HERE FROM THE HORIZON

Editorial Board:
W. Alan Wright,
Liv Marken, Kim West,
Gordon Joughin, and
Mark Schofield
REVIEWERS

Arshad Ahmad
Concordia University

Alec Aitken
University of Saskatchewan

Heather Alexander
Griffith University

Trish Andrews
University of Queensland

Marla Arbach
University of Ottawa

Nicholas Baker
University of Windsor

Judith Ball
Edge Hill University

Jacqui Basquill
Edge Hill University

Sandra Bassendowski
University of Saskatchewan

Brenna Bath
University of Saskatchewan

David Benders
Union College

Anne Bennison
University of Queensland

Susan Bens
University of Saskatchewan

Karen Boardman
Edge Hill University

Deirdre Bonnycastle
University of Saskatchewan

John Bostock
Edge Hill University

Pierre Boulos
University of Windsor

Adrian Cain
Edge Hill University

Irene Carter
University of Windsor

Alice Cassidy
University of British Columbia

Andrea Cerevkova
Edge Hill University

Jane Clarke
De Montfort University

Cam Cobb
University of Windsor

Keith Cook
Edge Hill University

James Coyle
University of Windsor

Ian Currie
Edge Hill University

Ursula Curwen
Edge Hill University

Lorna de Witt
University of Windsor

Erin DeLathouwer
University of Saskatchewan

Marcel D’Eon
University of Saskatchewan

Donna Eansor
University of Windsor

Tereigh Ewert-Bauer
University of Saskatchewan

Linda Ferguson
University of Saskatchewan

Aloys Fleischmann
University of Saskatchewan

Alison Flynn
University of Ottawa

Holly Fraser
University of Saskatchewan

Laurie Freeman-Gibb
University of Windsor

J. Fretz
University of Saskatchewan
Collected Essays on Learning and Teaching

From Here to the Horizon: Diversity and Inclusive Practice in Higher Education

Volume V

Foreword vii
Voir l’avant-propos plus bas viii

1 The Courage to Teach: Whitehead, Emotion, and the Adventure of Ideas
   Howard Robert Woodhouse 1

2 Using Creativity and Collaboration to Develop Innovative Programs That Embrace Diversity in Higher Education
   A. Helene Robinson 6

3 Connecting Inquiry and Practice: Lessons Learned From a Multi-Year Professional Learning Partnership Initiative
   Carol Rolheiser, Mark Evans, Mira Gambhir, & Kathy Broad 13

4 Creating Community: One Institution’s Experience With Communities of Practice
   Sally Heath & Jeanette McDonald 22

5 Multidisciplinary Collaboration Through Learning Communities: Navigating Anxiety
   Erin DeLathouwer, Wendy Roy, Ann Martin, & Jasmine Liska 27

6 Faculty Understanding and Implementation of Internationalization and Global Citizenship
   Cindy Hanson & Barbara McNeil 33

7 Wider Horizons: Fostering a Culture of Undergraduate Research
   Roxanne Harde & Neil Haave 39
<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>New Faculty Perceptions of Supervision and Mentoring: The Influence of Graduate School Experiences</td>
<td>Shannon Gadbois &amp; Elizabeth Graham</td>
</tr>
<tr>
<td>9</td>
<td>Language Diversity &amp; Practice in Higher Education: Can Discipline-Specific Language Instruction Improve Economics Learning Outcomes?</td>
<td>Trien Nguyen, Angela Trimarchi, &amp; Julia Williams</td>
</tr>
<tr>
<td>10</td>
<td>Establishing Peer Mentor-Led Writing Groups in Large First-Year Courses</td>
<td>Sarah Marcoux, Liv Marken, &amp; Stan Yu</td>
</tr>
<tr>
<td>11</td>
<td>Referencing and Citation for Graduate Students: Gain Without Pain</td>
<td>Ed S. Krol &amp; Lisa M. Krol</td>
</tr>
<tr>
<td>12</td>
<td>Undergraduate Essay Writing: Online and Face-to-Face Peer Reviews</td>
<td>Mike R. Chong, Lori Goff, &amp; Kimberly Dej</td>
</tr>
<tr>
<td>13</td>
<td>Have You, My Little Serpents, a New Skin? Transforming English Studies and the Scholarship of Teaching and Learning</td>
<td>Lee Easton &amp; Kelly Hewson</td>
</tr>
<tr>
<td>14</td>
<td>Two Approaches to Case-Based Teaching in Science: Tales From Two Professors</td>
<td>Colin Montpetit &amp; Lovaye Kajiura</td>
</tr>
<tr>
<td>15</td>
<td>A Transformative Experience: Expanding My Teaching and Learning Horizon</td>
<td>Mellissa L. Kruger</td>
</tr>
<tr>
<td>16</td>
<td>The Impact of an Outdoor Orientation Program on First-Year Student Perceptions of Life Effectiveness and Campus Integration</td>
<td>Anna H. Lathrop, Timothy S. O’Connell, &amp; Ryan A. Howard</td>
</tr>
<tr>
<td>17</td>
<td>Using Arts-Based Activities to Foster Transformative Learning During a Teaching Practicum in Kenya</td>
<td>Glenda Black &amp; Rogerio Bernardes</td>
</tr>
<tr>
<td>18</td>
<td>Teaching for Epistemological Difference: Decentering Norms in Environmental Studies</td>
<td>M.J. Barrett</td>
</tr>
<tr>
<td>19</td>
<td>Improving Student Readiness: Examining K-16 Alignment of Content and Performance Standards</td>
<td>Dean M. Beaubier</td>
</tr>
<tr>
<td>20</td>
<td>Is Strategic Development of Leadership Capacity for the Higher Education Workplace Possible?</td>
<td>Majorie Angel Brown</td>
</tr>
<tr>
<td>21</td>
<td>Applying Universal Instructional Design to Course Websites by Using Course Evaluations</td>
<td>Irene Carter, Donald Leslie, &amp; Denise Kwan</td>
</tr>
<tr>
<td>22</td>
<td>Transcribe Your Class: Using Speech Recognition to Improve Access for At-Risk Students</td>
<td>Keith Bain, Eunice Lund-Lucas, &amp; Janice Stevens</td>
</tr>
<tr>
<td>Page</td>
<td>Title</td>
<td>Authors/Contributors</td>
</tr>
<tr>
<td>------</td>
<td>-------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>23.</td>
<td>An Internal Audit of a Virtual Learning Space to Facilitate Clinical Decision-Making in Nursing</td>
<td>Beryl McEwan &amp; Gylo Hercelinskyj</td>
</tr>
<tr>
<td>24.</td>
<td>Developing an Educational Technology Group for Pre-Service Teachers</td>
<td>Jay Wilson</td>
</tr>
<tr>
<td>25.</td>
<td>Using Technology for Tutor and Student Learning Exchange</td>
<td>Katherine Hewlett</td>
</tr>
<tr>
<td>26.</td>
<td>Digital Storytelling and Diasporic Identities in Higher Education</td>
<td>Gail Benick</td>
</tr>
<tr>
<td>27.</td>
<td>A Post-Class Question Strategy That Provides Feedback and Connects In- and Out-of-Class Learning</td>
<td>Alison B. Flynn</td>
</tr>
<tr>
<td>28.</td>
<td>Community-Based Research: Learning About Attitudes Towards the Criminal Justice System</td>
<td>Tammy A. Marche &amp; Jennifer L. Briere</td>
</tr>
<tr>
<td>30.</td>
<td>Mystery Montage: A Holistic, Visual, and Kinesthetic Process for Expanding Horizons and Revealing the Core of a Teaching Philosophy</td>
<td>Kim Ennis, Carly Priebe, Mayya Sharipova, &amp; Kim West</td>
</tr>
<tr>
<td>31.</td>
<td>Exhilarated Learning and the Scholarship of Engagement: From Here (the University) to the Horizon (the Community)</td>
<td>William Ben Strean</td>
</tr>
</tbody>
</table>
On behalf of the Editorial Board, I am pleased to present Volume V of *Collected Essays on Learning and Teaching* (CELT). This successful, innovative electronic publication is associated with the annual conference of the Society for Teaching and Learning in Higher Education (STLHE). Since we moved from CD-format to an online platform, we have been able to track our readership: we are thrilled to announce that nearly 90,000 full-text CELT articles were downloaded by people from across the world since June 2011.

We received over 40 manuscripts from instructors representing 24 universities and colleges across Canada, the United States, Australia, and the United Kingdom. Each manuscript was read by three reviewers representing an international network of faculty and educational developers. Volume V features 31 articles, and reflects the work of over 60 authors who presented in Saskatoon in 2011 at the STLHE conference hosted by the University of Saskatchewan. We are thrilled to have a record number of articles from Western Canada in CELT V.

The idea for CELT dates back to the 2005 STLHE conference hosted by the University of Prince Edward Island. From the beginning, the intent has been to challenge conference presenters to convert the essence of their peer-reviewed sessions into essay form for a wide readership interested in teaching improvement practices in higher education. This is no simple task, of course, but scores of college and university educators have answered the call over the last five years by submitting manuscripts to the Windsor-based team. The first four volumes of CELT published papers based on work presented at the University of Alberta in 2007, the University of Windsor in 2008, and the University of New Brunswick in 2009, and Ryerson University and the Ontario College of Art and Design in 2010. All five volumes of CELT can now be accessed on the journal’s website: celt.uwindsor.ca. Please feel free to explore CELT in the order most convenient to you, and to print out one or more of the articles to read and to consult at your leisure.

The Editors once again thank Managing Editor Jessica Raffoul, Media Artist, Peter Marval, the authors, the reviewers, as well as the staff of the Centre for Teaching and Learning at the University of Windsor for their ongoing efforts to produce CELT. We look forward to examining the theme of the 2012 STLHE conference “Learning without boundaries? Apprentissage sans limites?” in Volume VI of CELT, and receiving more submissions in French.

Alan Wright, University of Windsor, for the Editorial Board consisting of

Liv Marken & Kim West, University of Saskatchewan,
Gordon Joughin, University of Queensland, AU, &
Mark Schofield, Edge Hill University, UK
Voir l’avant-propos plus bas

Au nom du comité de rédaction, je suis heureux de présenter le Volume V de la collection des essais sur l’enseignement et l’apprentissage (CELT). Le succès de cette publication électronique innovatrice associé au congrès annuel de la SAPES est bien établi, tandis que nous avons enregistré des milliers de consultations électroniques du site depuis un an.

Nous avons reçu, cette année, plus de 40 soumissions provenant de 24 universités et collèges à travers le Canada, les États-Unis, l’Australie, et le Royaume-Uni. Comme l’université de Saskatchewan a organisé le congrès en 2011, il n’est pas surprenant de constater un nombre impressionnant d’articles par des auteurs de l’ouest canadien parmi les 31 publiés dans le volume actuel.


La rédaction remercie à nouveau la contribution importante de Jessica Raffoul et de Peter Marval du Centre for Teaching and Learning à l’université de Windsor, ainsi que les auteurs et les lecteurs des soumissions pour la publication de CELT. Nous anticipons avec plaisir la lecture des essais sous le thème du congrès 2012 de la SAPES « Apprentissage sans limites? » dans le volume VI du CELT, à paraître en 2013.

Équipe de rédaction du CELT V: Alan Wright (Windsor), Liv Marken et Kim West (Saskatchewan), Gordon Joughin (Queensland, AU), et Mark Schofield (Edge Hill, RU)
The Courage to Teach: Whitehead, Emotion, and the Adventures of Ideas

Howard Robert Woodhouse
University of Saskatchewan

The importance of moral courage to teaching and learning has been recognized by a number of authors. The process pedagogy of Alfred North Whitehead proposes that emotion is central to experience and to the imaginative questioning which enables learning and the ability to stand up for one’s beliefs. Faculty who wish to connect with their students should recognize this fact lest ideas become “inert.” In contrast, process pedagogy encourages a holistic, cyclical approach in which students and faculty engage in the “adventure of ideas” as a balance between freedom and self-discipline. This search for new ideals involves certain risks, as both a recent example of alternative higher education and Whitehead’s own vision of the university show. Process pedagogy’s synthesis of the emotional and intellectual can spur imaginative critique and the capacity to put one’s ideas into practice.

Courage and Integrity in Teaching and Learning

Several contemporary writers have called our attention to the importance of moral courage in both teaching and learning. Hare (1993) considers courage to be one of a select number of “attributes…excellences…[and] virtues” that define “what sort of person the teacher should be” (pp.v, 10). The ancient Greek concept of excellence was applied to any activity in which human beings try to attain an ideal goal. Virtue stems from the character of a person (her attributes); namely, what s/he should be rather than the behaviour s/he exhibits. Hare (1993) believes it is the character of the teacher, rather than the techniques s/he uses, which provide the optimal conditions for student learning. The dissemination of shared knowledge depends less on the latest methods or technologies for efficient teaching and learning than upon such virtues (some might call them values) as open mindedness, imagination, and caring. These virtues “are both desirable in themselves, as revealing aspects of the teacher as an educated individual and admirable person, and also effective in creating the conditions and context which help promote the goals of teaching and education” (p.161) And central to a teacher’s character is the virtue of courage, not the
physical courage of a Greek warrior but the moral courage to stand up for one’s beliefs in the face of injustices in educational institutions affecting her and her students. As Hare (1993) points out: “Courage would hardly be necessary in teaching if society welcomed and applauded the teacher who, for example, pursues the ideal of critical thinking” (p.48). The examples of Bertrand Russell, George Grant, Nancy Olivieri, and Harry Crowe are among the many who have been persecuted by their universities for their critical beliefs (Woodhouse, 2009).

Palmer (1998) is in agreement with Hare that any techniques or methods employed by teachers should flow from their own character. The courage to teach, which involves an ongoing struggle to overcome the fear of live encounters with students is only possible where one acknowledges the primacy of one’s own self-development. More particularly, there is need to recognize that “good teaching comes from the identity and integrity of the teacher” (p.10; italics in original). By identity, Palmer (1998) means an “evolving nexus where all the forces [both inner and outer] that constitute my life converge in the mystery of self … [and] make me who I am” (p.13). While identity is an ongoing process of achieving selfhood, Palmer conceives of integrity as “whatever wholeness I am able to find within that nexus as its vectors form and re-form the pattern of my life. Integrity requires that I discern what is integral to my selfhood, what fits and what does not” (p.13). Put differently, one’s growing sense of self involves recognizing the ways in which wholeness can be achieved through one’s life activities. As a teacher, we can feel this sense of integrity, Palmer argues, by relating to students in an open way that reveals the passion for the subject matters we teach. This process requires courage, since it involves overcoming the fear of revealing who one is, and why one cares not only for one’s discipline but for those engaged in learning it.

Some might disagree with Hare and Palmer, and argue that teaching at the university level is largely a matter of techniques learned over the course of one’s career; that the character/identity/integrity of the professor is not as important as they suggest; and that moral courage is not really central to good teaching. While there may be some merit to such criticism, I find Hare and Palmer’s arguments compelling. In this article, I will propose an idea explicit in the process thought of mathematician, philosopher, and educator Alfred North Whitehead (1861-1947), namely that emotion is central to the courage necessary for both teaching and learning.

**Emotion, the Adventures of Ideas, and Whitehead’s Process Pedagogy**

The following statements form the baseline for my argument. First, moral courage as a commitment to stand up for one’s beliefs in the face of adversity is an integral part of teaching and learning. The kind of commitment involved is both emotional and intellectual. Second, posing questions in ways that invite students and faculty to engage in critical and imaginative inquiry also requires courage. It too combines the emotional with the intellectual.

The reader may be wondering why I am asserting that courage and imaginative questioning are more than intellectual processes. I agree with Whitehead (1957) that the core of our experience is emotional and that if, as faculty, we wish to connect with our students we need to recognize this brute fact. As he puts it, in order for ideas to come alive we should relate them “to that stream, compounded of sense perceptions, feelings, hopes, desires, and of mental activities adjusting thought to thought, which forms our life” (p.3). Feelings, hopes, and desires comprise the deep emotional currents from which spring sensory awareness and the intellectual capacity to utilize ideas. As faculty, we need to connect the ideas we teach to the flowing stream of emotions at the core of our students’ experience in order for them to appreciate their meaning. Similarly, the ideas we teach should spring from our own lifelong passion for their significance. Failure to connect with the emotional and intellectual experience of our students results in “inert ideas” – that is to say, ideas that are merely received into the mind without being utilized, or tested, or thrown into fresh combinations” (p. 1).

Whitehead’s appeal to the emotions is far from being a ruse to indoctrinate students, as some might
believe. His philosophy (1967) is radically opposed to dogmatism, especially “the dogmatic fallacy, which is the belief that the principles of...[one's] working hypotheses are clear, obvious, and irreformable” (p. 223). Put differently, every principle which appears to be unquestionable can, and should, be subjected to critical and imaginative scrutiny. Furthermore, as Hare (1993) points out, indoctrination occurs when students have “been brought to hold certain beliefs as true regardless of any evidence and argument which might be presented, or might arise, against them” (p. 92). And this process can quite easily take place with a teacher such as Dickens's Thomas Gradgrind, who insisted on “Nothing but the Facts!”

In contrast, the goal of Whitehead's pedagogy (1967) is the holistic growth of each student conceived as a rhythmic process of overlapping cycles in which there is an alternating emphasis on freedom and discipline. University teaching should invite students to share in what he calls the “adventures of ideas,” so that they can pursue the “freedom, zest, and the extra keenness of intensity [that] arise from” (p.259) an open process of discovery. Fresh ideas become integrated with intense feelings in students' experience if they are given opportunities to explore for themselves the wonders of any discipline. This process does not imply a libertarian free-for-all in university classrooms, but a joyful experience that involves a balance between freedom of inquiry and the self-discipline that makes it possible. As students engage in zestful learning, Whitehead (1957) argues, they come to utilize ideas in novel ways that involve generalization or “the stage of shedding details in favour of the active application of principles, the details retreating into subconscious habits” (p.37). The precision of an earlier phase of education, while presupposed as habits of mind, shrinks into the background as students learn to understand the relationship between general principles and the specific ways in which they are used in literature, science, engineering or law. As their understanding grows, students begin to recognize vivid connections between their studies, their own experience, and life in general.

What, then, does Whitehead's account of learning (1967) have to do with courage and emotion? A process of teaching and learning based on the adventures of ideas privileges not only spontaneity, freedom, and zest but a “search for new perfections” (p. 281) – a process which involves certain risks. This search for new ideals, he suggests (1957), utilizes the imagination of both students and faculty by eliciting general principles as the basis for “an intellectual survey of alternative possibilities,” a process which enables them “to construct an intellectual vision of a new world, and it preserves the zest of life by the suggestion of satisfying purposes” (p.93). In other words, imaginative teaching and learning appeals not only to the intellect but to the emotions, balancing the demands of the former with the energy required for realizing the purposes required to transform reality. In enriching our vision of what could be and sustaining the zest capable of enacting that vision, faculty and students need courage to challenge the dominant norms of education and society.

One recent example of a group of students, faculty, and community members collaborating in imaginative ways to construct an alternative form of higher education was the People's Free University of Saskatchewan (PFU), which offered university-style courses without charge to the citizens of Saskatoon for a period of two years. The founding of the PFU presupposed the vision of a community-based higher education in which teaching and learning enhanced the range of life of those involved (Woodhouse, 2009; 2011). This process strengthened their capacity for a more coherently inclusive range of thought through the use of both the imagination and conceptual abilities; of feeling as the growth of sentience and the emotional life; and action as animate movement through time and space (McMurtry, 1998). Implementing the vision of the PFU required the imagination to initiate the project, the emotional energy to maintain its ongoing activities, and the courage to recognize the difficulties involved in sustaining alternative educational institutions of this kind.

Whitehead's (1957) own vision of the university depends upon the following conditions being met. In order for faculty to engage in imaginative and critical inquiry with their students, they need the leisure to pursue ideas without “harassing worry” (it is worth remembering that the ancient Greek
word *skhole*, the origin of “school,” means leisure). Faculty also need the opportunity to engage in ongoing conversations with a diversity of colleagues, “some variety of experiences” in their intellectual lives, “diverse equipment,” especially for those in the natural and applied sciences, and the academic freedom without which none of this can take place. He concludes by emphasizing the distinctive nature of university life which sets it apart from the rest of society: “The learned and imaginative life is a way of living, and is not an article of commerce” (p. 97).

Moral Courage in Teaching and Learning

Whiteheadian process pedagogy has the potential to connect the emotional with the intellectual among faculty and students, so that their commitment for self-expression can grow as they engage in imaginative critique and action. In order for this process to take place, the moral courage of faculty must come into play as they profess the adventurous in what they are teaching and engage students in learning. In my experience, where students are given opportunities for self-expression they welcome it as a way to confront the crass materialism of a global society that invades their lives. But these opportunities only arise if faculty acknowledge their authority in the classroom to be provisional. As Peters (1973) argues, the goal of teaching is to enable students to become authorities in the discipline(s) they are learning, and this can only take place where they are encouraged to pursue inquiry wherever it may lead, especially if they use reasoned judgment to question the views of their professors.

Moral courage also implies that faculty should be willing to oppose what they believe to be wrong, engaging in a critique not only of fallacious ideas in their own disciplines but of the injustices taking place in both the university and society. Such actions require the courage and commitment of someone who dares to think for themselves and put their ideas into practice (Angus, 2009). This, perhaps, is the greatest challenge to faculty who consider themselves as dispassionate in their pursuit of knowledge and hence unconcerned about the ways in which such knowledge is used. Yet, the academic freedom we enjoy is connected to the common good of society by the fact that the critical search for knowledge engages a variety of publics – graduate and undergraduate students, other faculty, and the public itself – and thereby contributes to the public interest. Far from requiring “neutrality on the part of the individual… academic freedom makes commitment possible” (CAUT, 1979, p.46). The open exchange of ideas can only take place where faculty in dialogue with students are free to express their beliefs, so that they too are subjected to the critical scrutiny of all members of the academic community.

References


**Biography**

Howard Woodhouse is Professor of Educational Foundations and Co-Director of the University of Saskatchewan Process Philosophy Research Unit. He conducts research and scholarship on higher education, international education, and history and philosophy of education.
Using Creativity and Collaboration to Develop Innovative Programs That Embrace Diversity in Higher Education

A. Helene Robinson
St. John’s University

This paper provides an example of an innovative solution to program development that addresses the diverse needs of teacher educators throughout various geographical locations in Florida, through a collaborative multi-university, multi-agency teacher training program funded by one collaborative grant. In this time of economic uncertainties, institutions of higher education must become creative and emphasize interdisciplinary collaborative efforts both internally and externally in order to develop cost-effective, innovative programs that embrace diversity. Innovation is driven out of need. My teaching experience, in the K-12 public school and in the university setting, fostered my awareness of the need for professional collaboration, and this awareness ignited my creativity. I will discuss how I identified the needs at my university and then utilized creativity and collaboration to network and obtain the grant, which then facilitated, developed, and taught in a new Masters of Education program in Arts and Academic Interdisciplinary Education. Program content and delivery were both planned around the diverse student population within the multi-university collaboration, with each university designing diverse programs to address the specific needs of their population but with the same concept of arts integration. Collaboration also occurred within each university: the College of Arts and Science and the College of Education. In addition, teachers were required to collaborate as coaches in their schools to train and support others in increasing arts integration in their schools.

