving around the classroom setting.

Eventually, the last part of the model had the students share their e-portfolios with a partner and in small groups to make any final adjustments. Clearly, the whole action planning process was recursive rather than linear.

For the first two years of this project, the e-portfolios were evaluated on two separate levels.
On the first level, the students submitted partiallycompleted e-portfolios and were evaluated on their technology skills and knowledge of web design principles such as layout, hyperlink formats, graphic presentation, video and audio editing, and chosen media. On the second level and in another course, the completed e-portfolio standards were evaluated on the choice of artifacts for each standard and the rationales provided for why the artifact was chosen. The researcher was the sole evaluator for both levels and courses as the School of Education was not at the stage where selected faculty could assess the e-portfolios; however, faculty-wide evaluation is a goal within the next five years.

Challenges

The concept of electronic portfolios was new to the UNBC School of Education faculty and so it encountered two general challenges. The first related to what happened with the e-portfolio when the students were finished. The second challenge was persuading the faculty that the DRSS was a viable way of presenting the students for teacher certification recommendation to the BC College of Teachers.

As few faculty had any experience with e-portfolios and based on the researcher’s past experience at another institution, he argued for two alternatives for hosting the e-portfolios. One alternative presented to the students was for them to file transfer the main folder to a CD-ROM and attach an autorun script so that the index page opened automatically when the disk was inserted into the computer. The second alternative was to demonstrate how the students could utilize the free storage capabilities at Netscape, Google, and their own internet service providers. When they had used the maximum disk space at one server, they sent the viewer to another free-host so they ended up bouncing around the internet. Along a similar vein, some students opted to purchase their own domains. Regardless of the storage/host option, the students were extremely motivated to have their completed projects displayed as they found prospective employers saw the e-portfolios as an impressive demonstration of not only their technological prowess but also the students’ teaching qualifications.

Another inhibitor for the portfolio process and product was the notion of faculty acceptance. Few faculty were adept at constructing websites so they did not see the advantage to the format. As well, not many wanted to take the time to explain which BC College of Teachers standards were met in their individual courses even though the brief time to do so would help the students immensely to choose appropriate artifacts. In the first year of the study, approximately 20% of the faculty took the time to outline the standards and to date, over 40% are doing it. It is now mandated by the Chair to place the standards in all course outlines. Much work is yet to be done but some advancement is evident.

Conclusion

The e-portfolio study has been a success in three distinct areas: employment, acquisition of technology skills, and critical reflection.

First, more and more students report that their e-portfolios were major contributors to their being hired. They work hard on the e-portfolios and deserve all the recognition and glory for that work. In the words of one of the School of Education students: “One of the reasons I was hired was because the Principal and V[ice] principal were so impressed by my e-portfolio…. The portfolio was among the most valuable and practical things we learned at UNBC. [Tell your students that they should] finish your portfolio because in some cases it can make you stand out from other applicants” (personal communication, J. Hoffman, May 13, 2007). This endorsement demonstrates that the hiring personnel recognize the outstanding work of the students – a sentiment that has been echoed many times over.

Second, the students acquire valuable technology skills as they learn how to construct technology projects from the very basic elements of the technology. As the technology course progresses, their skills and confidence increases so that more and more students are infusing technology in their practice teaching. As well, the students are able to assist other teachers in their schools with technology and
use technology more frequently in their daily lives.

Last, the e-portfolio project has allowed the students ample opportunity to critically reflect on their learning within and without the university classroom. As the students present arguments for the inclusion of specific artifacts to support their BCCT standard, they become much more aware of the reasoning for many of their learning objects. Too often the students move through their Education courses or undergraduate degrees without really reflecting on what and why they learned the information in the courses. This e-portfolio project necessitated that they critically reflect and critically self-reflect on their choices.

The DRSS e-portfolio project has been a great deal of work for the students and for the researcher. The benefits have been outlined here and elsewhere in this paper and the work has been worthwhile for all parties. The School of Education has progressed in the presentation of student learning and this electronic portfolio will act as a defensible record of that presentation in the next few years.

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A Message from the President of the STLHE

I am most delighted to share with you this inaugural volume of *Collected Essays on Learning and Teaching (CELT)*. *CELT* is an anthology of peer-reviewed papers written by presenters at the annual conference of the Society for Teaching and Learning in Higher Education (STLHE). Hosted by a different Canadian institution each year, the conference provides an opportunity for university and college administrators, faculty, educational developers and students to share their best practices, discuss challenges encountered in the classroom, and present their scholarship of teaching and learning.

This volume of *CELT* features twenty-five articles based on presentations at the 2007 STLHE conference hosted by the University of Alberta in Edmonton. Each article was reviewed by three individuals from across Canada during a blind peer-review process. On behalf of the entire STLHE, I thank these reviewers for their committed service and congratulate all of the authors whose articles were accepted for this historic volume. I especially thank the editors – Alan Wright, Shannon Murray, and Margaret Wilson – for their hard work, vision and leadership in making *CELT* a reality. In addition, I am very grateful for the many long hours and close attention to detail devoted to this project by members of the coordinating team from the University of Windsor led by Jessica Raffoul, the Managing Editor, and Peter Marval, the media artist who worked on the layout.

Finally, I hope that you will be enriched by reading the outstanding articles in this volume and that you will consider submitting your own scholarship of teaching and learning for possible publication in the next edition of *CELT*.

Sincerely,

Joy Mighty
STLHE President