Introduction

In this time of economic uncertainties, it is now more important than ever for institutions of higher education to become creative and emphasize interdisciplinary collaborative efforts both internally and externally in order to develop cost-effective, innovative programs that embrace diversity. If
innovation is driven out of need, then institutions must tap into their creativity to become innovative in reaching diverse cultures. Collaboration facilitates creativity.

My teaching experience, in the K-12 public school and in the university setting, fostered my awareness of the need for professional collaboration. It is becoming increasingly important that pre-service teachers develop collaborative and cooperative skills (Novoa, 2004). Collaboration, among teachers, is a significant element of professional teacher communities. In order to effectively work with other professionals, parents, and students who are from diverse cultures, teachers must develop a posture of cultural reciprocity which facilitates a subtle cultural awareness (Kalyanpur & Harry, 1999).

According to Delpit (1995), there are three levels of cultural awareness: overt, covert, and subtle. At the overt level, there is an awareness of obvious differences regarding language or manner of dress. Individuals who have developed a covert level of awareness recognize the invisible culture (Philips, 1983); parameters such as social status and interpersonal communicative styles. These cultural aspects require sustained contact or observation before becoming apparent. Finally, at the subtle level of cultural awareness there is recognition of imbedded values and beliefs that underlie the actions of a specific cultural group (Delpit, 1995). Furthermore, individuals at this level are aware that their beliefs and values influence their actions, and that these values, which were previously assumed to be universal, are in fact specific to the respective culture.

Dr. Beth Harry, from the University of Miami, established a theory entitled: Posture of Cultural Reciprocity. This theory demonstrates how to work effectively with culturally diverse parents of students with disabilities. Kalyanpur and Harry (1997) describe the five features of cultural reciprocity, which go beyond the awareness of noticing differences in others, to self-awareness. In addition, the Posture of Cultural Reciprocity theory aims for subtle levels of awareness of differences and has universal applicability. Applying the four progressive steps of cultural reciprocity can help both parents and professionals to avoid stereotyping and feel empowered as they experience more successful collaborations.

To explain their theory, Kalyanpur and Harry (1997) created guidelines for cultural reciprocity, which they list as four progressive steps for a special education professional to take in order to develop a posture of cultural reciprocity. These steps effectively build bridges between a teacher’s culturally diverse population of parents and students, and can be adapted to use in any setting to more effectively work in cultural diverse society. The steps include:

1. Identify the cultural values embedded in the professional interpretation of a student’s difficulties or in the recommendation for services.

2. Find out if the family being served recognizes and values these assumptions, and if not, how their view differs from that of the professional.

3. Acknowledge and give explicit respect to any cultural differences identified, and fully explain the cultural basis of the professional assumptions.

4. Through discussion and collaboration, set about determining the most effective way to adapt professional interpretations or recommendations, to the value system of the family.

In both pre-service and in-service teacher training, collaborative skills must be a priority. Professors should infuse learning activities which allow students to reflect on and experience collaborative tasks. Lockhorst, Admiraal, and Pilot (2010) state that one way to include reflection-oriented, collaborative learning tasks is through the utilization of technology and structured tasks which require critical reflection on personal experiences and perspectives. Alternately, Shockley, Bond, and Rollins (2008) stress the importance of community building, individualization, and developing a sense of agency in teachers by fostering teachers’ identity development, voice experimentation, and perspective-taking. They
incorporated arts integration, reflective practice, critical reflection, and teacher research to foster the transformation of teachers’ hidden inner curriculum. Hidden inner curriculum is defined as a teacher’s own unique culture, schema, knowledge, experiences, and perspectives which all equally affect who students actually become in the classroom. Cultural factors are important determinants of the diverse frames of reference that come about as a result of one’s positionality (Delpit, 1995; Hale-Benson, 1986; Ladson-Billings, 1992).

Due to the lack of one universal definition, Arts Integration can best be understood by the following three categories: arts integration as learning through and with the arts; arts integration as a curricular connection process; and arts integration as a collaborative engagement (Burnaford, Brown, Doherty, & McLaughlin, 2007). To further synthesize the three categories, Arts Integration can be understood as a curricular connection process that collaboratively engages all learners to promote learning through and with the arts (Robinson, 2011). Bresler (1995) proposed four styles of integrating the arts into the classroom setting: the subservient integration approach, the co-equal cognitive integration approach, the affective integration approach, and the social integration approach. Educators who use the arts as an extra for their curriculum (a quick arts activity as a filler for a particular content area) are utilizing the subservient approach. When the arts are integrated with other aspects of the curriculum and students are required to use higher order thinking skills and aesthetic qualities to gain further understandings of a particular academic concept, teachers are utilizing the co-equal cognitive integration approach. In the affective approach, students are immersed in the arts through background music, reactions to music and art pieces, and the arts as self-expression; here the arts are used as a complement to the curriculum. The social integration approach is performance based and is used to increase parental participation through school plays and other performances (Gullatt, 2008).

Using creativity and collaboration, I was able to facilitate a multi-university/agency grant, which developed an innovative Master’s level program in arts integration for practicing teachers of various levels and disciplines that embraced diversity in higher education. Not only was collaboration utilized to network and obtain the grant, but it was also prioritized in the design of the master’s program by incorporating critical reflection, task-related communication, collaborative tasks, technology, community building, arts integration, and teacher research.

Creativity: Innovation is Driven Out of Need

Innovation is often driven out of need. My teaching experience, in the K-12 public school and in the university setting, fostered my awareness of the need for professional collaboration, which ignited my creativity. These experiences developed resiliency which Patterson, Collins, and Abbott (2004) define as “using energy productively to achieve school goals in the face of adversity” (p.3). According to Patterson et al. (2004) resilient teachers act from a set of values that guides their professional decision making; highly value professional development and find ways to get what they need, often outside the school district; provide mentoring to others; and stay focused on students and their learning.

I began in the field of special education eighteen years ago in 1993. After growing up in the southern region of the USA as part of the majority culture, I moved to Miami and experienced a culture shock as I realized what it was like to now be a part of a minority culture. During my Educational Specialist degree (Ed.S.) program at the University of Miami, I became exposed to the theory of cultural reciprocity. Shortly there after, I eagerly embraced this in my personal and professional life as I had discovered the challenges that one can face as a member of a minority culture when working with my colleagues, students, and parents. Applying the theories previously mentioned, I significantly improved my ability to collaborate with colleagues and parents and to foster a climate of celebrating cultural differences throughout my fourteen years teaching students with behavior disorders and autism.
During the last five years of my K-12 teaching career, teaching high school students with autism, I began to experience the power of the arts in creating an inclusive environment. Within an inclusive, co-taught performing arts class, students, with and without a variety of disabilities, formed friendships and respect for each other as they developed skills in singing, acting, and dancing and rehearsed for their two annual performances. Observing the dramatic improvements in my students’ social skills, self-efficacy, and overall school experience sparked a fire in my heart to passionately advocate for art integration as a vehicle to foster inclusive environments that provide emotionally supportive collaborations and cooperation which can motivate students to learn.

My experiences teaching and mentoring new teachers in the K-12 public schools, for 14 years, provided numerous instances where I witnessed how the lack of collaboration between general and special educators caused detrimental effects on the progress of students with disabilities. Students with disabilities need to generalize newly learned skills, both academic and social, in all environments in order to truly master the skill. To accomplish this, their individualized goals and objectives should be integrated into the learning experiences throughout their school day. Furthermore, general educators must be aware of the accommodations they are allowed. This requires constant communication between the special educator and the general educators in order to effectively monitor progress of the student. Seeing how often there was a lack of collaboration occurring, convinced me that there needed to be more of an emphasis on developing collaborative skills for pre-service and in-service professional development of teachers.

When I moved into higher education five years ago, I noticed that there was a lack of collaborative professional development for general educators and special educators within the college of education. There was little collaboration between the professors teaching the courses for general educators and the professors teaching the courses for special educators in course development, course content, or co-teaching. Furthermore, there was also a lack of interdisciplinary collaborations between the departments and colleges across the university. Being a novice faculty member I learned quickly that without additional funding, achieving this change would be difficult. I decided to look into obtaining a grant to fund my endeavors. Because I was at a very small private University, the resources used to support faculty in grant pursuits were sparse. However, this did not deter me; I remained committed to the value of interdisciplinary professional development for teachers and the impact this would have on students and their learning! My resiliency led me to look outside of my University for ways to collaborate and obtain the necessary funding.

Collaboration: Essential for Creativity

A few months later, I attended a grant writing workshop held by the Independent Colleges and Universities of Florida (ICUF), where I approached the ICUF interagency affairs consultant with my grant idea. I followed up with the ICUF consultant two months later and began to collaborate with ICUF, who manifested a network with seven other universities/colleges and educational agencies and successfully wrote the Untie the Right Brain (UTRB) collaborative grant. Over one hundred and seventy-five teachers from public schools of high needs districts across Florida, with a few teachers from private schools, participated in either professional development or an M.Ed. Program, follow up art boost sessions, a statewide arts integration conference, and served as “art coaches” in their schools to mentor other teachers and create interdisciplinary and interagency collaborations to support their arts integration efforts. The art boost sessions were sessions designed to follow up with teachers during the school year to problem solve any issues they were having as art coaches in their school, share their own arts integration efforts, and strengthen collaborations with administration by inviting them to attend.

Creativity and collaboration remained the forefront of developing the four different programs at each of the participating universities/colleges, in order to meet the diverse needs of the over one hundred and seventy-five teachers who were recruited from across
urban, suburban, and rural districts throughout Florida. Through this program, two of the colleges developed professional development courses and two of the universities developed graduate degree programs all preparing teachers to integrate the arts into their classrooms and to become a coach for other teachers wishing to do the same. For my graduate program, I developed collaborations with the Florida Learning Alliance, the Heartland Educational Consortium, and the North East Florida Educational Consortium, in an effort to recruit teachers throughout multiple geographical areas in Florida for my M.Ed. program. Since my program was tasked in the training of teachers from schools spread throughout the largest geographical areas, I had to be creative and design a hybrid program with online courses offered during the school year, and with the arts integration core courses offered as one week intensive courses on campus during the summer. In addition, since the teachers were geographically spread out, I had to arrange two other locations in addition to my campus, to hold the follow up art boost sessions during the regular school year. My willingness to be flexible, in terms of location, was important because the art boost sessions were a critical component of the program which allowed the teachers to build collaborations with their administrators and address challenges faced by the teachers in their “art coach” role, to lead in arts integration efforts school wide.

Since there was not enough time to get a new program passed by the various committees before the program would need to begin, I utilized an existing M.Ed. online program in teaching and learning and created a concentration area by removing six of the teaching and learning courses and adding six arts integration courses, including one course that introduced arts integration, one course in using arts integration with diverse populations (PBS and Differentiated Instruction), and one course in each of the four art disciplines. In order to develop a strong interdisciplinary program, I collaborated with professors from the College of Arts and Sciences at my University to create co-developed courses, which integrated both art content and educational pedagogy into four art content specific courses with cumulative projects that would build throughout the courses and program. We met as a group several times and then I met with each art content professor individually to develop truly integrated courses that emphasized both the art content and the educational pedagogy teachers needed to create lessons, unit plans, locate resources, incorporate standards, and accommodate students with academic and behavioral challenges. The course content in the six concentration courses was designed to be flexible to meet the needs of the diverse teachers in the program: general educators, special educators, art teachers, music teachers, drama teachers, secondary subject specific teachers, and various grade levels (K-12). In addition, I infused the principles of developing a posture of cultural reciprocity into course content through the course assignments and the mentoring requirements of serving as an “art coach”, which also developed a teacher’s sense of agency as a teacher. As an “art coach” the teachers were expected to build a collaboration of other teachers, arts specialists, artists in their communities, administrators, district personnel, and agency contacts in order to be effective in their arts integration efforts in the various schools and districts throughout Florida. Also, the teachers were required to keep logs of their own arts integration implementation and of their role as art coaches to foster critical reflection. Teachers also performed research in several of their classes, on arts integration, and conducted action research in their own classes. In all aspects of the program content and delivery, the development of creativity and collaboration was emphasized at all levels.

Conclusion

Analyzing the data collected from the teacher narratives, classes, focus group art boost sessions, and interdisciplinary meetings at my university, some themes emerged. First, arts integration seemed to create classroom climates where struggling learners became actively involved and were surpassing teacher expectations. Second, the students were demonstrating more collaborative and cooperative skills and this created a more positive classroom climate. Third, teachers emphasized more creativity
and critical thinking skills in their arts integrated units they designed and reported the fun that they experienced in creating them and teaching them. Fourth, teachers’ leadership and collaborative skills grew as they became the arts integration coaches in their schools and began to collaborate to problem solve and overcome barriers that each faced in very diverse schools and districts. Fifth, internal collaborations began to occur at the university level as other colleges in the university began to examine how the College of Education and the College of Arts and Sciences had collaborated together to create the first truly interdisciplinary degree program at the university. Conversations occurred around funding of interdisciplinary programs, course development and compensation for faculty, and creating co-teaching and other collaborative teaching opportunities and options for faculty compensation. Finally, a model was created of how external collaborations could allow several small private universities to coordinate together and with multiple school districts, educational agencies, and with the Florida division of the National Association of Independent Colleges and Universities to develop and be awarded a competitive grant to create interdisciplinary programs.

In this time of economic uncertainties, it is now more important than ever for universities and colleges to become creative and emphasize interdisciplinary collaborative efforts both internally and externally in order to develop cost-effective, innovative programs in higher education that embrace diversity. If innovation is driven out of need, then institutions must tap into their creativity to become innovative in reaching diverse cultures. Collaboration facilitates creativity. In order to develop effective collaborations in such a diverse society, one must develop cultural awareness at the subtle level. Practicing the guidelines of cultural reciprocity in collaborations will facilitate a subtle level of cultural awareness. Incorporating creativity and collaboration into program development and teaching methodologies will allow teaching professionals, on every level, to include more students from diverse cultures and prepare them to be creative thinkers and collaborators in a global society.

References


**Biography**

Dr. A. Helene Robinson is an assistant professor of special education in the department of Human Services and Counseling at St. John’s University. Her current research interests include: the impact of arts integration and positive behavior supports on academic and social gains of disadvantaged learners, teacher education content and pedagogy that facilitate high self-efficacy for pre-service special education teachers, and implementation of Common Core standards with the Universal Design for Learning guidelines to include students with disabilities.
Introduction

Current research indicates that teaching is becoming increasingly complex and that teachers need to continue to learn, be adaptive, build a sophisticated pedagogical repertoire, integrate different kinds of knowledge and apply emerging research for varying purposes (Bransford, Darling-Hammond & LePage, 2005; Gopinathan et al., 2008; Halliwell, J., 2008; Turner-Bisset, 2001). Not surprisingly, there has been increasing attention to the essential role of deliberate, ongoing, high quality professional learning that is responsive to change and the challenges of today’s classrooms (Berliner, 2005; Feiman-Nemser, 2001; Knight, 2011; Lieberman & Wilkins, 2006).

Effective professional learning is viewed as essential in helping teachers unlock student potential (Broad & Evans, 2006; Learning Forward, 2011; Ramsden, 2003). Fullan, Hill, and Crevola (2006), for example, claim that professional learning that focuses on contextually-based, personalized, inquiry-driven instruction is critical to successful educational reform that will improve and sustain learning for students and teachers alike. Professional learning
may include such approaches as study groups, action research, lesson study, online learning networks, differentiated certification and incentives, and graduate programs. While these approaches appear to have some efficacy, there is a growing consensus that other factors (e.g., context, learner differences) must be carefully considered in designing high quality professional learning.

The limited results of infrequent, poorly designed and/or inadequately delivered, often “one size fits all” approaches to teachers’ professional learning, is well documented: “Nothing has promised so much and been so frustratingly wasteful as the thousands of workshops and conferences that led to no significant change in practice when teachers returned to their classrooms” (Fullan, 1991, p. 315). Those approaches to professional learning are no longer sufficient and the need for more inquiry-oriented, responsive, and sustainable models is clear.

This article describes a professional learning partnership initiative implemented in a university teacher education program designed to provide university instructors and K-12 educational partners with opportunities to craft inquiry-oriented, collaborative, and contextually-based professional learning projects. This article reviews key features and principles of this multi-year initiative and discusses challenges, lessons learned, and outcomes.

The Inquiry Into Practice Series

In 2002, the Inquiry Into Practice Series was initiated by the Associate Dean of Teacher Education at the Ontario Institute for Studies in Education (OISE), University of Toronto. One of the goals was to provide meaningful professional learning opportunities for higher education teacher educators and school partners, address key educational issues and support the principles of OISE’s Initial Teacher Education program. The funded projects support university instructors in working with school partners to engage in professional inquiries related to curriculum design, instructional practice, teacher development, and student engagement. The projects frequently address underserved students or challenging issues needing further exploration in K-12 settings (e.g., English Language Learners in urban schools; culturally relevant and responsive pedagogy; early years’ literacy development and social inclusion), and in the academic classes of the university instructors.

Core principles create the foundation for this professional learning model. Linking instructor, teacher and student learning to personal and institutional or system-wide goals (e.g., universities, schools, districts, Ministry of Education) has been a priority throughout the implementation of the initiative. For example, the most recent projects in the initiative examine different perspectives, practices, and possibilities in the design and enactment of inclusive curricula. The funded projects connect OISE’s Initial Teacher Education program priorities (e.g., equity, diversity and social justice), the Ontario Ministry of Education’s vision for inclusion and equity in today’s classrooms (Ontario Ministry of Education, 2009a; 2009b), and specific school district-wide initiatives.

Additional core principles of the initiative center on collaborative inquiry and the need for current research to inform pedagogical practice:

Collaborative inquiry is a process consisting of repeated episodes of reflection and action through which a group of peers strives to answer a question of importance to them… (Heron 1996; Reason, 1988).

Indeed, the notion of co-inquiry - doing research with people rather than on them is the defining principle of collaborative inquiry (Bray, Lee, Smith, & Yorks, 2000, p.6-7).
Lessons Learned From a Multi-Year Professional Learning Partnership Initiative

University and school-based educators work together in small teams to investigate authentic questions and use current research to inform meaningful practice in local schools and university classes. These teams have the responsibility for crafting the inquiry and collectively sharing their findings. In higher education contexts such inquiry would be characteristic of the Scholarship of Teaching and Learning (SoTL).

To date, eight themes have been explored in the Inquiry into Practice Series, with a total of 76 projects featured in the following publications (from most recent):

- **Reaching every student through inclusive curriculum** (Rolheiser, Evans & Gambhir, 2011)
- **School improvement and teacher education: Collaboration for change** (Rolheiser, 2009a)
- **Partnerships for professional learning: Literacy and numeracy initiatives** (Rolheiser, 2009b)
- **Initial teacher education: Enriching and extending partnerships** (Rolheiser, 2008)
- **School/university partnerships: Transforming teacher education** (Rolheiser, 2007)
- **School/university partnerships: Creative connections** (Rolheiser, 2006)
- **School/university partnerships: Innovations in teaching and learning** (Rolheiser, 2005)
- **School/university partnerships: Research into practice** (Rolheiser, 2004)

In an effort to disseminate the work widely, a publication is released upon the completion of each round of funded projects, describing each project and highlighting key findings. The Inquiry into Practice Series of publications has been provided to university instructors in OISE’s teacher education program, schools, community organizations, visiting international delegations, and the broader public. The initiative and its specific projects have also been shared through professional presentations and conferences by university and school-based partners. An online version of the most recent publication, Inquiry into practice: Reaching every student through inclusive curriculum, has allowed broader dissemination of the perspectives, projects, and annotated resource list related to the theme:

http://www.oise.utoronto.ca/cms/oisefiles/ITE%20PUB%202011_COMPLETE/HTML/index.html

Challenges, Lessons Learned, and Outcomes

In each yearly iteration of this initiative, there has been research on the initiative itself, influencing subsequent design. For the purpose of this current article we carried out an analysis of a variety of documents, including annual reviews of the implementation process, mid-year reports, and the final project reports of all eight thematic projects. Documents associated with each project were analyzed, providing nuanced understandings and empirical knowledge of both the content investigated and the processes involved in each initiative. Below is a brief overview of some of the challenges, lessons learned, and overall outcomes across all projects.

**Challenges**

Issues connected to the research design of individual projects, implementation, and funding are broad areas of challenge that have emerged in our study of this multi-year initiative.

We have found that some field participants need support with research design, for example, while others need support in connecting to a broader literature base, as they work with university instructors to prepare project proposals. While mentoring and coaching during proposal development has strengthened the final proposals these support mechanisms also necessitate more time in the development stage. Scaffolding is often needed in the design phase to move useful ideas into manageable and substantive projects. To address this challenge we provide support through one-on-one feedback, provision of models, and coaching to help
refocus ideas and rework proposals.

Implementation issues have centered on the project timeline and initiative management. The short 9-month program cycle of OISE’s post-degree consecutive teacher education program creates tight timelines. Yearly cycles overlap and it is often difficult for the researchers to move through ethical review processes, data collection, analysis and dissemination within the academic year. As the initiative has grown, a diverse leadership team has been needed to support implementation, including financial management, editorial support, and mentoring of novice researchers. Support is also needed to manage the tensions inherent in diverse partnerships within complex settings. Monitoring of project quality is an ongoing challenge throughout the implementation process.

As annual funding is dependent on external support, our leadership team has needed to constantly seek out sources. Given the varied grant sources over time, one of the challenges has been to align the project themes with grantee expectations and goals.

**Lessons learned**

The following seven lessons have emerged from our analysis of this professional learning initiative:

1. Even small grant amounts (initially only $2000/project) provide an important incentive for university instructors and field partners to carry out their inquiries.
2. As the *Series* has progressed, we have found it increasingly important to connect the project themes to broader contextual and institutional priorities for relevance and dissemination (Fullan et al., 2006). Clearer links to our initial teacher education program principles has resulted in deepened commitment to these principles. By also connecting the yearly themes to provincial priorities we have been able to leverage additional funds and the research results have been disseminated more broadly.
3. Clarity and transparency of goals, timelines, and dissemination expectations for project leaders have strengthened outcomes and improved achievement of goals. Featuring and disseminating all projects through a final publication, sharing the publication at OISE’s annual “Research Celebration,” and subsequent dissemination of the publication to all OISE partner school districts, has motivated the project leaders and participants to meet timelines and has provided additional validation of their work.
4. Increasingly we have found that administrative supports are critical to the development and sustainability of the initiative. For example, facilitated update sessions have created a community of practice where participants share works in progress, problem solve, exchange successful strategies, and review interim reports. As the *Series* has progressed, dedicated support in the form of a project manager has ensured that teams are able to receive early feedback and regular communication throughout the various phases. The provision of report templates, writing guidelines, and project examples has improved the quality of proposals, ethics submission, and final reports.
5. Paying attention to project feasibility and transferability has been important. One-off events or projects that are too specific to be transferred to other contexts have not been funded. Seeing new ideas incorporated into ongoing curriculum and programming at both the university and school levels has validated the work of the participants and over time this has influenced knowledge building within our teacher education pro-
gram and partner schools.

6. Continuous reflection and refinement of the overall conceptual framework of this initiative has been important. Regular monitoring of the selected themes and the inquiry process has been necessary in reflecting the dynamic and ever-changing contexts in which our programs work. To ensure the sustainability and manageability of individual projects and the overall initiative, the timeline was lengthened to a two-year project cycle for the most recently funded projects.

7. The utilization of diverse teams with varied areas of expertise, disciplinary and research knowledge and skill sets has become increasingly important in the design of the various projects. As Lieberman (2011) asserts, relationships that build knowledge and bridge research and practice are “about being open to different ways of knowing.” (p. 2). We have become better at capitalizing on existing trusting relationships between field and faculty partners to create projects and future collaborative inquiry opportunities.

Outcomes

A review of the projects, reported in the eight publications, revealed some important outcomes in three broad areas of change: institutional change, change in educational practice for university and school-based educators, and change experienced by learners.

Institutional change

This initiative has resulted in organizational benefits, including building stronger norms of collaborative inquiry, knowledge-building, and risk-taking as mechanisms for improvement. An important theme to all of these projects has been the importance of contextually responsive designs. As well, the ideas and pedagogical practices that have emerged from the funded projects have increasingly become embedded in our teacher education program (i.e., sustainability) and have contributed to instructional change and program improvement. An enhanced understanding and recognition of teacher education as a research-based and evidence-informed endeavor has also heightened the status of initial teacher education within OISE and emphasized the importance of university-led teacher education programs. As the Inquiry Into Practice Series developed a history of success, it also led to additional funding for key priority areas by outside agencies (e.g., literacy and numeracy, inclusive curricula). We have also found that the snapshots of program development and innovation found in the eight publications have resulted in additional discussions of institutional change with educators from many locations locally and internationally. An additional institutional benefit is that the publications provide a partial history of curriculum and instructional change at OISE and in our partner schools and districts that can serve many additional purposes (e.g., documentation for program accreditation).

Change in educational practice

As noted by Wright (2010), one aspect of educational development that needs more research is “effective models for fostering teacher change” (p. 157). He also comments on the under-representation in the higher education literature regarding “collaborative initiatives among faculty, establishing values, practices, and habits of mind that are key to effective teaching within communities of pedagogues” (p. 160). Evidence from this current study using collaborative inquiry as a model supporting teacher change reveals a range of innovative approaches to teacher learning, as well as changes in classroom practices in schools (e.g., a support group for culturally relevant and responsive teaching) and in our university teacher education program (e.g., the use of lesson study). As well, changes in educational practice have contributed to the broader knowledge base in teacher education and in K-12 education. For example, teams regularly share project processes and products through professional and academic conferences, academic journals and books, and practitioner professional resources. Additionally, a number of the projects have led to
the development of further proposals for larger-scale research grants, continuing the cycle of supporting changes in educational practice. Two of the most significant shifts have been the deprivatization of practice and the emergence of professional learning models that are focused on communities of practice in elementary, secondary and higher education, as opposed to a reliance on individualistic attempts to change practice.

**Change experienced by learners**

The ultimate goal of our collective work is to enhance learning. Review of the 76 project reports provides substantial evidence of deepened learning for students, teacher candidates, university instructors and K-12 educators. For example, our field partners (e.g., principals, teachers) have enhanced their knowledge, skills and attitudes about teacher education, while university instructors have enhanced their instructional practices as well as their understanding of educational improvement processes. Teacher candidates have also experienced the power of partnership in transforming schools and universities, which has influenced their orientations to collaborative inquiry. The diverse teams have come to value co-learning so strongly that many have continued their collaborative work or made commitments to collaborating in the future.

**Reflections and Next Steps**

Responding to shifting curricular and instructional priorities and issues in universities and school systems is complicated and requires new ways of thinking about learning and teaching. Through the initiative we have described in this article we have learned that the design and implementation of effective professional learning for university instructors and for field-based partners (in our case, K-12 educators) is iterative and requires attention to a myriad of factors. Deliberate, ongoing, relevant professional learning and support for university instructors and field educators is essential in efforts to improve student learning and reform schools and teacher education programs. We also believe that many of the features of our model can be transferred to other university-field contexts where collaborative inquiry and inquiry into practice would be advantageous.

The limitations of traditional forms of professional learning to support teacher development and enhance student learning in higher education and K-12 education are clear and have been well documented in the literature, along with descriptions of emergent models of professional learning that are more powerful (Knapper, 2010; Learning Forward, 2011; Wright, 2010). The collaborative inquiry model described in this article was designed by our leadership team to support more powerful models of teacher learning. Our ultimate goal in putting this initiative in place was to enhance both teaching and learning. Knapper (2010), in his study of excellent teaching departments in 11 research-intensive universities worldwide, notes that “the results show how good teaching can be encouraged and led, despite formidable barriers to embedding change” (p. 229). His discussion includes a description of the important role that academic leaders in higher education play in supporting effective teaching, a finding that we also believe was a critical factor in the success of the initiative described here. Knapper’s (2010) comments include:

…leadership that is knowledgeable about pedagogical issues, articulates a convincing rationale for change, supports colleagues and students who can help transform teaching and learning practice, gathers evidence for the effectiveness of new approaches, and ensures that teaching achievements are recognized across the institution and beyond. (p. 241)

Professional learning models and practices need to be respectful of the complexity and multifaceted nature of teaching, what we might refer to as “teaching with deep understanding” (Rolheiser & Evans, 2006). Our use of a collaborative inquiry model is also based on our belief that teachers in higher education and K-12 education care deeply about getting better at teaching to better support learners and learning. As
such, our approach has been grounded in the belief that we are working with highly competent teacher educators and teachers who will continue to learn, be adaptive, build a sophisticated pedagogical repertoire, integrate different kinds of knowledge and apply emerging research for varying purposes.

While a workable timeline, and administrative and resource supports are foundational requirements for our ongoing work in this professional learning initiative, we believe sustainable models need to go beyond logistics to include a linking of professional development to student learning and professional standards for learning, connections to larger systems, the incorporation of a range of job-embedded professional learning approaches (such as collaborative inquiry), and the use of evidence-based knowledge to inform practice.

As leaders of the *Inquiry Into Practice Series*, we have found that there is a critical need for our own ongoing reflection and planning in relation to the processes, practices and products of this initiative. The real strength of our collective work and collaborative inquiry has been the range of new evidence-based practices being carried out in both K-12 and university classrooms.

Central to our findings is the value of and need for schools, communities, school districts, and universities to work as teams and learn collaboratively. There are many compelling theoretical and practical reasons for sustained field-university partnerships. As Lieberman (2011) states, “there are few avenues where researchers, policy makers and practitioners actually communicate across cultures” (p. 1). This initiative has encouraged communication and bridging of differing areas of expertise and knowledge in the service of learning for students, teacher candidates, teachers, teacher educators, and researchers. The outcomes of this initiative reinforce our commitment to collaborative inquiry and the institutional infrastructure and leadership that make such inquiry possible (Justice, et al., 2009).

**References**


every educator should know (pp. 165-174). Thousand Oaks, CA: Corwin Press.


Wright, W.A. (2010). Mind the gap: Aligning research and practice in teaching, learning, and educational development. In J. Christenson Hughes & J. Mighty (Eds.), Taking stock: Research on teaching and learning in higher education (pp. 155-165). Kingston, ON: School of Policy Studies, Queen’s University.

Biographies

Carol Rolheiser is director, Centre for Teaching Support & Innovation at the University of Toronto, the former associate dean of Teacher Education at the Ontario Institute for Studies in Education (OISE), and a professor in the Department of Curriculum, Teaching and Learning at OISE. Her research focuses on teacher education/development, teaching in higher education, instructional and assessment innovation, school improvement, leadership, system reform, and managing educational change.

Mark Evans is the former associate dean of Teacher Education and a professor in the Department of Curriculum, Teaching and Learning at OISE. Mark’s current research focuses on international dimensions of teacher education, educating for global citizenship, and inclusive curriculum and instructional practices in schooling contexts. Mark has been involved in a variety of curriculum reform initiatives and teacher education projects, locally and internationally.

Mira Gambhir is currently a sessional lecturer in the Master of Teaching program at the Ontario Institute for Studies in Education. Her areas of research interests include: diversity education; inclusion; teacher education program design; and comparative international education.

Kathy Broad is the Academic Director, Initial Teacher Education at OISE. Her teaching and research interests include: teacher education; aboriginal teacher education; inclusive and differentiated pedagogical practice; and educational leadership.
Creating Community: One Institution’s Experience With Communities of Practice

Sally Heath & Jeanette McDonald
Wilfrid Laurier University

This article examines the use and benefits of communities of practice (CoPs) in academic settings. In the 2010-2011 academic year Teaching Support Services at Wilfrid Laurier University introduced four theme-based CoPs for faculty and academic support staff after a successful pilot initiative. This article explores our motivation for focusing our programming efforts on CoPs and our anticipated outcomes of the project. We highlight the successes and challenges as well as share survey data and participant feedback on their experience. Central to the article as well as our philosophy is the idea that “good talk about good teaching” (Palmer, 1993) can prompt personal reflection about one’s teaching and meaningful exchange between colleagues.

Introduction

Learning in community (Palmer, 1998) is the underlying principle of communities of practice (CoPs). As Parker Palmer (1993) noted, “the growth of any skill depends heavily on honest dialogue among those who are doing it” (p. 8). At Wilfrid Laurier University, creating a sense of community where meaningful exchange about teaching and learning could take place in a safe environment and in a manner that moves beyond mere technique was a priority for our centre. More specifically, we wished to establish a space where faculty and academic staff could come together and embrace “the challenge of ideas, the exploration of shared practice, the uniqueness of each teacher’s genius, [and ultimately] the mystery at the heart of…educational exchange” (Palmer, 1993, p. 10). In this article, we provide context to appreciate and understand what CoPs are all about, outline how and why our institution embraced CoPs, highlight what we learned from our early experiences based on personal observation and survey data, and identify how we intend to move forward.

Communities of Practice

The various communities of practice to which educators belong (e.g., disciplinary, professional, other) provide a forum to learn about and situate their
practice, facilitate relationships with professional colleagues, engender a sense of belonging, forge a spirit of inquiry, and impart a sense of professional competence and identity (Wenger, McDermott, & Snyder, 2002). The term, communities of practice, was collectively coined by Jean Lave and Etienne Wenger and is formally comprised of three distinct elements: the domain, the community, and the practice. The domain element “creates common ground and a sense of common identity” (Wenger et al., 2002, p. 27) where membership “implies a commitment to the domain, and therefore a shared competence that distinguishes members from other people” (Wenger, 2006). The element of community provides the “social fabric” for learning about the domain and a “participation framework” for its members to engage in joint activities and discussions on an ongoing basis, thereby, helping each other out and sharing information” (Wenger, 2006). In the process, individuals build enduring relationships that enable them to learn from one another and their practice (third element) by sharing resources, that is, experiences, stories, strategies, best practices, and ways of addressing recurring issues, concerns, and problems (Wenger, 2006).

Faculty learning communities (FLCs) is another term used in the literature (see Beach & Cox, 2009; Cox, 2004) to describe groups of academics who regularly come together to talk about concerns, connect with other like-minded individuals, share their passion about a topic, and deepen their knowledge and expertise (Wenger et al., 2002). Beach and Cox (2009) described two categories of FLCs: cohort-based and topic-based. The former addresses the teaching, learning, and development needs of specific groups defined by “common attributes” or “career stages” (e.g., new, mid-career, senior academics). For these groups, the curriculum is shaped by the participants and may include a range of issues and topics. The latter (i.e., topic-based) and more common type brings together a group of individuals of a similar mindset on pressing issues or specific areas of interest or need such as curriculum, technology, and first-year students (Beach & Cox, 2009). The level of structure and the lifespan of an FLC or CoP can range, depending on the intended purpose and commitment of its members. Those described by Milton Cox (2004) at the University of Miami are more structured, whereas those offered at Wilfrid Laurier University vary across the communities. What distinguishes an FLC or CoP from other groups (e.g., action learning sets) is the degree of informality and the focus on community versus efficiency alone (Cox, 2004).

Communities of Practice at Wilfrid Laurier

Laurier’s first community of practice, the Writing Circle, was initiated in the 2009-2010 academic year. Co-sponsored by Educational Development and the Writing Centre, its goal was to encourage discussion on ways to integrate writing into the classroom. In its inaugural year, the group attracted a range of participants (e.g., staff, faculty, librarians) who attended consistently and provided us with positive feedback about their experience. The Writing Circle was also successful in helping us to engage faculty and staff members new or recently new to Educational Development programming (i.e., not just the regular crowd). Based on the pilot’s success, in 2010-2011, three more CoPs were created: Teaching Large(r) Classes, Teaching First Year Students, and Teaching and Technology. Each theme-based CoP focused on a concern specific to the institutional culture.

Although each CoP was unique in theme, we had several overarching objectives that applied to all of them. First, we wanted to provide a forum for Laurier professors and academic staff to come together to discuss issues relevant to teaching and learning. We also wanted to forge new relationships with faculty not previously involved in our programming. By encouraging faculty and staff to set aside some time to think and talk about teaching, we hoped to encourage reflective practice that would extend beyond meeting boundaries, facilitate the sharing of best practices among faculty and staff from different corners of the campus, and provide a forum for the expression of common concerns and challenges.

Each community of practice had a similar
structure, which included tri-weekly meetings held in a space that was chosen for its comfortable setting and its central campus location within a non-teaching building. Group size ranged from four to 15 participants, reflecting the rhythms of the semester and the discussion topic. We aimed for an informal atmosphere to encourage open dialogue, although different formats evolved in each group. The Teaching and Technology CoP, for example, used a “show and tell” model where various faculty members showcased their technology initiatives at each meeting (e.g., teaching with tablets). In Teaching First Year Students, the winter term meetings were devoted to the reading and discussion of *My Freshman Year* by Rebekah Nathan. At the Writing Circle, participants occasionally brought in assignments or grading rubrics they were working on in order to receive feedback from other group members. In some meetings, a collegial discussion of challenges experienced by individual CoP members (e.g., integrating writing into larger classes) became the focus, while in others the group discussed a reading of interest. For each CoP, we created a wiki where we posted meeting summaries as well as relevant resources. Many participants also shared their own artifacts (e.g., syllabi, assignments, rubrics) for others to view, adapt, or use.

**Lessons Learned**

Our first full year of CoP offerings culminated with an end of term social, providing a sense of closure and a chance to discuss future programming. We also created an ethics approved electronic survey that was sent to all CoP participants (n=59) from the previous two years to collect feedback and to review and redirect our efforts if necessary. Of those who responded (more than half of the participant pool), 95.7% said that they would continue to attend the CoPs in the future.

Selecting from a list of choices, participants indicated that it was the opportunity for social interaction (27%), to share issues or concerns (65%), and the chance to gain new ideas, tools, or resources to adapt to their own practice (96%) that mattered most. Indeed, when asked what aspects the participants liked most about attending the various CoPs, the theme of meaningful exchange between colleagues was primary. The following quotations illustrate this point:

This was a great learning experience for me and I am excited to attend next year. The connections made during these meetings and the information obtained from other members of the Laurier community are invaluable.

[I enjoyed] the sharing of real life experiences at WLU, not the typical “textbook” scenarios that do not reflect what really happens in classrooms.

[I liked] getting a sense of whether the challenges I face are unique or common to other educators, development of a sense of perspective, learning more about issues that lead to such challenges, and thinking about principles involved in addressing them.

Many things worked well in the initial years. For the majority of meetings, we had consistent attendance, which helped to foster a sense of trust and community amongst participants. The CoPs were successful in exposing innovative practices from Laurier faculty, and we saw a great deal of collective problem-solving as well as cross-disciplinary resource and idea sharing taking place. For example, a new Biology professor was inspired by the Writing Circle CoP to integrate writing journals into his large (300+) first year Biology class to aid students in thinking about and consolidating their learning in written form. According to survey commentary, CoP attendance further seemed to revitalize individual members and encourage risk-taking and the testing of new ideas amongst participants. As one member shared in the survey:

The biggest change for me was the
increased confidence to try new things; even ideas which others had tried, but which wouldn’t apply to my situation provided motivation to be creative myself.

The presence of academic staff at most meetings also helped to raise awareness of campus concerns and efforts to address them (e.g., initiatives aimed at helping first year students). Lastly, the CoPs seemed to be successful in encouraging reflection on teaching and learning more broadly. Reflection also seemed to be connected to the intangible elements of CoP membership, as noted by the following survey participant:

I’m not sure if my teaching changed in any way significantly. However, I enjoyed the chance to think more deeply about the issues in my classroom.

The year was not without its challenges however. Occasionally, CoP members used the group as a sounding board for institutional complaints, which is understandable, but made it difficult at times to prevent such occasions from turning into gripe sessions (e.g., increasing class sizes or student apathy), and for us to redirect conversation toward more constructive ends (i.e., given the situation at hand, what can we do). In response, we developed a set of CoP guidelines to set a baseline for future exchange and found ways in other aspects of our work (e.g., meetings with administrators, future programming) to bring forward and address these systemic-based concerns. And, while we tried to keep discussion true to the organizing CoP theme, conversations sometimes went off on tangents and there was occasional overlap between topics discussed in the Teaching Large(r) Classes and Teaching First Year Students CoPs. Not surprisingly, scheduling of the CoPs was a challenge for some as the times and dates selected for meeting inevitably conflicted with member teaching schedules. Despite strong participation rates by faculty and staff, a group aimed at graduate student teaching assistants was not successful in its pilot year. Lastly, while we were thrilled to see participants attending the CoPs regularly, we found it difficult to continually attract new members.

Future Directions

Our early success has encouraged us to continue focusing our programming on this initiative. In the coming academic year, we will keep offering our existing theme-based CoPs with some modifications (i.e., merging teaching larger classes with first year students due to overlap of issues and topics), while adding an additional cohort-based group for new faculty. Eventually, we would like to devote a CoP to championing the scholarship of teaching and learning, initiate and/ or support CoP programming across Laurier campuses, and sponsor a CoP grant program to encourage grass-roots formation. Acknowledging the time and effort required to prepare for, facilitate, and post meeting minutes and resources to the respective wikis, we have talked about the possibility of using faculty or staff facilitators for some of the CoPs. Lastly, we are currently looking at different ways to promote CoPs to faculty and staff to increase and diversify membership. We are confident that by implementing some of these ideas future CoP programming will continue to engage Laurier faculty (and others) in constructive dialogue about teaching and learning.

Conclusion

The experience of Laurier CoPs highlighted the importance of making teaching public, creating community, and finding ways to support educators in navigating and reflecting upon their individual practice in meaningful ways. It also reinforced our centre’s decision to move away from the “one-off” workshop and explore faculty development approaches that encourage sustained dialogue and community building. As previously suggested the benefits of “good talk about good teaching” cannot be overstated in its ability to seed and inspire a
culture of teaching and learning and a personal sense of satisfaction in both individual practice and community membership.

References


Biographies

Sally Heath is currently the Manager of Academic Program Development and Review within the Office of Teaching Support Services at Wilfrid Laurier University in Waterloo, Ontario as well as a part-time instructor in the North American Studies Program.

Jeanette McDonald is the Manager of Educational Development in the Office of Teaching Support Services at Wilfrid Laurier University in Waterloo, Ontario.
A problem common to university faculty and students is an implicit sense of inadequacy regarding institutional hierarchies and disciplinary boundaries. Through a focus on multidisciplinarity, learning communities enable members to navigate multiple points of view within, between, and beyond apparent institutional boundaries. After having led a workshop that placed participants in the positions of both students and faculty members negotiating multidisciplinarity through learning communities, we conclude that learning communities’ methodological leveling of traditional hierarchies implicit in higher education leads to a sense of belonging that enables students and faculty to take risks essential for authentic learning. Anxiety over participation in academic discussions both inside and outside the classroom, and from within and beyond one’s disciplinary expertise, thus becomes productive rather than debilitating.

In higher education, we often think of learning communities as groups of undergraduate students who are enrolled in a common set of courses or who share common academic interests. However, student learning communities share features with other social groups that might be defined as communities of practice, such as faculty learning communities or research teams (Wenger, 2000). Of particular significance are those features shared by all learning communities, which aim to address a common problem for faculty and students: anxiety. That anxiety, we suggest, is motivated by the implicit sense of inadequacy often felt by individuals engaged in higher education. For students, the inadequacy arises from the transition to a different social context and to new perspectives; for faculty members, it arises from collaborations with other teacher-learners that suggest the limitations of disciplinary expertise. Learning communities have the power to engender an increased sense of connectedness through mutual respect and equality, and to encourage reciprocity that can decrease the sense of divisiveness within the university. Through a focus on multidisciplinarity, learning communities enable individual members to navigate multiple points of view within, between, and beyond institutional and conceptual boundaries.
The value of learning communities might be understood from an administrative point of view – students engaged in a learning community tend to persist in the university system (Tinto, 1997) – or from a pedagogical point of view – students involved in a learning community tend to demonstrate higher levels of engagement in the learning process (Kuh, 2008). In this paper we focus on the latter because the methods and practices common to faculty and students involved in a learning community often blur the lines between teaching and learning – expert and student – and prompt participants to create their own place within the university system. Likewise, the methods and practices of student learning communities illustrate how the university community might address anxieties surrounding place through collaboration and multidisciplinarity. We suggest that the methodological leveling, through multidisciplinary learning communities, of traditional hierarchies implicit in the term and instantiation of higher education, leads to a sense of belonging that enables students and faculty to take risks essential for authentic learning. Following Bain (2004), we believe that authentic learning requires that “learners feel a sense of control over their education; work collaboratively with others; believe that their work will be considered fairly and honestly; and try, fail, and receive feedback from expert learners in advance of and separate from any summative judgment of their effort” (p. 18). Anxiety over participation in academic communities thus becomes productive rather than debilitating.

First-Year Learning Communities

First-year learning communities at the University of Saskatchewan are groups of 20 to 40 students who enroll in a common set of either two or three first-year courses. In addition to seeing each other in class on a regular basis throughout the fall term, each learning community meets weekly outside of class for one hour with two senior student peer mentors. The weekly groups have four main goals: 1) community engagement within, between, and beyond the communities; 2) collaborative learning as a means to study more effectively; 3) program and career exploration through mentorship, networking, and academic advising; and 4) academic enrichment within, between, and beyond first-year courses.

One of the cornerstone events of the first-year learning community experience at the University of Saskatchewan is a public multidisciplinary panel discussion. Each year, the learning communities host a series of public multidisciplinary panels on big topics such as “The Digital Self” (2008), “Pandemics and Poverty” (2009), “Human Rights” (2010), and “Sustainable Energy” (2011). Each panel discussion involves three to four faculty members with disciplinary perspectives representative of the Humanities, the Social Sciences, or the Sciences. First-year students brainstorm questions in advance of these panels and are encouraged by their peer mentors to engage fully in this public academic event. Success is measured by the degree of participation in the event and the number of public lectures and academic debates first-year students subsequently attend.

The common objective of multidisciplinary panel discussions is to strengthen connections between ideas and people in order to widen participation in an academic spirit of inquiry. The goals for students are to: 1) reduce the anxiety surrounding participation in public talks and academic debates; 2) increase students’ sense of self-directed, democratic learning; and 3) foster a sense of connectedness between new students and the university community. The goals for faculty are to: 1) facilitate multidisciplinary connections between university colleagues; and 2) share their research interests and passion for lifelong learning with new students.

The overarching aim of the Learning Communities Program at the University of Saskatchewan is to increase a sense of connectedness, within learning communities, through building a sense of identity, between learning communities.

1 Empowering students (and faculty) to create their place in the university system will naturally result in higher retention; thus we see retention as an outcome of learning communities rather than a goal.

2 The stated mission of the Learning Communities Program at the University of Saskatchewan is “inspiring authentic learning through community.”
through nurturing a sense of belonging, and beyond learning communities, through increasing a sense of social responsibility. Multidisciplinary panel discussions demonstrate these various layers of connectedness. Within learning communities, students come together to confront real world issues via the disciplines that often seem disconnected at the first-year level. Because these events are open to the wider university community, other student groups or clusters of graduate students participate, fostering connections between different kinds of learning communities. Further, issues raised in the context of multidisciplinary panel discussions connect ideas in ways that extend beyond anticipated learning outcomes.

We have collected evidence that suggests we are beginning to reach our goals with the Learning Communities Program and, in particular, with the multidisciplinary panel discussion series, which is systematically designed to strengthen both conceptual and institutional connections, to enrich the academic experience, and thereby to transform debilitating anxiety into productive anxiety. In a survey administered to 40 University of Saskatchewan faculty members who participated in the 12 panel discussions for the 2011 learning communities, 40% of respondents (n=30) felt the multidisciplinary panel discussion was very successful in helping students to feel comfortable attending and asking questions at public talks. The other 60% agreed that the panel discussions were somewhat successful in achieving this objective. In addition, one respondent stated that the best part of participating in a multidisciplinary panel discussion was “tackling a common problem from multiple perspectives and demonstrating to students that faculty can agree to disagree without rancor.” Another suggested that “engaging with faculty and students on a topic that is of direct relevance to all of our lives in a way that provided opportunity to consider multiple social positions and perspectives” was an enriching experience.

Data collected from the National Survey of Student Engagement (NSSE) in 2011 indicates that students who participated in learning communities reported much higher levels on the Enriching Educational Experiences benchmark than students who were not part of learning communities (26.7 versus a score of 20.0) (University of Saskatchewan, Institutional Planning and Assessment, 2011). Learning community activities that are specifically designed to increase academic enrichment, such as multidisciplinary panel discussions, likely have an impact on the corresponding NSSE benchmark. We are continuing to assess the Learning Communities Program using a mixed-methods approach, and a longitudinal study on the impact of early participation in public academic talks on retention rates and NSSE’s Enriching Educational Experiences benchmark is currently underway.

Such findings indicate that multidisciplinary panels and learning communities in general provide genuine opportunities for navigating multiple points of view; however, anxieties are associated with that process for students and faculty members alike. The challenging aspects of multidisciplinarity were explored in our workshop on learning communities.

Multidisciplinarity Through Learning Communities

In a workshop at the 2011 Society for Teaching and Learning in Higher Education (STLHE) conference in Saskatoon, we invited participants to experience the Learning Communities Program from the perspective of both students and faculty members faced with the challenges of multidisciplinary collaboration. Our goal was to move from theory to practice by modeling connections that become possible in a learning community as well as a multidisciplinary panel. After introducing learning communities at the University of Saskatchewan, we initiated a small-group activity that replicated a first-year student’s experience. Workshop participants were placed in the position of students, encountering

---

3 The authors would like to thank the participants in the STLHE workshop, and in an April 2011 workshop at the University of Saskatchewan, for their contribution to this project.
reading material from three different courses, and were tasked with finding common ground in that material, to make connections between different fields, and to see course material as linked to issues outside the classroom.

Each participant was given a handout that contained short readings or excerpts from three first-year courses involved in a learning community: an early Canadian history class, an English class on reading culture, and an introduction to Native Studies. The handouts contained readings that had been assigned within the first few weeks of classes with common themes that the instructors had neither intended nor planned. Participants were divided into groups of three. Each member of the group was given the task of reading and summarizing the major points, concepts, issues, or methods raised in one of the three excerpts, and then explaining his or her assigned excerpt to the other members. Finally, group members were asked to apply their understanding of the materials in order to establish common themes, ideas, or issues that arose from these three readings.

The second part of the workshop invited participants to put themselves in a very different position: that of faculty members challenged with encouraging students to make connections between disciplines. They were asked to imagine themselves as one of three presenters in a multidisciplinary academic panel to be attended by first-year learning community members. Their task was to take a topic derived from the first exercise (as students), and to link their own research or field of expertise to that panel topic (as faculty members). A few participants were encouraged to share their ideas with the larger group, spurring discussion that spilled outside of the session’s classroom walls, as it does when successfully enacted by first-year learning communities.

The points that these groups identified included different disciplinary perspectives on what is classified as knowledge, and distinctions between objective and subjective ways of knowing. The panel topics included creative responses to the readings, including one, from a business professor, questioning the necessity for a “more is better” model of economics. Not surprisingly, the 17 workshop participants engaged with the tasks, and with other members of their groups, with differing levels of comfort. Perhaps most interesting to us as organizers were the questions that arose, both during the session and in the workshop feedback form, concerning how to encourage multidisciplinarity: How do we overcome resistance (by faculty and students) to multidisciplinarity? How do we engage faculty members in those kinds of learning groups, beyond bringing their expertise to a panel? How do we reduce the intolerance between communities?

Three main learning outcomes for workshop participants were identified: 1) to understand the challenges that face students and faculty members who participate in first-year learning communities; 2) to find common ground between diverse disciplines by generating new topics for multidisciplinary collaboration; and 3) to leave with tools to apply to their own institutions’ efforts to introduce multidisciplinarity to first-year students.

On our feedback forms, participants identified some of the challenges of learning communities, as well as three main concerns about multidisciplinary exchanges: 1) existing resistance to collaboration on the part of students and faculty, (i.e., worry about “tolerance within communities” and “disciplinary silos”); 2) difficulties on the part of both students and faculty in making connections across disciplines; and 3) ongoing questions about the use and meaning of those connections, expressed in one feedback form as a desire to model “potential student learning outcomes.”

Rather than closing off questions, then, the workshop helped to promote the kind of inquiry that can provide productive learning space. The comments shared by participants spoke to the extent to which academia is invested in disciplinary differences and in departmental structures, an attitude echoed by students’ investment in a singular disciplinary or career focus. Like multidisciplinary learning community panels, the workshop caused some anxiety by placing faculty members and student programming professionals into positions where they were no longer solitary experts but rather learners exploring the value of multidisciplinarity.
Why Multidisciplinarity, not Interdisciplinarity?

While there can be overlap between the terms, multidisciplinarity is often defined as an attempt to connect rather than combine different perspectives (Lattuca, 2003), as collaborators operate within their own disciplinary boundaries (NSERC, 2009). In contrast, interdisciplinarity is often used to denote “a mode of research that integrates information, data, techniques, tools, perspectives, concepts, and/or theories from two or more disciplines...to solve problems that are beyond the scope of a single discipline” (COSEPUP & PGA, 2005, p. 2). As multidisciplinary communities, the University of Saskatchewan’s Learning Communities Program enables students to draw connections between disciplines to gain a fuller understanding of common themes and problems.

In our experience, the term interdisciplinarity can ignite another sort of anxiety about loss of disciplinary autonomy. Indeed, one of the reasons first-year learning communities curricula focus on multidisciplinarity rather than interdisciplinarity is to anticipate, acknowledge, and avoid as much anxiety on the part of faculty members as possible. Disciplinary expertise is all one needs to bring to bear to a panel discussion; one need not acquire any special knowledge of other fields represented. We do not ask faculty to integrate their research (i.e., information, data, techniques, tools, perspectives, concepts, and/or theories), but rather collectively to construct a common pedagogy.

Concluding Remarks

As our explorations demonstrate, the open-ended nature of multidisciplinary collaboration represents a source of anxiety for faculty because of its challenge to established disciplinary divisions – divisions that enable a sense of place and belonging based upon a hierarchy of expertise. Instead of leading to a specific outcome that has been externally determined and allowing academics to remain within the safety of their own discipline, the multidisciplinarity embodied by learning communities invites a form of learning that involves discomfort and risks. This type of learning has less to do with placing an individual and more to do with enabling an individual to create a place.

After our workshop, and taking into account our experiences in the Learning Communities Program at the University of Saskatchewan, we are committed to exploring the role that is played by discomfort and resistance when faculty and students are asked to participate in activities that may take them outside of their comfort zones. We suggest that there is a cost involved in not finding points of intersection or integration of disciplines for students and faculty alike, since addressing common problems requires multidisciplinary and interdisciplinary approaches. As experienced in our workshop, the multidisciplinarity inherent in learning communities can ignite connections within, between, and beyond individuals and institutional boundaries. In our view, these benefits of authentic learning are worth the initial anxieties associated with multidisciplinary collaboration.

References


**Biographies**

Erin DeLathouwer is the Learning Communities Program Coordinator at the University of Saskatchewan’s University Learning Centre.

Wendy Roy is an Associate Professor in the Department of English at the University of Saskatchewan. She has taught two Learning Communities courses, for one of which she was awarded the Learning Communities Teaching Award.

Ann Martin is an Assistant Professor in the Department of English at the University of Saskatchewan. She was a faculty member in the university’s inaugural Learning Communities.

Jasmine Liska is a Masters’ candidate in the Department of English at the University of Saskatchewan.
Faculty Understanding and Implementation of Internationalization and Global Citizenship

Cindy Hanson & Barbara McNeil
University of Regina

This paper shares insights into how university faculty understand and integrate internationalization and global citizenship ideas into their pedagogical practices. The study worked with a broad base of faculty to come to an understanding of what it means for scholarship to embrace internationalization in teaching and then to explore ways of sharing that knowledge through pedagogical practices in the classroom. The results demonstrate faculty commitments to global citizenship, willingness to share teaching strategies, and ethical concerns about internationalization. Through this project the researchers hope to inform capacity to understand, develop, and deliver teaching strategies that enhance values associated with global citizenship.

Background to the Study

For the past two decades, educational institutions across Canada have become increasingly involved in working toward internationalization. The strategic plan at the University of Regina, for example, addresses internationalization as a direction for growth. According to Knight (2008), internationalization is a “process of integrating an international, intercultural, and global dimension into the purpose, functions (teaching, research, and service), and delivery of higher education at the institutional and national levels” (p. xi). Although the implications for internationalization are many, our study, Knowledge-Sharing for Improved Pedagogical Practices in Global Citizenship, asks what internationalization means for the scholarship of teaching and learning, particularly as it impacts the development of global citizenship.

The research asked the following questions: 1) How do faculty define pedagogies and teaching practices about global citizenship? and 2) How do faculty support and implement teaching for global citizenship and what kind of strategies do they use? This paper outlines the study methods and themes that emerged from the research, and presents several pedagogical practices used by faculty to enhance internationalization and global citizenship.

Methodology

Research methods included a focus group and semi-
structured interviews. Through the researchers’ personal contacts and extended networks, faculty were invited by electronic mediums to attend the focus group. The intent was to involve faculty from a range of disciplines, which ultimately included arts, social sciences, business administration, and education. Ten faculty members participated in the two-hour focus group; five of these faculty members agreed to be interviewed. Four additional faculty members, who were unable to attend the focus group, joined them. The focus group and interviews were recorded and transcribed, and then the data was read multiple times and sorted thematically by the researchers and a student research assistant. Several recurrent themes were identified from the analysis of data.

Themes from the Research

The following themes emerged from the research: 1) the role and responsibility of the university; 2) ethical concerns; 3) the value of taking a global citizenship approach; and 4) development of critical consciousness. In discussing the themes, participant quotations are sometimes used (with pseudonyms) to illustrate perspectives of the study participants.

Institutional role and responsibility

Although the university was generally commended for including internationalization in its strategic planning and core functions (a general trend noted by Childress (2009) and Green and Schonberg (2006), among others), several study participants questioned how extensive the consultations with faculty had been, what internationalization meant in practice to the institution, and the motivations behind pushes in this direction. Overall, study participants demonstrated a personal commitment to the practice of internationalizing their respective curricula. Nonetheless, they expressed concerns about the lack of supports for their efforts and the complexities of internationalizing while managing increasingly heavy academic workloads. A key study by Childress (2009) confirms that implementation of internationalization generally is carried out by faculty, and therefore, institutional investments of resources to support faculty efforts toward the operationalization of internationalization is central to its success.

Ethical concerns

Stier (2004) suggests that universities use three perspectives with regard to internationalization: idealism, educationalism, and instrumentalism. Instrumentalists consider higher education a means to ensure economic growth or to transmit ideologies of governments, transnational corporations, or other interest groups. The faculty we interviewed predominantly exhibited and supported the first two categories suggested by Stier, but they were critical of instrumentalism. One faculty member said, “When I hear global citizenship… I hear responsibility, I hear participation, I hear justice, and I think what it encourages me to do is to… talk to students about why we are here, what is our effect on others?” (Janine). Such idealism, ethical orientation, and concern for self and others were contrasted with economic self-interest, which many perceived as the driving force behind internationalization. Again and again, faculty members brought forward normative discourses about market models as oppressive and competitive, such as illustrated in this example:

There is a school of thought that maintains that this interest by universities in internationalization is a money grab because foreign students are supposed to be paying differential fees. The question then is the issue of ethical responsibility. If you look at where these students are coming from (developing countries, for some of them), how ethical is it to charge them for whatever as a way of perhaps making up for shortfalls in government grants? (Alabie)

According to Alabie, the imperative for the internationalization of universities is economic self-interest which Matus and Talbert (2009) say is characteristic of northern universities which actively participate in neo-liberal practices linked to
globalization. Generally, participants critiqued the way universities increasingly emphasized branding, profiling, and recruitment of foreign students without explicitly addressing “ethical responsibilities, and helping faculty and students make sense of those connections” (Keith).

Study participants understood how knowledge and power exercised through curricula and pedagogical practices could disrupt normative, hegemonic discourses about internationalization. Thus, many suggested teaching in ways that are intentionally critical in order to resist and disrupt the tendency to re-inscribe colonial relations of power.

**Global citizenship**

Karlberg (2008) suggests that global citizenship has become a “significant discursive construct” in the university and elsewhere (p. 310), and our research supported this notion. On the whole, faculty’s understanding of global citizenship draws on discourses in which global citizenship involves “being empowered” and where citizens have responsibilities toward global relations, peace, environmentalism, and understanding the interconnectedness of issues. These understandings converge with Toh’s (1996) ideas about global citizenship explained as “awareness of and commitment to social justice for marginalized groups, grassroots empowerment, nonviolent and authentic democracy, environmental care, and North-South relations based on principles of equity, respect and sharing” (p. 185). One participant, Rainy, explained that “now collectively, we’ve come together and realize we can put resources as a university towards endeavours that advance global citizenship” and that “[allow] us not only to design new courses but also to address some of the systemic injustices through that lens – citizenship lens.” Another participant explained that through the emphasis on global citizenship, “we are no longer [operating] as one who serves the province in terms of citizenship, but as one who serves a global community. This is really broadening that sense of accountability but also empathy at a deeper level” (Joseph). These examples typify the inclusionary discourses of caring, social justice, equity, compassion, humanitarianism, and cosmopolitanism (Karlberg, 2008) that imbue notions of global citizenship within a transformative model of education (Hanson, 2010).

The participants in the study predominantly represented faculty in liberal arts disciplines and were not representative of faculty in hard disciplines, such as math and science, who Clifford (2009) says represent viewpoints that explain knowledge as fixed and less open to difference. This may explain why the majority of faculty in the study described characteristics of reflexivity, responsibility, and agency as desirable for global citizenship. Others, however, offered a more educationalist view where transformation was not the intent. Instead they expressed the view that internationalization is useful for offering students “a unique and enriching learning experience” (p. 92). These expressions stress the importance of personal learning through intercultural understanding. For instance, one participant stated that “there is always that culture component; students in every lesson are reading about culture, economy, and geography… they do some research about a country…and it is a good way to learn about the rest of the world” (Kirsty). Such views do not necessarily challenge power structures inherent in international relations, and the participants holding these views are less likely to intentionally promote critical consciousness in learning.

**Critical consciousness**

Many study participants referenced a vision of critical consciousness linked to Freire (1970), who suggests that transformation becomes possible when the awareness of one’s position in the world becomes apparent – that is, “learning to perceive social, political and economic contradictions and to take actions” (p. 17). For some of those interviewed, this meant implementing strategies that oriented students to think about self and others through the construction of interdisciplinary courses about environmental ethics, global citizenship, international business, and international development. Faculty members explained that in such courses, emphasis is placed on knowing and understanding how actions in one locality affect citizens in another. For example, one participant said the process involves taking problems within communities and saying, “It’s not just here
in Saskatchewan...our day-to-day activities impact people in other places, like a developing country” (Dalton). The examination of connections between issues, people, and geographies was thus an important aspect of pedagogical practice for faculty in the study.

Pedagogical Practices and Strategies

Most study participants were grounded in pedagogical practices oriented toward social justice and challenging dominant knowledge systems, again a finding that does not concur with broader studies that distinguish differences between disciplines (Clifford, 2009). They spoke about using methods that linked students to local and global communities. Finally, they addressed the need to challenge Western ways of knowing and find culturally appropriate ways of addressing student issues and learning styles. Faculty advocated using a variety of instructional strategies. The use of small group work and invited speakers to represent different realities was reiterated frequently. It was viewed as a way of breaking isolation and engaging students who do not readily participate in large groups.

Faculty were critical of Eurocentric notions held by students and felt that by using examples which demonstrated ‘other’ realities and ways of doing things, some of these viewpoints might shift. The ways in which faculty addressed this problem differed; for example, some included different political and cultural representations in their curriculum. One faculty member used a simulation exercise wherein students simulate living in another culture for the duration of the semester. The students in that ‘other’ culture then come to understand how ‘othering’ operates and how it feels; for example, they experience visits from people representing dominant culture. Additionally a couple of faculty members investigated intercultural dialogue through digital networks linking students in different parts of the world to address ethical questions around global relations and the arts.

One faculty member had students trace the secret life of stuff thus enabling students to learn about the origins and pathways for items or foods found in North America, such as in the case of Tomasito (Ecumenical Coalition for Economic Justice, 1994). Similarly, case studies were used in several disciplines as a way of integrating local and global experiences. Faculty noted that case studies present dimensions of real life situations and provide a way of engaging students philosophically.

Another faculty noted the importance of using student experience as a starting place for actions. She explained the implementation of an exercise where she moves students into a circle (using principles of an Aboriginal talking circle), places a collection of objects on a cloth in the centre of the circle, and then has students select an object that reminds them of a story in their lives: the stories are then shared. Similarly, another faculty stated that for students to understand the world they live in, livelihood mapping is an important way to link issues to personal lives. Livelihood mapping explains the interconnections between resources and choices made by individuals. Rainy explains:

If you help them think about what their options are in a concrete way, then they can actually address some of the sustainability issues they observe about their own livelihoods and see areas where they can make changes and help others.

Using learning tools that assist students to understand current realities was deemed important. One faculty explained how he uses the board game Monopoly as a way of demonstrating how wealth is concentrated in society. In deconstructing the game, students were asked to name what the game's pieces represent, to discuss how concentration of wealth can lead to socio-economic inequities, and to name the responsibilities that citizens have to change such disparities.

The focus group provided a dynamic platform wherein faculty shared their knowledge and classroom practices. Many expressed a yearning for more opportunities to conduct such an exchange. Through the examples provided, faculty demonstrated cross-disciplinary, collaborative, knowledge-sharing experiences aimed toward global citizenship.
Conclusion

This small study supported the findings of previous studies (Childress, 2009; Dewey & Duff, 2009) which suggested that internationalization is perceived as inevitable for universities and, hence, it is vital to broadly enlist the involvement of faculty in internationalization processes and to provide them with appropriate supports. Although skepticism among faculty members exists, the level of activity toward internationalizing curricula evident at the individual level in the area of teaching (Knight, 2004) points to the existence of considerable sympathy and support for understanding global citizenship as a shared responsibility. Similar to faculty perceptions in the study by Dewey and Duff (2009), the faculty we interviewed “desire clarity in faculty involvement and roles in internationalization at the institutional level” (p. 501). The study participants are cautious about conceptual and policy understandings at the institutional level, and they welcome increased involvement in university processes toward internationalization. Most of the study participants were particularly supportive of taking an ethical stance toward global citizenship – one that clearly articulates or challenges power inequities, and encourages the development of a critical consciousness among learners.

References


Biographies

Cindy Hanson is an Assistant Professor of Adult Education and Human Resource Development at the University of Regina. Her doctoral work at the University of British Columbia explored the pedagogical practices used by Canadians working globally in gender equality; she similarly worked as a development consultant for 15 years.

Barbara McNeil is an Associate Professor in Language and Literacy at the University of Regina. She has worked and taught in diverse international contexts.

Drs. Hanson and McNeil both sit on the Board of the Centre for International Education and Training at the University of Regina. They are the co-recipients of a President’s Teaching and Learning Scholar Award from which this study emerges.
Wider Horizons:  
Fostering a Culture of Undergraduate Research

Roxanne Harde & Neil Haave  
University of Alberta

This essay synthesizes our roundtable discussion about how to develop a campus culture of undergraduate research. Our discussion began with descriptions of the University of Alberta, Augustana’s initiatives: Independent Studies courses, the Student Academic Conference, and summer research assistantships. Common concerns from roundtable participants included whether or not student access to undergraduate research should be limited by grade point average, how to implement undergraduate research from first to final year of student degree programs, how to fund undergraduate research, and finally how to approach undergraduate research across the academy.

Introduction

On the one hand, undergraduate research might seem more easily facilitated at large medical/doctoral institutions where graduate students provide models for their undergraduate counterparts. On the other hand, when graduate students are available and need sources of funding, undergraduates are generally not hired as research assistants; although this pattern may change as the Tri-Council Agencies (the major government granting agencies in Canada: NSERC – Natural Sciences & Engineering Research Council, SSHRC – Social Sciences & Humanities Research Council, and CIHR – Canadian institutes of Health Research) look ever more favourably on undergraduate researchers. The idea of building a culture of undergraduate research is sound. The academy can only benefit by widening the horizons of these students and encouraging them to see themselves as independent researchers/learners (Grobman, 2009; Lei & Chuang, 2009; Lopatto, 2007; Partridge & Sandover, 2010; Richman & Alexander, 2006; Seymour, Hunter, Laursen, & DeAntoni, 2004). Although difficulties with undergraduate research (e.g. undergraduate students take time to train, faculty not always rewarded for undergraduate supervision, cost of one-on-one mentoring, inadequate training) have been documented (Brown, 2006; Dolan & Johnson, 2010;
Merkel, 2003). Overall, the idea of undergraduates as researchers has been gaining currency for some time across Canada, even as faculty members and administrators seem uncertain about how to support these endeavours in ways that benefit the students, their faculty mentors, and the institution as a whole.

The Augustana Context

Both authors are Associate Deans, Teaching and Research, and faculty members who work with undergraduate researchers and administrators on building a culture of undergraduate research on a small liberal arts and sciences campus at the University of Alberta. Our roundtable grew out of the challenges we face on a daily basis as we work to expand and entrench undergraduate research on our campus. This essay synthesizes the discussion at our roundtable, beginning with descriptions of Augustana’s initiatives – Independent Studies courses, the Student Academic Conference, and summer research assistantships – and correspondent questions and concerns. We end with clearer ideas about specific challenges that need to be addressed, and in which areas of scholarship of teaching and learning might support undergraduate research on Canadian campuses.

Independent Studies courses

Independent Studies courses, one-on-one instruction/collaboration undertaken by faculty and students across the disciplines, form the core of undergraduate research at Augustana. With a student population of approximately 1000, we generally have between 15-30 of these courses per term (from Fall 2006 to Winter 2011 the average per term was 24). Listed in the calendar as Independent Studies (or Directed Studies or Readings), students negotiate their course with the instructor of their choice, and must then apply for departmental permission for the course to proceed. Generally, these courses include weekly meetings; a large amount of independent work, whether in the lab or the library; several short assignments; a substantial term assignment; and presentation of the research at our term-end Student Academic Conference.

Our concerns about Independent Studies courses, which we face with the rest of the administrative team that comprises our Chairs’ Council, are with the variation and disparity that these courses have from one instructor to the other. While Independent Studies courses are about mentoring researchers, some instructors approach the task by giving students the barest of guidance, throwing them in the deep end as it were, while others hold each students’ hand throughout the term. We also see too much variance in the work produced, particularly with the depth of theoretical struggle expected, and quality of final project. Even in the light of disciplinary differences – technique, theory, and practice – we feel there must be some standard that students in these courses must attain for their work to be seen as successful undergraduate research.

Student conferences

At the end of every term, we hold the Student Academic Conference, which has grown from a showcase for only Independent Studies students in 1994 to a campus-wide event that includes individual Independent Studies presentations, entire classes presenting team-based research, posters from a variety of disciplines, and creative projects. As the Student Academic Conference has developed, it has taken on the trappings of both professional meeting (abstracts, program) and celebration (festive decorations, food and drink served during the poster session). It works exceptionally well in attracting new undergraduate researchers and faculty mentors as it models (mostly) successful undergraduate research. One challenge we have faced in developing our Student Academic Conference is its timing. Currently, we hold it on the Monday evening during the last week of classes, which seems to best balance the ability to attract faculty, students, and community members. In the past, we have tried making it an afternoon event on the day before exams but have found that it was difficult to entice many to attend: many students go home to study, faculty are busy preparing exams or marking term work, and community members are unable to take time from work. As our Student Academic Conference grows we will need to increase the number of concurrent sessions, which will
produce its own set of challenges (e.g., the inability to attend all the presentations of interest, expanding the presentation rooms outside one contiguous building, ensuring fair judgement of all students nominated for our Outstanding Independent Work award).

**Undergraduate summer research assistantships**

The number of summer research assistantships continues to grow on our campus. Typically, these are 15-week, full-time positions and are financed through various funds that come with different sets of criteria. For example, students who hold positions funded by the Roger S. Smith awards must include a program of independent research in their application, which must be supported by their faculty supervisor. The student then completes the program while working for that instructor. Students hired by the holders of internal grants from the University of Alberta or external grants, such as the Tri-Councils agencies, generally work only on their supervisor’s research, and not their own. However, faculty members often precede or follow the supervision of a summer research assistant with an Independent Studies course with that student. Presently, we grapple with finding additional funding to cover the ever-growing number of students who want these positions, largely as a way to prepare themselves for graduate and professional programs, and faculty who need the research support. We also need to investigate ways in which we can attach a summer assistantship to an Independent Studies course that would see the student receive credit but not a salary as they conduct their own research and work for an instructor. Enabling every one of our summer research assistants to do at least some of their own research is another of our concerns.

**The Roundtable**

**Should GPA determine students’ enrollment in Independent Studies?**

While many of our specific concerns were common to the roundtable discussion group, we found that we all shared a number of more global challenges surrounding undergraduate research. In the interests of widening the horizons of all students, not just an elite few, we considered questions about who gets to do undergraduate research. How do we decide which students have access to an Independent Study? Should it hinge on students’ grade point average (GPA)? While the literature says it should not (Kinkead, 2003), at Augustana, it commonly does. We know from experience that a lower GPA does not necessarily mean that students will be unsuccessful in an Independent Study. Further, students with higher GPAs occasionally fail to rise to the challenge of an Independent Studies course. Our initial studies have gathered students’ pre-Independent Studies GPA since 2005 at Augustana, compared them to the subsequent final grade in their Independent Studies course, and found that 42% of their Independent Studies grade is correlated to their prior GPA (p<0.001, n=201). Thus, prior GPA can somewhat predict how well a student will perform in an Independent Studies course, but clearly it is not the only factor.

**Funding undergraduate research**

Funding undergraduate research was also a common challenge. From unexpected expenses associated with directed studies in the sciences to finding research assistantships for deserving students and their faculty supervisors, participants struggled with how to balance economic reality with worthy programs. Should undergraduate research be funded by the department, faculty research grants, specific scholarships, or levied student fees? The consensus seemed to be that it would, by necessity, be a mix.

**Scaffolding undergraduate research across the degree program**

Our roundtable discussion also touched on how to incorporate undergraduate research in first- and second-year courses. We generally agreed that building research into upper-year courses was easy enough but also felt that scaffolding undergraduate research into students’ first two years would better prepare them for a subsequent Independent Studies course.
In short, there is interest in teaching students to be independent learners/researchers before throwing them in the thick of an Independent Studies course or the demands for research in an upper-year course. The literature describes examples of research skills courses being attached to student research projects, but none discuss approaches for tiering research training across all four years of a degree program (Balster, Pfund, Rediske, & Branchaw, 2010; Kight, Gaynor, & Adams, 2006; Rasche, 2004; Snellman, Krueger, & Unangst, 2006).

Knowledge creation is the heart of undergraduate research

Participants also discussed the nature of undergraduate research in the Fine Arts. Although it was acknowledged that the nature of the Fine Arts endeavour is apparently different from research in the Humanities, Social, and Natural Sciences, fundamentally it is still focused on the same thing: the creation of knowledge. This does raise the issue of how we compare different approaches to the creation of knowledge, experiential or revealed. Given that consistency even within a discipline can be a problem, how do we find standards to evaluate the appropriateness of the project, its scope, the difficulty of theory, the methods of data collection, and its evaluation across the disciplines? We agreed that further study is needed on both incorporating research into freshman and sophomore courses, and on methods of evaluation.

Conclusion

The most significant outcome from our roundtable was identifying that undergraduate research needs to be considered with a wider horizon: knowledge creation. If this is the heart of undergraduate research, then the entire academy may find a place for undergraduate research. The challenges of better institutionalizing undergraduate research were shared by many institutions and indeed are not unique to Augustana. Finding ways of rewarding undergraduate supervision, financing undergraduate research, and scaffolding it across all years of students’ degree programs will help to embed this high impact educational practice (Kuh, 2008) within university culture.

References


**Biographies**

Roxanne Harde is Associate Professor of English, Associate Dean (Research), and a McCalla University Professor at the University of Alberta, Augustana. Her work with undergraduate research assistants and independent studies students has enriched her own research on nineteenth-century American literature and sparked an interest in studying the best practices of undergraduate research.

Neil Haave is Associate Professor of Biology and Chemistry at the Augustana Campus of the University of Alberta in Camrose and has been teaching there since 1990. His interest in undergraduate research stems from being both a supervisor of Independent Studies courses and also as Associate Dean (Teaching) with responsibility for the Student Academic Conference.
New Faculty Perceptions of Supervision and Mentoring: The Influence of Graduate School Experiences

Shannon Gadbois & Elizabeth Graham
Brandon University

This study examined new faculty members’ perceptions and approaches to student supervision and mentoring as related to their own experiences as doctoral students. Previous research has examined the graduate student-supervisor/mentor relationship but has yet to examine its impact on subsequent graduate student practices when they enter academic positions. Fourteen Canadian faculty members participated in a study on the experiences and expectations of doctoral candidates and early career academics. As a group, these new faculty members perceived that ideally a supervisor would also be a mentor. They perceived that a mentor shares professional and personal experience, functions as a ‘sounding board,’ provides guidance and advice, and helps prepare students for the work they are currently doing and for their career responsibilities in the future. A majority of these new faculty members reported that their graduate supervisors were not their only mentor or did not function as a mentor. Furthermore, all participants reported that they consciously made an effort to include mentorship as part of their supervisory role. These findings indicated that graduate students’ own experiences of being supervised and/or mentored informed approaches with their own students. This research shows the apparent value in studying the influences of these important graduate school relationships and demonstrates the way in which our perspectives on supervisory relationships may influence subsequent practice.

In the academic profession, mentoring relationships have been given considerable attention. Researchers (e.g., Kram, 1983; Paglis, Green, & Bauer, 2006) have specified particular functions of mentors including the often informal influence on the development of self-confidence, to the more formal development of career skills needed within the profession. Specifically, Weidman and Stein (2003) argued that doctoral students acquire essential professional skills when their faculty members in their programs promote and encourage scholarly activities on a daily basis. In fact, researchers
New Faculty Perceptions of Supervision and Mentoring

(e.g., Baker & Pifer, 2011; Schor, 2003; Schrodt, Cawyer, & Sanders, 2003; Sorcinelli & Yun, 2007) have noted proactive and supportive mentors are vital to subsequent success in the academic context. The impact of the relationship between students and their supervisors and/or mentors can mean the difference between pursuing an academic career or not doing so (e.g., Singer, Cassin, & Dobson, 2005). Consistent with this idea, Paglis et al. (2006) longitudinal study showed that doctoral candidates whose advisors provided psychosocial mentoring (i.e., helped students develop a sense of competence in their work) and research collaborative mentoring (i.e., working with students on shared publications) showed greater research self-efficacy and research productivity in subsequent years of their studies.

Research has also shown that graduate programs are not effective in preparing graduates for their roles in part because many graduate supervisors are not necessarily mentors, although students expect they will be (e.g., Austin, 2002; Gadbois & Graham, 2009; Manathunga, 2007). Adams (2002) argued that students want mentorship that encompasses more than research skills training. Specifically, Adams proposed that graduate advisors should be helping their students develop the necessary skills so that they themselves will become effective student supervisors and mentors. In fact, although research has focused on the graduate student-supervisor/mentor relationship, it is important to consider how this relationship might influence new student-supervisor/mentor relationships (e.g., Bean, Readence, Barone, & Sylvester, 2004). As such, exploring the experiences of new academics should be beneficial given the importance of mentoring relationships for students, and the lack of formal preparation academics receive in relation to their potential roles as mentors.

Because new academics have just completed school, they can offer a unique and useful source of data specifically with reference to their experiences and insights regarding supervision and mentorship of their own students and based on their own experiences as students. Furthermore, education researchers (e.g., Erden, 2009) have emphasized that our beliefs about learning and teaching are the filters through which we determine our instructional practices and interactions with students, including mentoring students. In keeping with these ideas, our primary goal was to examine the experiences of early career academics regarding their ideas and practices as supervisors and/or mentors and the similarities and differences between their experiences with their doctoral supervisors and their approaches with their own students.

Methodology

Fourteen Canadian academics (three men and 11 women), within the first five years of their positions, volunteered to participate in our study of the expectations and experiences of doctoral students and early career academics. As a group, they were employed across five provinces and in a range of disciplines (e.g., political science, anthropology, sociology, psychology) in both primarily undergraduate and comprehensive universities. In the first part of the study, participants completed an online survey. Those who wished to participate in an interview contacted the first or second author. Almost all of our early career academic interview participants (n=13) were assistant professors in tenure track positions.

All participants completed individual, semi-structured interviews. Although they answered a broad range of questions regarding their experiences in graduate studies and in their current position, this paper examines the most common participant responses with respect to: the essential characteristics of a mentor relationship, the relationship between supervision and mentorship, their experiences with their own supervisor, and the similarities and differences between their own and their supervisors’ approaches.

Results

First, the participants’ conceptualizations of mentorship were generally consistent in that they all emphasized that a mentor should provide both professional and personal support to her/his mentee.
As one participant explained:

“A good mentor…makes sure that the student is not only doing the…narrow dictates of what the program requires, but is emotionally on track…It’s not just… ‘are you reading these books and getting these chapters done’ but ‘how are you coping’ on a personal level” (Interviewee 1).

More specifically, participants indicated that a mentor provides guidance and advice sharing information regarding their own career struggles, successes, and failures. The importance of advice and sharing indicated in the following statements is reflective of the thoughts many participants expressed:

“Provides advice if…you’re struggling with something…shares their personal experiences with you” (Interviewee 2).

“A mentor is someone who shares their past discoveries with you…in a way that might hopefully offer you some markers along this sort of new road that you’re on” (Interviewee 13).

Almost every participant particularly emphasized that a mentor provides guidance. Some participants more specifically discussed certain dimensions of guidance when describing a mentor:

“I guess just provides guidance, I suppose like in terms of teaching or research…and I guess…maybe about the politics of the university, and the politics of getting published, and so on” (Interviewee 3).

Previous research (e.g., Rose, 2005) has emphasized the importance of mentorship guidance as related to doctoral student satisfaction.

Across the 14 interviewees only one believed that a doctoral student could successfully complete their studies without having a mentor, although this individual did indicate that not having a mentor would make the process very difficult. Importantly, when specifically asked, all of the interviewees stated that a supervisor should also be a mentor. This finding, consistent with other research (Austin, 2002), is significant given that only three of the 14 interviewees stated that their supervisor was their mentor.

Second, participants were asked about how their approach to supervision was similar to or different from their supervisors’ approaches. Of the participants, nine individuals had already supervised students. Only one indicated that she consciously and specifically modelled the approaches of her graduate supervisor. In contrast, the remaining participants indicated that although they did often follow their supervisors’ approaches with regard to promoting academic skills development, unlike their own supervisors, they tried to provide psychosocial support for their students. They specifically reported trying to combine mentorship and supervision in their work with students. The comments from Interviewees 9 and 10 particularly reflect this fact:

“I do find myself doing a lot of the same things that he did…I guess the one thing I do a little bit differently is…I think I’m a lot more…I guess I know my students a lot more on a personal level than he did…My students don’t see me as their friend, but they see me as very friendly and we have a pleasant relationship” (Interviewee 9).

“You don’t have to dive too deep into their personal life, but to have a certain idea of their personal life and what’s going on outside the academic world. I thought this was something important that I didn’t get when I was in graduate studies…seeing the student as more as a person as opposed to just somebody working on a
thesis I think would be an important point” (Interviewee 10).

These new faculty members specifically indicated that they were trying to include in their supervisory practices what was missing in their experiences with their own supervisors, again emphasizing the importance of psychosocial support. Two interviewees stated:

“I try to convey the experience that I have to my students...so that they don't have to go through it on their own...I try to make myself human and approachable” (Interviewee 5).

“You could choose the most brilliant scholar in your field to be your supervisor but that person could actually be a lousy mentor...you could end up with the world’s best dissertation and absolutely no professional skills...I try to be a mentor. I feel like that’s definitely a responsibility that I have” (Interviewee 6).

In fact, at least one study (Lechuga, 2011) showed that faculty members who mentored their graduate students, emphasized that their responsibilities included both professional and personal support.

Discussion

Consistent with views from other levels of educational training, it makes sense that the perspectives we hold regarding how we should teach should influence what we actually do. In this study, we were interested in the graduate school experiences of early career academics and how these experiences were related to their ideas of supervision and mentorship. Generally, the results showed that the participants believed that they did not receive both supervision and mentorship from their graduate supervisors although they believed that a supervisor should also be a mentor. More specifically, as a group, these new faculty members perceived their supervisors provided good professional mentorship though they did not provide sufficient psychosocial mentorship. Related to this fact is that those who had already supervised their students reported that they particularly made an effort to provide psychosocial supports for their own students.

These findings are consistent with other research (e.g., Rose, 2005) that shows graduate students’ beliefs in the importance of both professional and psychosocial mentorship. These findings are also consistent with research that shows that some students particularly desire or need psychosocial mentorship (e.g., Bell-Ellison & Dedrick, 2008). Furthermore, consistent with at least one paper (Bean et al., 2004), our findings extend this work and show that students’ experiences with their own graduate supervisors seem to inform and influence their subsequent interactions with their own students. Importantly, our participants reported that they made a conscious effort to draw upon their prior experiences in considering their own roles as supervisors. These findings are important given research (e.g., Bernier, Larose, & Soucy, 2005) that has indicated that effective mentoring arises when faculty members pay attention to the way in which they interact with students.

Though these outcomes complement the literature on graduate student supervision and mentorship it is important to note some limitations of this research that might be overcome in future studies. First, our sample consisted of early career academics almost all of whom were in tenure-track academic positions. That is, by definition, they are likely to have been successfully mentored with regard to career skills and may have had more positive experiences in general in their interactions with their supervisors compared to the broader pool of doctoral candidates in Canada. Second, although our participants talked about how they tried to supervise and mentor their students, we have no way of knowing whether, in fact, they were successful in doing so. Similarly, we had no means of determining whether their graduate supervisors believed that they were providing both career and psychosocial support, or whether any of their supervisors were recent graduates themselves.
Finally, some of our participants had not had an opportunity to supervise students. However, even these participants did specifically state that they would attempt to supervise and mentor their students while being mindful of both academic and psychosocial support. That is, their proposed approaches were consistent with the individuals who had already supervised students.

This research demonstrates the there is merit in exploring the student-supervisor/mentor relationship beyond graduate training to consider the potential influences on subsequent practice of academics. It also implies that even better student-supervisor mentoring relationships may evolve from those that are successful at least in career development. Ideally, future research would include a more detailed examination of both sides (i.e., graduate student and supervisors) of the relationship (perhaps over time) as graduate students’ progress from mentee to mentor.

References


**Biographies**

Shannon Gadbois, an Associate Professor in the Department of Psychology at Brandon University, conducts research on extracurricular activities participation and positive youth development, university students’ learning and performance, and gender issues in academia.

Elizabeth Graham, an Assistant Professor in the Departments of Sociology and Gender and Women's Studies at Brandon University, conducts research on sense of Self, autonomy, and their interconnection with the social context.
Language Diversity & Practice in Higher Education: Can Discipline-Specific Language Instruction Improve Economics Learning Outcomes?

Trien Nguyen
University of Waterloo

Angela Trimarchi
Wilfrid Laurier University

Julia Williams
University of Waterloo

In the field of second language acquisition, discipline-specific language instruction is becoming widely known as Content and Language Integrated Learning. This method includes any activity that involves teaching a subject in a second language for the purpose of teaching both the subject content and the language. Research has shown that this two for one approach increases students’ content knowledge and language proficiency in both the short and long terms (Baik & Greig, 2009; Kasper, 1997; Song, 2006). These studies have been conducted using a variety of subjects in combination with several second languages, but the combination of economics and English has not been explored in the literature. Our research involved teaching English as an Additional Language (EAL) to international students taking an introductory economics course. Ten voluntary participants completed pre- and post-treatment assessments as well as exit interviews. Assessment results indicate that vocabulary instruction is correlated to success in economics although reading strategy instruction did not have the same impact.
Content and Language Learning in Higher Education

In many universities, increased international recruitment has created a greater demand for English as an Additional Language (EAL) training. Despite having passed university English language requirements, EAL students often find language is still a barrier to academic success. At the post-secondary level, typical English language support courses are generic; that is, the content in these courses is not discipline-specific, but rather includes themes from a variety of popular topics. However, many EAL students need instruction in both language and content for their academic programs. Hyland (2002) uses a discipline-specific research model for language to show that university-level writing tasks are discipline specific. North (2005) concludes that "communication skills may be context-specific" (p. 518). Exploring the potential of discipline-specific second language instruction is, thus, essential to determining how language support can be delivered most efficiently so international students can overcome language barriers and become academically productive as soon as possible. Although the issue of generic versus discipline-specific instruction is relevant to other fields, our study looks specifically at its application to the field of EAL.

The discipline-specific model of second language instruction is widely known as Content and Language Integrated Learning. In Canada, French immersion programs have provided rich ground for research in second language acquisition at elementary and secondary levels. More recently, at post-secondary levels, studies have explored the provision of English language instruction through a variety of disciplines: architecture (Baik & Greig, 2009), psychology, sociology, history, health and physical education (Song, 2006), geography (Rodgers, 2006), and psychology and physiology (Ready & Wesche, 1992). These studies and others (Grabe & Stohler, 1997) credit this approach with improving the target language proficiency while producing students who are at least as competent in their subject matter as students in control groups. Recent European and North American experiments have produced strong second language proficiency and subject matter expertise while satisfying both students and teachers (Deen & Hacquebord, 2002).

While these studies have paired second language instruction with a wide variety of disciplines, research combining English language instruction with the discipline of economics is not well represented in the literature. Economics provides an appropriate context for a pilot project because it is a popular field of study for international undergraduates. These students often struggle with economics concepts which have language connections. For example, terms such as the ‘beggar thy neighbour’ policy, ‘keeping up with the Joneses’ phenomenon, ‘bandwagon’ effect, and ‘exchange rate appreciation’ were coined by Anglophone economists in a cultural context not always clear to non-Anglophones. We wanted to find out whether discipline-specific second language instruction could help students improve their economics knowledge and English proficiency.

An Environment for Economics and Language Instruction

As the first economics course for most students is Introductory Microeconomics, we felt pairing English language instruction with this course would most likely provide results not influenced by knowledge from previous economics courses. The course in which we conducted our experiment was taught by an experienced instructor whose teaching style was supportive of international students. Specifically, partial lecture notes were provided online ahead of time which significantly reduced the note-taking burden for students, international and native alike. The instructor was aware of possible language gaps that many students might be experiencing and regularly provided definitions of words which might be unknown to international students.

During the term prior to the project start date, the English instructor attended the course to familiarize herself with course content, instructional activities, and key vocabulary. She used this knowledge and experience to develop pre- and post-reading and
vocabulary assessments. An international economics graduate student was brought onto the project as a teaching assistant to provide content support to the English instructor and to act as a role model for the students.

We started off with a recruitment presentation in the economics class. Ten students volunteered to participate in our so-called ‘EAL for Economics’ tutorials of 1½ hours of English instruction per week. This amount of time was selected as we felt that a longer session each week would discourage students from participating. We did not give additional homework or assessments for fear of overburdening the students. English tutorial materials were based on content from the economics classes. As there were few opportunities for discussion and writing in the larger economics classes, our EAL tutorials focused on the skills which were most relevant to our context and discipline, which were broadening and deepening vocabulary knowledge, reading strategies to enhance reading skills, note-taking, multiple choice exam strategies, and clarifying culturally bound references. In this way, our EAL tutorial materials were authentic in that they reinforced the skills required for success in the economics course.

The students demonstrated some interesting characteristics. While we recruited seven of the students, the remaining three came on their own by “word of mouth” from other sections. The group was evenly split between male and female students. In terms of academic background, they were generally strong students registered in demanding programs such as mathematics (6), computer science (2), or accounting and financial management (2). We feel that the heavy workloads of students prevented more of them from participating in the tutorials. To achieve a higher sample size, we would have needed institutional encouragement, perhaps in the form of mandatory participation.

In terms of language background, the students met the University’s English language requirement for admission in varied ways. Three came from overseas and provided standardized English language test scores. Four had been in Canada less than three years, and met the requirement by submitting both standardized English test scores and secondary school English grades. The remaining three had been in Canada more than three years and were not required to submit proof of English language proficiency beyond their secondary school English grades.

On close examination of these records, we found that their English language skills were not particularly strong. For those who submitted standardized English proficiency test scores, the average score was just below the University’s minimum entrance requirement. Evidently, some were accepted with scores lower than the minimum requirement. For those who submitted secondary school English grades, the average score was 63%. Overall, while their English backgrounds met University entrance requirements, they were not strong enough to ensure student confidence. The students were aware of their weaknesses in English, and they participated in our EAL tutorials because they aspired to the research objectives of enhancing both economics knowledge and English proficiency.

Learning Outcomes

The EAL tutorials provided a testing ground for combining economics and language instruction for international students. These were highly motivated students wishing to do well in their discipline and at the same time searching for ways to overcome their language barriers.

English language assessments

To determine the impact of the EAL tutorials on the students’ language proficiency, we gave pre- and post-tests on vocabulary and reading skills (available upon request from the corresponding author). Multiple choice vocabulary test items were based on lecture and textbook words that we anticipated students would not know. On the vocabulary assessments, we found that student performance improved between the two tests: the average score increased 13% from 55% to 68% while the minimum and maximum scores also moved up considerably (minimum from 28% to 44% and maximum from 76% to 88%). The tutorials appeared to be an effective method to help international students develop their vocabulary skills.
This result was reinforced by student comments during their exit interviews which provided qualitative insights into their perceptions of the effectiveness of the tutorials.

Pre- and post-test reading items were based on an economics text that provided introductory level economics content that students had not previously seen. The reading test results were less clear cut than the vocabulary test results: while the average score went down by 12% (69 to 57%) and the minimum score fell 7% (47 to 40%), the maximum score went up 6% (87 to 93%). Thus, only the top performers did well. There are possible reasons for this outcome. For example, the falling average score may be due to what was perceived as the higher level of difficulty of the post-reading test compared to the pre-reading test. While measures were taken to ensure a consistent level of difficulty (texts matched in length and Flesch-Kincaid reading level), the students indicated in their exit interviews they felt the post-reading test was more difficult. Another possible explanation lies with the lack of time for practicing time-consuming reading skills during the tutorials. While we recognize that longer EAL tutorials may have reduced the participation rate, more time practicing reading strategies may have yielded better post-test reading results.

**Economics content assessments**

The students' learning of economics content was measured by their final economics course grades. Their average was 85% which is well above the standard class average of 72% for most sections of introductory economics. The range of final grades was 74 to 91% with a standard deviation of 7%. These grades suggest that the participants outperformed non-participating students although the fact that the participants volunteered for the project means that their success could be attributable to other factors such as motivation and hard work.

**Conclusions**

The following four lessons emerge from our experience of a pilot project to combine discipline-specific EAL instruction with the traditional method of course delivery in introductory economics: 1) discipline-specific EAL instruction, such as our ‘EAL for Economics’ tutorials, can help improve content and language learning; 2) vocabulary skills appear to be correlated to overall success in the economics test course; 3) reading skills may require more time to develop; and 4) our voluntary students valued the experience (as indicated in exit interviews.)

We recommend that work in discipline-specific language instruction be continued to strengthen the literature on disciplinary versus generic approaches to language delivery in our teaching context. There certainly appears to be an opportunity to support the increasing numbers of international students in higher education.

It is worthwhile to note that success in interdisciplinary research is predicated upon a strong collaborative relationship between the researchers, which we feel we developed and enjoyed. We note that the students who volunteered in our project were highly motivated students looking for academic excellence, but non-participating students (who may have greater need for this support) may benefit even more than our voluntary group. We suggest that university level policy may be needed to encourage more student participation in future projects.

**References**


Snow & D.M. Brinton (Eds.), *The content-based classroom: perspectives on integrating language and content* (pp. 5-21). New York: Longman.


**Biographies**

Trien Nguyen is a Professor of Economics at the University of Waterloo, with research interests in economics, technology, and the scholarship of teaching and learning.

Angela Trimarchi is Lecturer of Economics at the University of Waterloo and Wilfrid Laurier University, with several years of experience in teaching economics to international students.

Julia Williams is the Assistant Director (Credit programs) of the English Language Institute at Renison University College, the University of Waterloo. Her research interests include Content and Language Integrated Learning.
Establishing Peer Mentor-Led Writing Groups in Large First-Year Courses

Sarah Marcoux, Liv Marken, & Stan Yu
University of Saskatchewan

This paper describes the results of a pilot project designed to improve students’ academic writing in a large (200-student) first-year Agriculture class at the University of Saskatchewan. In collaboration with the course’s professor, the Writing Centre coordinator and a summer student designed curriculum for four two-hour Writing Group sessions carved out of weekly scheduled lab times, and trained peer mentors to lead students through the writing process. Writing Groups fostered a sense of community in the otherwise-isolated process of writing a challenging term paper, and provided opportunities for rich and frequent feedback. Ultimately, Writing Groups were shown to demystify the process of academic writing, making it more manageable and accessible to students.

Introduction

Emphasizing to new students the value of university-level academic writing in a discipline is crucial, but at the same time it can be daunting for a professor of a large class\(^1\) to carry out writing instruction and marking, even with teaching assistants (Harfitt, 2011; Taylor, 2008; Ward & Jenkins, 1992). Previous studies have documented clear differences between the types of writing asked of students in high school and what they must produce in university writing assignments (Beil & Knight, 2007). In many institutions, the work of teaching writing is relegated to a first-year composition class; however, studies have shown that first-year students continue to demonstrate significant deficiencies in university-level academic writing, undermining two determinants of increased student retention: “academic-related skills [and] academic self-confidence” (Lotkowski, Robbins, & Noeth, 2004, p. 7). With one-class ‘fix-it’ solutions and growing class sizes, opportunities for professors to help students learn to write in a discipline may be few (Graves & Graves, 2006; O’Brien-Moran & Soiferman, 2010).

\(^1\) Large classes have been generally defined as classes with enrollments above one hundred students (Boyd, 2010).
In addition to the need to address first-year students’ skills in and competence with academic writing, the inherent needs of writers must be addressed. As expressed by Pinter (1995), “All writers, especially first year writers, need support from peers and that’s another reason why learning to write is not an individual task. Instructors must also support students in several ways, including individual conferencing and sensitive marginalia” (p. 4). While it is common practice for instructors to provide constructive feedback on writing assignments, in large classes the feedback may not be as rich and meaningful, and thus is often left unread (Orsmond & Merry, 2011).

In response to these challenges, the University of Saskatchewan College of Agriculture & Bioresources, in collaboration with the Writing Centre, piloted Writing Groups in a 200-student first-year class. The primary goal was to create a peer mentor-led collaborative learning environment focused on teaching the process of academic research and writing; exposing students to regular, structured, and clear feedback using detailed rubrics; and encouraging a continuous dialogue about, and practice with, writing. A thorough assessment of the pilot revealed increased levels of confidence and decreased levels of struggle with academic writing amongst students, resulting in positive results on their term paper grades.

Project Design

The Writing Groups program is driven by student peer mentoring, which can be defined as “an encouraging and supportive one-to-one relationship with a more experienced [student]…characterized by positive role modeling, promotion of raised aspirations, positive reinforcement…and joint problem-solving” (Topping, 2005, p. 632). At the University of Saskatchewan, peer mentors are selected for their strong academic performance and willingness to help other students. For the Writing Groups program, peer mentors attend a two-day training session led by the Writing Centre coordinator and the course professor, and they participate in regular meetings throughout the term.

Writing Groups were conducted in the weekly scheduled laboratory sessions of a 200-student first-year course, of which four two-hour labs were devoted to Writing Groups. For each lab, one peer mentor led approximately 20 students for two hours of writing activities. Eight percent of the student’s overall grade was allocated to attendance and participation in Writing Groups, which communicated to students that writing skills were valuable to the professor, and that the work completed was intrinsic to the course.

At the heart of the Writing Groups curriculum was a process approach to writing, which placed emphasis on smaller, more manageable writing tasks in building towards the final product. The curriculum condensed the larger writing task into three stages: prewriting activities, drafting, and editing and proofreading. Each Writing Group session was then planned to achieve a stage-specific product (e.g., producing an outline in the prewriting session) while leaving students with take-away skills and strategies they could draw on for future writing assignments. Each session built on the previous one, and students incrementally completed their term papers with the guidance and support of peer mentors. Peer mentors planned their sessions to suit their facilitation style, writing experience, and sense of their group’s dynamic, while simultaneously meeting curriculum objectives.

Furthermore, the sessions included rubric-guided feedback along the way. First, students completed a low-stakes writing activity, which was intended as an early warning system for those unaware of the gap between their previous writing experiences and the one immediately facing them. Next, students peer-reviewed each other’s drafts. Later, students were given a comprehensive self-assessment rubric for revising their final paper. Finally, the professors marked final papers with a detailed rubric.

Research Methodology

To assess the success of Writing Groups, a pre- and post-term survey methodology – adopted from the ‘Writer’s Personal Profile’ (Robinson & Burton, 2009) – was used with questionnaires administered
to students at the beginning and end of the course (Appendix A). Students were asked questions about their perceived level of comfort with university-level writing, areas of struggle in the writing process, and their opinions on the effectiveness of Writing Groups. This data was then compared with term paper, attendance, and participation marks, allowing for a measurement of difference between both objective and subjective indicators of students’ writing proficiency before and after the pilot. The results are presented below.

Results

Overall, it was found that 49.6% of students felt their writing skills had improved as a result of participating in Writing Groups, while 21.6% of students did not feel their writing skills had improved and 28.8% were unsure.

Students who felt their writing skills had improved specified major improvements in structuring their essays and sentences, citing, organizing their ideas, and understanding the process of writing a scientific paper. This finding was corroborated by a pre- and post-term comparison. In the post-term, students reported decreased levels of struggle in the following categories: understanding what the instructor wants (-26%); organizing information and presenting it in a logical sequence (-18%); creating smooth transitions (-17%); incorporating and citing tables and figures (-24%); and incorporating and citing borrowed information (-19%). Overall, a strong correlation was found between student’s decreased level of struggle and increased levels of comfort with academic writing ($p < 0.001$).

For students who felt their writing skills did not improve, the commonly cited reasons were that they were already aware of the writing process and did not feel that they were being exposed to new material, or that Writing Groups did not address their specific needs as writers. Finally, for students who were not sure whether their writing skills had improved, many had wanted to see a term paper mark and/or feedback before deciding whether Writing Groups were effective.

As illustrated in Table 1, students who felt their writing skills improved as a result of their participation in the program tended, on average, to attain a 6.6% higher mark on their term papers versus students who did not find that the program improved their writing skills.

Furthermore, Table 2 shows that students who had achieved the maximal attendance and participation marks were significantly more likely to also attain a higher term paper mark.

In addition to positive changes in the key indicators of term paper marks and self-perceived levels of struggle in writing, the course’s professor was emphatic in her assessment of Writing Groups’ success: “I am convinced that the writing was better as a consequence of the writing groups. Certainly the literature citations seemed to be better… I had fewer students coming to talk to me in desperation.

![Figure 1](image-url)

*Figure 1*

“I feel my writing skills have improved as a result of participating in Writing Groups”
They understood what they needed to do” (F. Walley, personal communication, August 11, 2011).

Discussion and Conclusions

Kuh (2008) writes that requiring students to do more writing and providing them with feedback has strong positive effects on student learning and engagement. However, the writing skills deficiency common to incoming students, coupled with the logistical problems of including writing assignments in large courses, makes this high-impact educational practice difficult to implement. Writing Groups successfully addressed these challenges by using peer mentorship to create a community of support and guidance for first-year writers, and by emphasizing academic writing as process rather than product. By starting the research and term paper early, and dissecting the writing into more manageable tasks – in a mentored and feedback-rich environment – student confidence and learning increased.

As a result of our assessment and the professor’s recommendations, improvements were made: “The first year went well, and we learned more about what seemed to work and what needed some tweaking… [namely] I struggled in lectures to cover material that normally would be covered in labs. Weighing pros and cons, I decided we needed to take back one… lab” (F. Walley, personal communication, August 11, 2011). By subtracting one of the four labs given to writing groups, the professor realized incorporating writing instruction within lectures would legitimize it as intrinsic to the course rather than simply a side topic: “Reinforcing the writing skills in lecture seemed to work really well and I would definitely work it into the lectures more often in the future” (F. Walley, personal communication, August 11, 2011). Since last year’s success, Writing Groups has expanded to two courses in the 2011-2012 academic year. Thus, while including written assignments in large first-year classes remains a challenge, peer mentor-led Writing Groups can offer a viable and effective solution for addressing this challenge and meeting the needs of both students and professors.

References

Beil, C. & Knight, M.A. (2007). Understanding the

Table 1

<table>
<thead>
<tr>
<th></th>
<th>Yes (N=64)</th>
<th>No (N=26)</th>
<th>Don’t Know (N=36)</th>
<th>Total (N=126)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>78.13%</td>
<td>71.50%</td>
<td>76.14%</td>
<td>76.19%</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>13.8</td>
<td>19.4</td>
<td>18.6</td>
<td>16.6</td>
</tr>
</tbody>
</table>

Table 2

<table>
<thead>
<tr>
<th>Term Paper Mark</th>
<th>Less than Maximal (N=47)</th>
<th>Maximal Attendance/Participation (N=137)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Term Paper Mark</td>
<td>57.1%</td>
<td>75.2%</td>
</tr>
</tbody>
</table>

**Significant at the 0.01 Level**
gap between high school and college writing. Assessment Update, 19(6), 6-8.


Biographies

Liv Marken is the Writing Help Coordinator for the University of Saskatchewan. She is also a sessional lecturer in the Department of English. Her research interests include teaching via live writing, and delivery of writing help services to Aboriginal students and international students. She is currently investigating writing-to-learn activities for peer-led, course-based learning communities.

Stan Yu is the Research and Program Evaluations Specialist for the Gwenna Moss Centre for Teaching Effectiveness at the University of Saskatchewan. He is also a current master’s candidate in the Department of Sociology.
Sarah Marcoux graduated with a B.A. (Honors) in Regional & Urban Planning from the University of Saskatchewan in the spring of 2012. As a summer student at the University Learning Centre in 2010, she worked exclusively on the Writing Groups project, on aspects ranging from curriculum to assessment. She plans to begin a Master of Education program in the fall of 2012 with a research focus of sustainability policy in K-12 and post-secondary education in Canada.
Appendix A

Writing Groups Pre- and Post-Term Questionnaires

Writing Groups Pre-term Questionnaire (#1 of 2)

The purpose of this questionnaire is (1) to compare your responses to a second, end-of-term questionnaire to determine the efficacy of Writing Group labs, and (2) to help your Writing Group leader better tailor each lab to your needs. Your honesty is appreciated.

**PUT ONLY YOUR NSID ON THE FORM.** We do not wish to obtain your identity; your NSID and responses are for information-gathering purposes and for evaluation of the program only.

NSID: __________________________

1. Do you expect your writing skills to improve as a result of participating in writing group labs?
   a) Yes
   b) No
   c) I don’t know

2. Which of the following aspects of the writing process do you continue to struggle with? **Please circle letters for all that apply.**
   a) Coming up with an appropriate and workable topic
   b) Understanding what the instructor wants
   c) Locating and evaluating sources
   d) Organizing the information and presenting it in a logical sequence
   e) Generating the first draft of a paper
   f) Writing the introduction and/or conclusion
   g) Sticking to the topic; identifying and omitting extraneous information
   h) Creating smooth transitions between paragraphs and sentences
   i) Incorporating and citing tables and figures in the text
   j) Incorporating and citing borrowed information into the text
   k) Revising paragraphs and other elements of the paper’s organization
   l) Finding and correcting grammatical and spelling errors
   m) Using an appropriate tone, writing style, and level of complexity for the target audience
   n) Following the assignment specifications for format, length, style, audience, etc.
   o) Establishing and maintaining a research and writing schedule that allows enough time to produce the best paper
   p) Other (please specify)

3. Name two of your strengths as a writer:
   i. 
   ii. 

4. Name two of your weaknesses as a writer:
   i. 
   ii. 
5. List two characteristics of “good writing” in your chosen discipline/career field (name your field or major, please):
   i. 
   ii. 
6. Briefly describe your typical approach to revising drafts of your writing.

The End. Thank you for your time!
Appendix B

Writing Groups Post-term Questionnaire (#2 of 2)

The purpose of this questionnaire is (1) compare your responses to the first, beginning-of-term questionnaire to determine the efficacy of Writing Group labs, and (2) to improve Writing Group labs for the future. Your honesty is appreciated.

PUT ONLY YOUR NSID ON THE FORM. We do not wish to obtain your identity; your NSID and responses are for information-gathering purposes and for evaluation of the program only.

NSID: __________________________

1. Which of the following aspects of the writing process do you continue to struggle with?

   Please circle letters for all that apply.
   a) Coming up with an appropriate and workable topic
   b) Understanding what the instructor wants
   c) Locating and evaluating sources
   d) Organizing the information and presenting it in a logical sequence
   e) Generating the first draft of a paper
   f) Writing the introduction and/or conclusion
   g) Sticking to the topic; identifying and omitting extraneous information
   h) Creating smooth transitions between paragraphs and sentences
   i) Incorporating and citing tables and figures in the text
   j) Incorporating and citing borrowed information into the text
   k) Revising paragraphs and other elements of the paper’s organization
   l) Finding and correcting grammatical and spelling errors
   m) Using an appropriate tone, writing style, and level of complexity for the target audience
   n) Following the assignment specifications for format, length, style, audience, etc.
   o) Establishing and maintaining a research and writing schedule that allows enough time to produce the best paper
   p) Other (please specify)

2. My writing skills improved as a result of Writing Group labs.

   a) Strongly Agree
   b) Agree
   c) Neutral
   d) Disagree
   e) Strongly Disagree

3. Why do you feel that Writing Group labs did or did not improve your writing skills?

4. Has your approach to revision changed since the beginning of the semester?

   a) Yes
   b) No
5. Briefly describe your approach to revising drafts of your writing

6. How many times did you visit the ULC Writing Help drop-in centre for this class?
   a) 0 times
   b) 1 – 2 times
   c) 3 times or more

7. Did you use the ULC online Writing Help for this class?
   a) 0 times
   b) 1 – 2 times
   c) 3 times or more

8. Did you attend a ULC Writing Help workshop?
   a) 0 times
   b) 1 – 2 times
   c) 3 times or more

9. Besides the Writing Groups labs, did you receive any other form(s) of help with your writing for this class?
   a) Yes
   b) No

10. If you answered ‘yes’ to the previous question, please specify what kinds of help you received (Circle all that apply):
    a) Private tutoring
    b) Family and/or friends not in this class
    c) Other student(s) in this class, outside of Writing Group lab times
    d) Librarian(s)
    e) The Professors for this class
    f) Lab demonstrators
    g) Course reference booklet
    h) Other online resources

    The End. Thank you for your time!
Introduction

International students are welcomed to institutions of higher learning for the wealth of new perspectives and diversity they bring to campus. However, these new perspectives can also bring cultural misunderstandings in academic practices. Referencing and citation is one such area that often causes confusion particularly where the practices of the new institution are vastly different from the student’s prior academic experiences. Often violations by international students are not intended and simply result from a lack of familiarity with local expectations (Crocker & Shaw, 2002; Pecorari, 2003). This is not to say that problems with referencing are limited to international students. With the vast amounts of information available electronically, many domestic students also have difficulty executing appropriate diligence in their written work (Parks, 2003). However, any such errors in referencing and citation can cause serious consequences for students which may include grade penalties, failure, or expulsion.

As an instructor of a graduate course in pharmaceutical sciences, I have struggled to communicate the importance and mechanics of proper citation and referencing to all graduate students but especially to international students. In an effort to reduce plagiarism issues, I offered to pre-read assignments prior to their due date and give students feedback on their structure, writing
style, and analysis. When reviewing these drafts, I frequently came across plagiarism and incorrect or inconsistent referencing techniques. In drawing these errors to the students’ attention, it was clear that in many cases the students were unaware of their violations or the very serious potential consequences of their infractions. Oftentimes, even with first draft feedback the final products continued to exhibit significant errors and the students themselves seemed confused and frustrated. It seemed unfair to pursue academic penalties when often the cause of error was and continued to be misunderstanding.

Faced with this dilemma, I found several possible solutions: continue to provide feedback on first drafts of assignments, give heavier academic penalties for infractions, or develop a training method to demonstrate the importance and mechanics of proper citation. The following describes a new instructional model developed and implemented to help improve student academic writing skills.

The Writing Sample Assignment

I decided that students would submit a writing sample to demonstrate their abilities; however, the assignment would need to possess several unique features. First, the assessment of the sample could not be punitive while the students were learning appropriate techniques. However, there still needed to be consequences for not successfully completing the task to ensure that all students met a minimum standard. The task itself could not be onerous as it was not the main focus of the course. The task also had to apply to a wide range of science backgrounds as students from various departments enrol in this particular class. And finally, it was also important to design a project that would be authentic to students’ academic and science training.

The Writing Sample Assignment grew from these characteristics. I first ask the students to write a two-page review article on a given topic. The topics I choose are purposefully quite general. I then provide 3-4 short academic articles for students to read which must be referenced in the final assignment. I choose articles for their general accessibility again because students come from a variety of different disciplines. Students submit their work electronically. Electronic submission facilitates assessment of issues of plagiarism as I can easily search the Internet for suspect phrases. Extensive feedback is provided on the first draft, particularly in the areas of referencing and citation. Students correct the work and resubmit the assignment for additional feedback until I am satisfied that the student can competently reference and cite their own work.

This approach meets my first intention in that it is not punitive because students are given unlimited opportunities to improve their work without academic penalty for plagiarism or other mechanical issues. Although this assignment does not contribute to the students’ final grade in the course, they must achieve a PASS to guarantee adherence to a minimal standard. To ensure participation and completion of the assignment, the course syllabus states that the Writing Sample Assignment must be satisfactorily accomplished prior to submitting any other work for credit. My intention of this last requirement is to encourage students to use the knowledge gained in their first assignment for the betterment of subsequent course work.

The assignment is limited to two single-sided pages or approximately 1000 words. The paper could conceivably be written in six hours or less, and is not meant to be onerous or detract from the content of the course. Examples of topics that I have chosen include: the link between autism and childhood vaccinations, and the effects of components of red wine on cardiovascular health. Most of the articles given to the students for background are brief – four pages or less – and students can include additional references but are not required to do so.

One factor I stress to students is that any details found in the articles given have to be verified with the primary source before being included in the students’ own writing. Although not originally intended as an outcome of the assignment, students come to better understand the research and the literature review process.

Finally, I provide specific format guidelines which include font, margins, pagination, title, subtitles, and examples of reference style and
format. These instructions are given to replicate the conditions of thesis and manuscript submissions. Errors involving any of the above are sufficient to require resubmission. While such errors are often seen by students as trivial, it is important to emphasize the necessity of attention to detail to ensure that manuscripts and theses meet all technical requirements to avoid rejection.

Some students are quite successful with the assignment and receive a PASS on the first attempt. Other students struggle and require extensive remediation and may have to resubmit numerous times. Where possible I assist students and recommend various campus resources where they might obtain further assistance for specific writing problems. This assignment has now been adopted in all of my graduate classes and every student in each class must complete the assignment regardless of whether or not they have taken another course with me and have already completed a Writing Sample. I have found that students repeating the assignment frequently need the reminder, although they are generally more proficient than those doing the work for the first time.

Recently, this methodology was included in a new offering from our College of Graduate Studies and Research: Canadian Academic Acculturation and Literacy for International Graduate Students was developed to help acclimatize newly arrived international students to research expectations and culture of the Canadian university environment. Participating students recognized that they were largely unaware of the expectations that they would be held to prior to the Writing Sample Assignment. For example, some students expressed surprise at having to cite so much material while others indicated that they were taught in their home cultures to use words verbatim from the literature as a way of demonstrating respect. Students were most appreciative of the opportunity to learn in this non-judgemental and hands-on manner.

Additionally, I have had discussions with instructors from McMaster University and determined that they are implementing a similar strategy. In their introductory undergraduate course, Inquiry for Chemical Biology, 10% of the students’ course grades are devoted to various exercises which include elements of literature research techniques and writing mechanics (McKenzie & Berti, 2011). Many faculty in Chemical Biology at McMaster University have concluded that the communication of expectations and explicit instruction is necessary for undergraduate students to achieve competency in scientific writing. In essence, they assume students have no previous knowledge of scientific writing and they seek to demonstrate appropriate techniques. In contrast, the Writing Sample Assignment determines graduate students’ base competencies with scientific writing and then creates opportunity for instruction and, in extreme cases, remediation. Clearly, many undergraduate and graduate students do not have a sufficient grasp of academic writing but by explicitly teaching and reinforcing these skills early, students have the opportunity to practice throughout their course of study. The final outcome of these efforts will presumably be manifested in improved quality of theses, manuscripts, senior undergraduate research reports, and projects.

Challenges

Ongoing challenges with this Writing Sample method include students compartmentalizing the knowledge they have acquired during the assignment to one particular instance. In some cases, students who have completed the Writing Sample Assignment successfully repeat the same errors in subsequent assignments in the same course or carry errors over to theses, manuscripts, and research reports outside of the class. Currently, the College of Pharmacy and Nutrition is considering making the Writing Sample Module a mandatory component for all incoming graduate students. It is hoped that such an extension of the project will help students to generalize the concepts to all areas of their work. The other significant challenge to this approach is the time involved for both the instructor and the student. This method will only be successful where the instructor can dedicate time both to the reading of the assignments and also to the explicit instruction of writing mechanics where necessary. Currently the
instructor to student ratio is 1 to 5 and each paper takes no more than 20 minutes to grade and is quite manageable. For students, the time investment for a project that does not contribute to their grade is somewhat difficult to understand initially. However, once they complete the process and refine the assignment they do begin to appreciate how their invested time is recouped with the knowledge gained and they realize that they become more efficient in preparing larger documents.

References


Biographies

Ed S. Krol is an Associate Professor in the College of Pharmacy and Nutrition at the University of Saskatchewan. He has become increasingly involved in the development of methods to help improve graduate student writing skills, particularly for international students. Lisa M. Krol is the Curriculum Coordinator for the University of Saskatchewan Language Centre. She regularly consults on the needs of international students as related to various projects across campus.
Undergraduate Essay Writing: Online and Face-to-Face Peer Reviews

Mike R. Chong, Lori Goff, & Kimberly Dej
McMaster University

We implemented two different approaches of using peer review to support undergraduate essay assignments for students taking large second-year courses in life sciences and biology: a web-based online peer review (OPR) approach and a more traditional face-to-face peer review (FPR) approach that was conducted in tutorial settings. The essays consisted of a review of current literature to discuss the molecular involvement of cancer development or stem-cell growth. Following implementation of the peer reviews, we conducted a preliminary analysis of the pros and cons of using the two methods. Student and instructor feedback suggested that the activity of peer review was generally perceived as valuable regardless of which approach was used. OPR was convenient and saved time and resources relative to FPR, but the technical drawbacks using the OPR approach made it challenging for some students to use. A subsequent investigation using alternative OPR programs that offer additional functionality is planned.

Introduction

Peer assessment or peer review can be a powerful pedagogical tool that develops students’ critical and creative thinking skills. Since it involves the joint construction of knowledge through discourse, it could be argued that peer assessment has its philosophical foundations in active learning (Piaget, 1971) and social construction (Vygotsky, 1962). Many students have reported that their learning has improved after reviewing and assessing each others’ work. Topping (1998) conducted a review of the literature and identified that peer assessment yields cognitive benefits in multiple ways: constructive reflection, increased time on task, attention to crucial elements of quality work, and greater sense of responsibility. Interestingly, these benefits were found for both the students who conducted the reviews and the students who received peer-reviewed comments. Other reviews have provided support for the close resemblance of peer assessments to instructor assessments when judgement criteria are well-articulated and understood by the assessors (Falchikov & Goldfinch, 2000).
With the size of university classes growing, peer review in a face-to-face setting becomes a larger challenge to facilitate, fund, and coordinate. As such, online peer review (OPR) is emerging as a popular alternative to the classic format, face-to-face peer review (FPR). OPR has been well-established as an effective language learning tool in English as a second language (ESL) classes (DiGiovanni & Nagaswami, 2001; Moloudi, 2011) and poses some advantages over the conventional FPR format. For example, OPR allows the implementation of peer review sessions without physical and time constraints (Rollinson, 2005), and longer peer review sessions may lead to higher quality peer reviews. Less explored is the application of OPR to university-level essay writing for science courses despite OPR becoming more prevalent in university writing classes (Liu & Sadler, 2003).

The purpose of this essay is to share how OPR and FPR methods were used in large second-year science classes and the preliminary results about the pros and cons of using either approach. The two approaches included the Calibrated Peer Review™ (CPR, 2001) a program freely available from the University of California at Los Angelos (UCLA), and a traditional FPR approach conducted in tutorial settings, facilitated by teaching assistants (TAs) and coordinated by an instructional assistant. Unlike most previous studies which have focused on using OPR and FPR to develop rudimentary language skills in ESL classes, we hope to elucidate whether the application of these two modes of peer review can be extended to the university level to enhance essay writing, specifically in the sciences. This report is intended to be a preliminary comparison of OPR and FPR that precedes a more direct comparison in the future.

Implementation of Face-to-Face and Calibrated Peer Review

Just over 500 students participated in FPR as a component of their science essays for a second-year research methodologies course in the fall of 2010. Students were asked to write a literature review on the molecular environment that supports stem cell growth. Peer review was facilitated by TAs during two regularly scheduled tutorials. These peer review tutorials were integrated into the essay assignment as writing “checkpoints” to monitor student progress at two crucial stages in the development of the essay: 1) a preliminary abstract; and 2) a rough draft of the essay.

For the first checkpoint, we wanted students to comment on the clarity of their peer’s writing opposed to critique the content of the essay, so we prefaced the peer review session with an hour-long writing workshop. The remaining hour was devoted to the actual peer review activity. Students were assigned to groups of three by the TA, and each student reviewed two hard-copy abstracts that were between 150 and 300 words in length. Provided with a checklist to guide them through each peer review, students were asked to read, review, edit, and make comments on each abstract. After each review, peer dyads engaged in a 5-minute follow-up discussion to clarify any unclear comments. Finally, students were asked to fill out evaluation forms for both peer reviewers to ensure that students contributed constructive feedback.

The second checkpoint required students to have completed a rough draft of their essay with a maximum of 2000 words. The format of the second checkpoint was essentially the same as the first checkpoint except that in lieu of the initial workshop hour, more time was allocated for reading and reviewing the longer drafts.

The web-based Calibrated Peer Review™ (CPR, 2001) allowed us to try a double-blind OPR approach with a second-year cell biology essay assignment in the fall of 2009. Students were asked to write a literature review on the molecular involvement of cancer development. Three hundred and forty-eight students participated in both checkpoints for this assignment. The first two checkpoints required students to submit short early drafts: a 350 word outline for the first checkpoint and a 500 word draft for the second checkpoint. After submitting their own drafts, students then evaluated low, mediocre, and excellent exemplar essays that the instructor included. Once this was completely satisfactorily, the program randomly and blindly distributed the written submissions such that each student received
three of his or her peers’ draft essays to review. A checklist and guidelines were provided to assist the peer reviewers. Subsequently, students self-evaluated their own submission using the same criteria that were used for the exemplars and their peers’ submissions. Once the deadline passed for this review period, the program revealed the results of the reviews along with all of the comments that were provided by the reviewers.

Discussion and Future Avenues of Research

Overall, the use of peer review to improve science essay writing was positively perceived by most students, regardless of the format. This study was not meant to be a formal evaluation and comparison of the two approaches, so in this discussion, only anecdotal results are reported. When the classes completed anonymous course evaluations, over 90% of FPR students said that peer reviews were useful for the construction of their final essays. Likewise, the large majority of OPR students said that receiving feedback was helpful in improving their essay writing. Students were asked during lectures about their experiences using the OPR and through a show of hands, the online anonymous survey results replicated general trends that were reported by students in lecture. It seemed that more OPR students believed that it was useful to evaluate other peers’ work than FPR students. About half of the students participating in either OPR or FPR agreed that the perceived optimal number of peer review cycle was two or three sessions. Fewer suggested that one peer review cycle was optimal, while some requested a fourth optional review of their final draft before submitting their essay.

Although our student feedback suggests that FPR was beneficial, it was also time-consuming. Time constraints may be the biggest barrier in implementing FPR, especially in large courses (Rollinson, 2005). In our own FPR tutorials, TAs expended four hours of tutorial time and further time grading the reviewer evaluations. Marks for reviewer evaluations had to be manually entered into an excel file. OPR appears to be an attractive alternative to implementing peer reviewed assignments when time or space is limited. OPR was conducted outside of scheduled course hours and four TA hours were saved per TA. Additionally, peer reviewer marks were calculated automatically by the Calibrated Peer ReviewTM program, which reduced the total marking time to the duration of the final grade entry.

OPR also permitted longer peer review sessions than FPR. For each checkpoint, FPR students had 20 and 40 minutes for the first and second peer reviews respectively (including time for follow-up), whereas OPR students had a span of five days to complete their peer reviews with no time limit on how long they spent completing the review. Some peer review studies found that the number of comments made in OPR were more constructive and detailed than its FPR counterpart (Liu & Sadler, 2003; Warschauer, 1996; Xu, 2007), which could be attributed to OPR’s longer duration. Whether this is because people are more inclined to comment or because they have more time to comment in the OPR format remains unresolved.

One factor that may contribute to students’ willingness to comment is the double-blind aspect of the OPR approach. We believe that the anonymity of the peer reviewer may permit more honest peer reviews and thus perhaps more constructive feedback. If the peer reviewer knew that his or her identity was known to the peer, as in FPR, peer reviewers may be more reluctant to voice criticisms even when they may be warranted. Comments from DiGiovanni and Nagaswami’s (2001) ESL peer review study echo this notion: “sometimes we are not “truth[ful] with our partners in person and with online [peer review] you can say more things” (p. 268). Double-blindness is feasibly implemented in OPR but not in FPR, and therefore, anonymity may be an important advantage of OPR.

Despite the aforementioned benefits of OPR, the Calibrated Peer ReviewTM program was not without its limitations. The text entry stage of this particular program was not user-friendly and required students to encode their submissions using HTML coding. Even though students were provided with an HTML template, some students complained
that they had technical problems and consequently submitted their outlines late. This issue could be easily resolved if the text entry stage had a user-friendly interface. Some students also indicated that they had difficulties logging into the website, which required them to remember their assigned username and chosen password. Notwithstanding, only a few (less than 20%) students felt that the Calibrated Peer Review™ program was difficult to use, implying that these were minor setbacks. From the instructor standpoint, a large, initial time investment was involved in designing and setting up the online program. Instructors had to write the assignment instructions, find and input a low, mediocre, and excellent exemplar, design the reviewer evaluation form (forced-choice, rating, open questions), score the exemplars according to the evaluation, and set the dates for each phase.

Another limitation of the Calibrated Peer Review™ program was that there was no messaging system to enable computerized conversation among peer dyads. Without a messaging or chat system, peer reviews were limited to single exchanges, consisting of the peer reviewer commenting on a student’s written submission with no reciprocity from the peer thereafter. Other OPR programs, such as Norton Texttra Connect (Raschio, 1997), have one-to-one messaging systems that allow student–student discussion. Thus, this is a limitation of the system we used and not generally to OPR. Without two-way dialogue, the writer does not have an opportunity to defend his or her grammatical and syntactical choices, and likewise, the reviewer does not have an opportunity to justify his own comments and suggestions. Two-way collaborative dialogue is inherent to FPR, and students freely engage in self-explanation and elaboration. Perhaps less OPR students than FPR students felt that the feedback they received was useful because the Calibrated Peer Review™ program did not include an opportunity for conversation and clarification. Wooley (2007) corroborates this reasoning as he claims that students benefit cognitively by explaining themselves to their peers. Accordingly, OPR students would not experience the same cognitive benefits as FPR students. Furthermore, many peer review studies confirm that having dialogues about writing and exchanging comments about one’s writing is perceived as a constructive activity (Nystrand & Brandt, 1989; Schultz, 2000; Spear, 1988; Zhu, 1994).

Based on our preliminary analysis, we suspect that dialogue provides more constructive feedback during peer review for university-level essay writing. We feel that it would be worthwhile to contrast the effects of two-way conversation with one-way feedback on peer review feedback. To make a fair comparison of monological and dialogical discussion, we should eliminate any confounding variables by maintaining the two peer review formats as similar as possible, leaving the type of discourse as the lone variable. For example, using Norton Texttra Connect (Raschio, 1997), which has a chat system, and the Calibrated Peer Review™ program (which does not have a chat system) for our comparison could be appropriate. Despite the notion that feedback quality may be improved through two-way conversation, we must also consider that peer reviews would have to be conducted synchronously with peer review and peer reviewer online simultaneously, possibly raising new logistical issues for large classes. Thus, even if the dialogical and conversational approach generates better feedback, we wonder whether it would warrant devoting additional time and resources. Or would an inexpensive, flexible system conferring satisfactory peer review feedback be sufficient? Ultimately, it is a dilemma of conversation or convenience.

Conclusion

This preliminary report provides an anecdotal comparison of OPR and FPR for use in undergraduate science essay writing. While a slightly greater proportion of students found peer review useful in the FPR format than the OPR format, we cannot conclude that one is better than the other. For one, we gathered feedback on the two approaches from two different courses that had similar but distinct essay assignments. In the OPR format, students may provide more honest criticisms because they are safeguarded by a veil of anonymity, but feedback
Online and Face-to-Face Peer Reviews

may be limited by a lack of dialogue. Regardless of
the peer review format, students reported that the
peer review process was valuable and wanted it to be
included in other essay assignments. They suggested
that two or three peer reviews cycles were optimal
to constructing their essays. In our experience, OPR
represents a convenient and effective alternative
to peer review despite some minor technical issues
within the program. Future avenues of research may
include conducting a controlled comparison of FPR
and OPR (e.g., same students enrolled in one course
exposed to both types of peer review) and exploring
the facets of monological versus dialogical discussion.

References

ucal.edu/


Falchikov, N. & Goldfinch, J. (2000). Student peer
assessment in higher education: A meta-
analysis comparing peer and teacher marks. Review of Educational Research, 70(3): 287-
322.

of peer review in electronic versus traditional
modes on L2 writing. Journal of English for
Academic Purposes, 2, 193-227.

Moloudi, M. (2011). Online and face-to-face peer
review: Measures of implementation in ESL

writing as a context for learning to write. In C. Anson (Ed.), Writing and response (pp.
209-230). Urbana, IL: National Council of
Teachers of English.

psychology of the child. Longman: London.

networked writing environment. Computers
and the Humanities, 30(4), 327-329.


writing in the foreign language classroom. In M. Warschauer & R. Kern (Eds.), Network-
based language teaching: Concepts and practice.
NY: Cambridge University Press.


Cambridge, MA: MIT Press.

University, USA.

Warschauer, M. (1996). Comparing face-to-face and
electronic discussion in the second language

Xu, Y. (2007). Re-examining the effects and affects
of electronic peer reviews in a first-year composition class. Reading Matrix: An
International Online Journal, 7(2), 4-18.

in college freshman composition classes.
Unpublished doctoral dissertation, Flagstaff, AZ: Northern Arizona University, USA.
Biographies

Mike Chong is a graduate student in the Medical Sciences program at McMaster University. In addition to education, his research interests lie in stem cell and molecular biomarker research.

Lori Goff is an Educational Consultant with the Centre for Leadership in Learning at McMaster University. She is completing a doctoral degree in Educational Leadership and Policy Studies at Brock University, focussing her research on policies that aim to assure the quality of university education.

Kim Dej is an Assistant Professor in Biology and the Associate Director of the Life Sciences Program at McMaster University. Her research interests include studying the way that misconceptions affect student learning and the use of mathematics and statistics concept inventories in Life Sciences education.
In a variety of venues in 2007-8, we called upon our disciplinary colleagues to embark on a transformation of English Studies to respond to the major shifts – social, technological, cultural – we believed had placed us out of step with the students we regularly taught. Our claim – a manifesto, 

King and Knight (2010) argue that English Studies’ instructors must “articulate and develop their tacit assumptions [about English teaching] and create a discipline-grounded idiom for pedagogical research and reflection” (p. 323). We suggest that the scholarship of teaching and learning (SoTL) invites English educators to reflect more deeply about the assumptions upon which our favoured methodologies are based. At the same time, SoTL’s often uncritical reliance on students’ unmarked voices for many of its insights troubles us. We suggest that while the scholarship of teaching and learning can provide the necessary structure for systematic reflection about English Studies’ pedagogies, SoTL would benefit from a more substantial engagement with what English Studies calls theory. In so doing, SoTL can add another critical question to its agenda: “For whom do these practices work?”

Change? Yes, we must change, only show me the Theory, and I will be at the barricades, show me the book of the next Beautiful Theory, and I promise you these blind eyes will see again…. Show me the words that will reorder the world, or else keep silent. If the snake sheds his skin before a new skin is ready, naked he will be in the world, prey to the forces of chaos. Without his skin, he will be dismantled, lose coherence and die. Have you, my little serpents, a new skin?

- Oldest Living Bolshevik in the World from Tony Kushner’s Angels in America, Part Two: Perestroika

In a variety of venues in 2007-8, we called upon our disciplinary colleagues to embark on a transformation of English Studies to respond to the major shifts – social, technological, cultural – we believed had placed us out of step with the students we regularly taught. Our claim – a manifesto,
actually – was based on the premise that English Studies needed to engage with the affective turn if it were to re-forg[e] for a new millennium a discipline structured by the social practices, shared generational experiences, works of art and literature of the previous century (Easton & Hewson, 2007a). We realized, of course, that such transformation could not occur without learning from the Theory Wars of the 80s and 90s, but we also knew that it would be equally foolish to base a transformative impulse on a single totalizing theoretical concept towards which the Oldest Living Bolshevik gestures. At the time, we advocated a pedagogy which would take more fully into account the proposition that deep learning is not solely a cognitive affair – that it involves the emotional and bodily dimensions theorists of affect were busily investigating (and most educators have long known). We exhorted our discipline, among other things, to resurrect out-of-favour progenitors of English such as F.R. Leavis who intuited that reading literature was as much about feeling as it was about the skill of close reading (Easton & Hewson, 2008). Our calls for English Studies to reorder itself unregarded, the discipline remains essentially unchanged. Assimilating through its dominant pedagogical, methodological practices new and potentially disruptive objects of study, English Studies has not so much transformed as adapted itself to the “structures of feeling” of the early 21st century (Williams, 1977, p.132), themselves in flux from the spate of global movements insisting on reform.

The image the Oldest Bolshevik evoked in our epigraph – of a snake shedding an old skin and acquiring a new one – galvanizes us. What is it we must shed and what is it we must acquire if our pedagogies are to be coherent, compelling, and alive to the times in which we live today? Attempts to answer this question have made us draw closer to our students as we have explored their interpretive strategies, knowledges, and resistances (Easton & Hewson 2008, 2010).

Based on these forays, we concur with Nicole King and Ben Knight’s (2011) assertion that English Studies’ pedagogues need to do “more than the exchange of tips, methods, and ‘good practice,’ important though they are. Teachers...need to articulate and develop their tacit assumptions [about English teaching] and create a discipline-grounded idiom for pedagogical research and reflection (p. 323).

When we came into contact with the Scholarship of Teaching and Learning (SoTL), primarily through the work of colleagues who had been through our home institution’s scholars’ programme, we took note of its substantial body of research addressing some of the very questions we had been raising. There is much to be learned, we discovered, through a dialogue between English Studies and SoTL, and our paper outlines some of the ways in which each can enrich the other.

**Sustaining the Pedagogical**

Peter Medway (2010) and David Stevens (2011), in a recent exchange in *Changing English*, reflect on the philosophical underpinnings of English pedagogy as part of the Enlightenment project of education. Such high-level reflections, useful and generative as they may be, are insufficient to produce the transformed English Studies curriculum we envision: in our view, a re-invigorated curriculum requires a sustained engagement with the scholarship of teaching and learning. With its systematic focus on the “evidence about what (if any) cognitive or affective effect that a method has on [students’] learning” (Dewar, 2008, p.18), SoTL promotes precisely the kind of rigorous pedagogical research and consideration King and Knight advocate. Such research will remind those of us in English Studies that our focus on textual interpretation and production has often been at the expense of remembering the discipline’s historical roots: roots that have not been so much about subject matter – literature – as about how English has relied on a specific kind of pedagogical milieu in which distinctive ethical and aesthetic capacities are inculcated to produce a particular kind of citizen (Hunter, 1994). Working from its claim as the discipline best suited to produce (print) literacy, English – from F.R. Leavis to Raymond Williams to bell hooks – has been shaped by its commitment to a social mission. A connection to SoTL reminds English Studies’ practitioners, particularly when we get mired in a tangle of theoretical intricacies, to
rededicate ourselves to pedagogy: our origins, after all, are in teaching and education. Indeed, Peter Medway (2011) argues that “to find its proper direction English needs to start from an idea of education before an idea of the subject” (p. 10).

Moreover, the scholarship of teaching and learning invites English teachers to reflect more deeply about the assumptions upon which our usual methodologies – close reading, reader responses and essay assignments – are based. Such engagement will help English Studies articulate more clearly its threshold concepts in both the cognitive and affective domains. Taking up SoTL – initiated concepts will lead English teachers to explore the bottlenecks that occur in their curriculum. Through this exploration we imagine that we might finally have an answer to the enduring question: What on earth happens in an “English” class?

Interestingly, our own engagement with SoTL shifted our pedagogical gaze away from what we think students should or ought to do in the English classroom and re-oriented us to what students actually do. Our SoTL work in film studies, for instance, revealed to us our over-reliance on teacherly readings of films and directed our ears to a more attentive listening to, and learning from, the surprising, sophisticated and sometimes distressingly banal interpretations our students produce. This was a powerful transformative move for us and our pedagogy, as the focus shifted from a reproduction of “expert” readings (and all the enlightening elements assumed to be contained therein) in favour of understanding the context of students’ choices and interpretations so that we could start from where they were, not where we imagined or presumed them to be. Our encounters with SoTL taught us that as English transforms itself, the skins first shed are those of the teacher. Whether we like or not, we must move away from the security of transmission pedagogy. After all, the only learning about teaching many of us in English Studies received was via mimesis, or, more likely, osmosis.

**Insisting on the Critical**

Shaped by English Studies' turn to theory in the later 20th century, our initial encounters with SoTL and its methodologies led us to wonder about the implications of the discipline's often uncritical reliance on students’ unmarked voices for many of its insights. While inspired by the efforts at many institutions to engage students as participants and co-researchers in SoTL, we note that the student-as-data-provider rarely appears in her or his gendered, aged, and, if ever, racialised or classed form. The emphasis on the monolithic voice of the generic student is also a recurring motif in SoTL research. For example, student response journals are a key resource for SoTL investigators to determine authentic student experience in the classroom and/or to encourage students' coming into voice. However valuable such investigations are, we think it's important for SoTL to heed the feminist, postcolonial and queer theories addressing what Goodall (2000) refers to as the “partial, partisan and [hence] problematic” nature of voice (p.55) in writing pedagogies, and to a lesser extent, the classroom. Those feminist pedagogies envisioned by Adrienne Rich and Audre Lorde that caution us that voice isn't always about sharing – that voice can be silent, and this doesn't necessarily mean a lack of intention or agency or power – will help enrich the kinds of insights the scholarship of teaching and learning provides. And as important as it is to help students develop theirs, voices are never simply the products of a pedagogical interaction nor are they more likely to be real when produced in a classroom – a space, as much as we'd like to try to build it as such, that cannot always be truly safe or egalitarian.

SoTL's attending to the intricacies of classroom practice and its relationships to student learning brings to the fore much of what remains unexamined among many of us in positions of power and responsibility in those very classrooms. In fact, most SoTL practitioners will attest to how their teaching strategies are under constant revision in order to best respond to the general demands of the subject and its various students. Shedding what doesn't work and taking on what has been verified to work, they are in transformation. While SoTL is refreshingly multi-perspectival with its focus dually directed at student learning and scholarly teaching,
we worry about its narrowness of vision regarding the social locations in which knowledges are produced. Perhaps this narrowness results from the questions that SoTL has so far pursued. Hutchings (2007) contends that SoTL has developed a tentative taxonomy of three questions: “What is?” “What works?” and “What could be?” A preoccupation with the first two questions has led SoTL to value interpretive, descriptive work with an instrumentalist goal of improving student performance, often avoiding the troublesome nature of identities that we ourselves find so central to thinking about teaching and student learning.

Fortunately, Hutchings’ third question – “What could be?” – offers an opportunity for us to address our concerns. For example, what approaches to teaching and learning could avoid both the voyeuristic relation that emerges when we – teachers – read the personal stories of students, use them in our research, and disseminate findings based on them to build our careers and the instrumentalist perspective that SoTL currently promotes when students’ voices are used unproblematically to inform more effective teaching strategies? Our tentative answer adds a fourth question to Hutchings’ taxonomy: “For whom does this practice and pedagogy work?” We believe answering this question will produce SoTL research more attendant to our complicities as instructors and scholars in structures that may perpetuate inequality and more critically informed by the particular institutional, political or pedagogical contexts out of which students are asked to voice their views. Such research will, we contend, induce English Studies to acquire a new skin.

Biography


Biographies

Lee Easton and Kelly Hewson enjoy a rich teaching and writing partnership from which they have produced work on intersections of the postcolonial and the queer (Ariel); Cross-Dressing (upcoming in Caribbean Sexualities, UVirginia Press); reading representations of race in American film (reception); students spectators and the Canadian nation (in playing with memories; essays on Guy Maddin, UManitoba Press); the US-Canada Border and the Canadian Student Film Spectator (upcoming in the US-Canada Border Network, WLU press); Notes Towards a Teaching Manifesto (Keynote Address: TRU Graduate Education symposium); theories of affect and transformative pedagogies; and most recently, Resiliency Thinking. Lee Easton will be Associate Dean, School of Communication and Literary Studies, Sheridan College as of August 2012 while Kelly Hewson, Associate Professor, continues her film, postcolonial, and SoTL studies’ work at Mount Royal University.
Two Approaches to Case-Based Teaching in Science: Tales From Two Professors

Colin Montpetit
University of Ottawa

Lovaye Kajiura
McMaster University

Case-based teaching and learning strategies can offer instructors effective pedagogical tools to scaffold student learning through activities designed to fulfill teaching objectives and desired student learning outcomes. In science disciplines, programs strive to impart knowledge in addition to providing students environments through which they can learn through collaboration. Case-based studies can effectively expose students to the process of science and encourage them to work through facts, analyze data, formulate solutions, draw conclusions, and predict consequences. Despite the versatility of case studies as teaching and learning tools, many factors influence their implementation in a given teaching environment. Inasmuch, the manner in which they are used is typically dependent upon specific teaching and learning objectives and the historical context of the course (e.g., student enrolment, year of instruction, lecture vs. lab vs. tutorial settings). In this article, we discuss two novel approaches for case-based teaching and learning in Biology as a means to convey lecture content, encourage students to apply fundamental concepts taught in lectures, while exposing them to the process of science in a dynamic environment.

Introduction

Case studies are stories with educational messages and are quite useful in the context of helping professors achieve teaching and learning objectives in the classroom (Dunne & Brooks, 2004; Handelsman et al., 2004; Herreid, 2006a,b). Despite the versatility of case studies as pedagogical tools to target learning outcomes and develop specific behaviours, their implementation may present several challenges with the commitment of time needed to design and develop the cases and compile their supplementary
resources (Herreid, 2001, 2004, 2006a,b; Yadav et al., 2007). It may also take time for students to become accustomed to the case-based study approach. A number of factors can influence the decision making process on how best to incorporate case based teaching and learning strategies in the classroom (Dunne & Brooks, 2004; Cameron, 1999; Gedalof, 1998; Guo & Jamal, 2007). Identifying these factors is an important first step in achieving success using case studies as a teaching and learning tool in your classroom. Science education in higher learning typically strives to impart a vast amount of factual information in addition to providing students opportunities and environments to learn through collaboration and scientific inquiry. While we both agree that case studies provides us opportunities to promote interdisciplinary learning and to reveal integrated linkages in course content, our approaches to using case-based teaching are quite different and dictated by our local realities. For example, program goals, class size, course teaching objectives and student learning outcomes, enrolment, and the make-up of the student population in the class are factors that have and continue to influence our approaches to case-based teaching. In each of our academic settings, case studies are used as pedagogical tools to convey subject matter and encourage collaborative learning while scaffolding the process of science. During this process, students may work through facts, analyze date, formulate solutions, draw conclusions, and predict consequences. The manner in which this can be achieved can be accomplished in many different fashions. Currently, journal articles, websites, and texts provide a wealth of information regarding teaching and learning with case studies. In this article, we share our two approaches to case-based teaching. Our stories and insights will hopefully provide ideas to new and old users of case-based teaching and learning in science.

**Approach A**

Case-based teaching and learning was incorporated into my second year large enrolment Genetics course (~600 students) to address undergraduate degree level expectations, results of concept assessment tests (Smith et al., 2008), and student evaluations. Overall my objectives for using case studies as a teaching and learning tool were to explore the unifying themes and research methodologies in biology and to use them as a vehicle to provide students opportunities to engage in scientific inquiry through critical thinking and collaborative learning. Despite the communicated benefits of case-based teaching and best practices for introducing case-based teaching in the classroom (Dunne & Brooks, 2004; Herreid, 2006a,b), early attempts at introducing case-based teaching in my large enrolment course have been met by a number of challenges. The most notable perceived risk is lack of substantive coverage of the course content followed by student resistance and their ineffectiveness of increasing conceptual understanding of genetic concepts in such an environment. The extent to which the benefits of case-based teaching can be obtained with large undergraduate classes is not as evident (Herreid, 2006a,b). To achieve a satisfactory reconciliation, I describe here an ongoing initiative to develop a case-based teaching and learning strategy using scientific articles in the field of genetics to frame conceptual understanding of concepts in genetics. In this second year large enrolment introduction to genetics course, preselected published scientific articles are currently used as trigger case studies (Herreid, 2006a,b) to lead students through a series of interactive lectures that progressively reveal the nature of scientific investigations in the field of genetics (Ebert-May & Hodder, 2008). Following traditional approaches to study the functions of genes (e.g., forward genetics and reverse genetics analysis), sections of the published articles are progressively released throughout learning units (e.g. interrupted case study approach) (Herreid, 2006a,b) to specifically focus on the knowledge and conceptual understanding needed to effectively explore the experimental design and the conclusions of investigations. Alongside pre-lecture quizzes, think-pair-share activities, and professor led-lectures, scientific articles as case studies provide a framework through which course activities are structured to scaffold the conceptual understanding relevant for scientific analysis in the field (Ebert-May & Hodder, 2008).
Scientific article in the field of genetics as a case study

A common experimental approach to study the function of genes is Forward Genetics analysis. Through this approach, variants (mutants) for a given biological phenomena are obtained and used to investigate genetic linkages to the phenomena. Using genetic screening methodologies, genetic variants of interest are identified and used in mating experiments to confirm the genetic basis of the phenomena, to map the chromosomal location of the gene, and to determine the DNA sequence of the gene (Griffiths et al., 2012). Thus using methodologies that permit the analysis of the transmission of genes and genomes from one generation to the next in this context, investigators are able to confirm and infer on the genetic basis of various biological phenomena. Inasmuch, published articles in genetics provides convenient pedagogical tools to design interrupted cases enabling students and instructors to progressively explore and discuss the topics directly linked to the knowledge and understanding needed to appropriately design experiments to investigate the genetic basis of traits and the conceptual understanding to analyse and interpret data. An example of this approach is illustrated within the context of forward genetics analysis to discover the function of genes involved in recessive deafness. The paper “A Forward Genetics Screen in Mice Identifies Recessive Deafness Traits and Reveals That Pejvakin is Essential for Outer Hair Function,” published in the Journal of Neuroscience, provides a detailed account of the experimental procedures that were followed to identify mutations involved in hearing loss (Schwander et al., 2007). The progressive exploration of this paper allows students to explore the concepts and knowledge used to design the investigation to specifically identify DNA mutations involved in the loss of hearing. In this context, students are led through the exploration of DNA mutations, genetic inheritance of traits, and the methodologies and analytical procedures that permitted the investigators to detect mutations, study patterns of inheritance through the analysis of phenotypic ratios of crosses (e.g., matings) and pedigree analysis, and the analysis of DNA sequences.

Several topics within the course have been addressed through this case-based teaching approach. Early results from course assessments (concept assessment tests and student satisfaction surveys) communicate higher learning gains in the conceptual understanding of genetic concepts, student satisfaction regarding the relevance of the course, and overall course ratings. In future versions of the course, we will explore the role of student response systems in enhancing case-based teaching and learning.

Approach B

How can lectures be designed to be more engaging for students? One of the intrinsic motivators for student performance suggests that the lecture topics should have personal relevance and significance to the lives of students in order to engage their interest (Mustoe & Croft, 1999; Raju & Sanker, 1999). Feedback from student surveys suggests that case-based lecture activities may be helpful in linking concepts taught in lectures with real world examples. Given that cancer may impact students at multiple levels: either individually, or family members, and friends, it represents a topic of broad personal and global relevance.

At McMaster University, three Level 1 undergraduate Biology courses (Introductory Biology – Biology 1P03, Cellular & Molecular Biology – Biology 1A03, and Biodiversity, Evolution, & Humanity – Biology 1M03) utilize the integrated case-based studies approach within the teaching, learning, and research realms. Bloom’s cognitive levels are easily implemented when utilizing the case based study approach (Anderson & Krathwohl, 2001; Grant, 1997; Manning, 1997). Case-based studies may encourage students to acquire the fundamental knowledge of the concepts, definitions, and principles related to a keystone topic, such as the field of cancer. Students progressively learn to explain and interpret the meaning of the results of research as evident in the primary scientific literature. Applications and analyses of scientific references facilitate the students to employ the
principles and concepts to solve a proposed problem, such as answering the question: “Is it possible to find a single cure for all cancers?” While exploring interactively, this approach reinforces the student’s recognition of the interrelationships (or integrated linkages) between other fields of study. Synthesis of proposed cures for cancer also facilitates creativity as the student’s research team propose “cures” that are novel or what they believe is original from their knowledge. Finally, case-based studies lead students to evaluate the aforementioned by formulating judgments, based upon their critical thinking skills, of pre-established criteria. This approach may assist with other learning scenarios, such as problem-based learning (Woods, 1994).

Using an integrated and investigative case-based study approach, Biology students progressively examine different levels of cancer: molecular, cellular, evolution, genetic, ecological, and global (Kajiura, 2010). An integrated approach to studying cancer reveals the scaffolding linkages between various fields of study. Students consult the primary scientific literature to acquire knowledge of cancer. In their research teams, they shared their information and critically appraised each other’s cures for cancer. This approach was very helpful, since after the course had finished students continued to correspond with one another on online discussion forums updating their colleagues regarding their most recent proposed cures based on current research findings.

The suggested format for presenting the case-based study includes: 1) presenting the students with the case-based study description: introducing the topic provides the framework and context of the case that the students are to consider, 2) delivering the questions that the students are to consider will stimulate further questions for the students to investigate. These questions are a beneficial feature of case-based studies since they encourage students to be analytical and creative in generating questions for further investigation, 3) presenting interesting supplementary web links, videos, and guest speakers to give the students an appreciation of the complexity and the breadth of knowledge needed to be considered when researching a topic and formulating a possible solution, 4) documenting professor and student perspectives throughout the process of case-based study analyses. Recording of topics in journals or blogs, stimulated further questions to investigate, provided feedback regarding the ease or challenges of the process, and facilitated interpersonal collaboration perspectives, 5) encouraging the synthesis of ideas and collegiality/teamwork by facilitating critical thinking skills in the students, when they present their answers and solutions (this is research realistic and will prepare them with important transferable skills related to effective diplomatic communication skills), and 6) professors and students may summarize their key points during closure of the case-based study, or they may leave the case study open so that they facilitate life-long learning and interest in future research developments.

Classroom response systems (clickers) provide students with an opportunity to express and demonstrate their knowledge. This provides students and their professors with immediate feedback so that clarification and elaboration may be delivered regarding a specific concept or topic (Duncan, 2005; Herreid, 2006a,b). Formative and summative assessments may be implemented throughout the course. Classroom response systems may be utilized during pre-lectures, in lectures, and post-lectures. Overall course evaluations and student surveys provided feedback regarding their perspectives on the case studies. Concept inventories of core topics may also be used to gauge the level of learning and progress.

**Conclusion**

The aforementioned descriptions reveal factors that have influenced our approaches to integrate case-based teaching and learning in our science courses. These approaches may be customized to fit diverse lecture, tutorial, laboratory settings. As educators, case-based studies provide opportunities to expose students to the process of scientific reasoning. Currently, ongoing studies are evaluating the impact of these approaches on learning gains.
References


reveals that Pejvakin is essential for outer hair cell function. *Journal of Neuroscience*, 27(9), 2163-2175.


Woods, D. R. (1994). *Problem-based learning: How to gain the most from PBL*. Hamilton, Ontario, Canada: Donald R. Woods Publisher.


**Biographies**

Lovaye Kajiura is an Assistant Professor of Biology at McMaster University. Her pedagogical research interests focus upon integrated case-based studies, linkages between technology and learning, and collaborative mentorship at diverse levels of education.

Colin Montpetit is a Science Lecturer in the Department of Biology at the University of Ottawa. His work focuses primarily on how to help students learn biology and teachers adopt educational practices in their classroom. Specifically, he is interested in investigating learning and teaching strategies using case studies.

Lovaye and Colin are founding members of the Ontario Consortium of Undergraduate Biology Educators (oCUBE) and the Canadian Consortium of Excellence in University Biology (CCEUB).
A Transformative Experience: Expanding My Teaching and Learning Horizon

Mellissa L. Kruger
University of South Australia

At the beginning of my academic journey I held the belief that I would learn to teach simply by teaching. To my dismay, I had underestimated the complicated nature of teaching in higher education and gave little consideration to the ways students learn. Feeling overwhelmed by my situation, I began questioning my teaching practices and student learning. It was then I understood that my teaching skill and conceptions of teaching and learning lacked a theoretical framework. Missing an important piece of the teaching and learning puzzle, I have been on a quest to seek answers. This paper outlines my journey of professional discovery through my experiences in the Graduate Certificate in Education. This transformative experience has aided in expanding my teaching and learning horizon by focusing on diverse learners and inclusive teaching practices.

Introduction

I began my academic career in 2006 at the Centre for Regional Engagement, University of South Australia. I was enthusiastic, excited, and passionate about my new position as lecturer in the undergraduate Social Work Program. Much of my previous working life had been spent working in State Government as a Human Service Practitioner. I assisted communities, organizations, groups, families, and individuals to meet their full potential on an intellectual, physical and emotional level, even against the greatest odds. The central focus of this work involved advocacy, social change, empowerment, equity, respect for client choice, and human rights of youth and juvenile offenders (Mass, 2000). I firmly believed that I would learn to teach through the act of teaching. However, as time passed I soon came to appreciate that experience alone does not necessarily guarantee teaching quality. Reflecting on my teaching experiences in 2006 and 2007, I found that I was a gatekeeper of knowledge and directed the learning process. This power meant that students played a passive role in their own education. I realized that this was not an adequate way to teach and thus felt a strong sense of despair, isolation and insecurity about my teaching and student learning. What self-confidence I had turned to self-doubt, my enthusiasm to exhaustion, and my excitement to apprehension. I understood
that my personal experiences of teaching were valuable; however, I lacked knowledge about teaching and learning that was based on research (Kreber & Cranton, 2000).

Graduate Certificate in Education

The University of South Australia began offering the Graduate Certificate in Education (University Teaching), now called the Graduate Certificate in Education (Academic Practice), in 2007. Policy requirement mandated that all new academic staff appointments (levels A-C) undertake the Graduate Certificate in Education (GCE) as a condition of probation (Quinn, 2010). As I had been appointed the year before the commencement of this policy requirement, there was no obligation for me to undertake this program. I desired to enhance my effectiveness as a teacher (Gibbs & Coffey, 2004), and to develop conceptions of teaching and student learning. I believed that the GCE, the aim of which was to enhance the quality of teaching and learning by developing understandings and abilities through highly relevant, flexible, and comprehensive in-service education for academic staff at graduate level, aligned with my teaching goals. This paper explores some of the transformative experiences I have had while taking the GCE, which has assisted me to expand my teaching and learning horizon.

Reflection

The value of reflective practice in teaching is widely acknowledged in the literature (Kane, Sandretto, & Heath, 2004; Lea & Callaghan, 2008; O’Brien & Hughes, 2006; Schon, 1983; Zeichner, 1994). A reflective practitioner is someone “who engages with his or her experience in ways that turn it into meaningful knowledge” (Kreber & Castleden, 2009, p. 511). Throughout the GCE, I was constantly challenged to critically reflect on my teaching and this initially caused me to feel vulnerable and anxious. However, it was the safe and supportive environment of the GCE that gave me confidence to dig deep down into the roots of my teaching practices. Reflecting on my path into teaching, I became aware that I presumed that my discipline knowledge and skills were sufficient enough as basis for my approach to teaching and student learning. Consequently, my teaching methods were teacher-directed; students were being encouraged to take a superficial approach to their learning (Ramsden, 2003). Recognizing my ineffective teaching practices, I desired to grow and develop as a teacher. I began applying the new-found skills learnt in GCE to my own teaching, for example, taking a more student-centred approach. Gibbs (1992) suggests that a student-centred approach “gives students greater autonomy and control over choice of subject matter, learning methods and pace of study” (p. 23), which was now the aim of my teaching. In implementing such changes I witnessed a considerable shift in power during the learning experience; this power, which had previous resided with me, now resided with the students. As the teacher, I began to take on different roles, which included facilitator, mentor, supporter, and guide. Rather than transmitting information, I began to provide opportunities for students to identify gaps in their knowledge and foster new ways of accessing and processing information. Students now played more of an active role in their own education and in the subsequent acquisition of knowledge. This transformative experience helped me to see the importance of my development as a teacher. It increased my desire to discover what supports or hinders student learning, and what part I could play in this important process.

Diverse Learners

Students are not a homogenous group; they have individual learning preferences, varied life experiences, individual needs, values, and abilities. Students differ in race, socioeconomic status, gender, language, ethnicity, sexual orientation, disability, work commitments, family responsibilities, and geographical isolation (Morley, 2009; Worthington, 2008). Of significance to my reflection, was the diversity of distance learners and the challenges this presented to my teaching. The Centre for Regional Engagement has its operations at the Whyalla Campus.
and the Mount Gambier Regional Centre. Education is delivered through an off-campus distance mode to students located across Australia. Responsible for the delivery and course coordination of six courses in the Social Work Program, I use face-to-face classes for internal Whyalla students, podcasts for off-campus students and videoconference lectures to the Mount Gambier students; all students are supported by online environment. A major and lingering concern has been how to support the diversity of needs of learners.

**Inclusive Teaching Practices**

Addressing and responding to the diverse needs of students became a focus of my reflections. It became evident from students by means of formal (course evaluations) and informal (emails) feedback that my teaching practices were not always inclusive of all students. During my involvement in the GCE I came to appreciate and understand that in order to reach students I needed to modify content, approaches, structures, and strategies from my current teaching practices. Inclusive teaching is challenging in any environment; however, I was optimistic that given the research, support and in-service application of learning from the GCE I would be able to increase participation in learning and alleviate the isolation students experienced within and from the educational setting.

**Learning preferences**

I was concerned, even anxious, that I was impeding rather than fostering inclusive practices for teaching and learning. I made the fateful assumption that students’ learning preferences mirrored my own learning preferences. Studies in the GCE developed my understanding and appreciation of the differences that exist in learning preferences, particularly in reference to online learning. I was introduced to Bonk and Zhang’s (2006) R2D2 model, which focuses on knowledge, from its acquisition, to reflection and representation of knowledge, through to application. This conceptual model links design and delivery of online education with various instructional strategies, and acknowledges differences in student learning preferences (auditory and verbal learners, reflective and observational learners, visual learners, and tactile learners). I developed a deliberate and organized approach to teaching, using a combination of new approaches, some of which included, cooperative learning techniques (Perkins & Saris, 2001), problem-based learning scenarios (Wong & Lam, 2007), interactive virtual tours (Bellefeuille, Martin, & Buck, 2005), and active learning techniques (Meyers & Jones, 1993). Accommodating different learning preferences and diversifying the types of online instructional strategies was of significant benefit to students. Students commented that some of the advantages included “developing new ways of learning” and they “gained a better understanding of course concepts,” which in turn “increased participation in learning.”

**Communication methods**

Distance learners are more likely to experience a sense of isolation and alienation from the education setting due to the separation of their geographical locations (Rovai & Downey, 2010). This is certainly the case for students at the Centre for Regional Engagement, who voiced a strong sense of disconnect, particularly as the social opportunity to communicate with the teaching staff was difficult. My early approach to communication was a one-way transmission of messages. I did not allow for or encourage social interaction, sharing of meanings, ideas, or feelings, and my approach lacked reciprocal process of exchange. Social communication and interaction is important in retention of students (Kreijns, Kirschner, & Jochems, 2003); thus, I endeavoured to enrich communication with students. The GCE exposed me to a variety of methods including online discussion boards and chat rooms, which I trialled with students in an attempt to increase the social opportunities. I discovered that these methods were suited to course discussions rather than socialisation. Students often avoided freely expressing themselves for fear of, as one student put it, “sounding silly.” There were also difficulties in getting students online at the same time, given the diversity in personal and professional commitments. A review of the literature and discussions with the teaching staff in the GCE led me to develop a weekly e-newsletter.
Expanding My Teaching and Learning Horizon

(Love & Edwards, 2009), which updates students on developments in the course, gives helpful academic tips and tricks, alerts students to important events or information, and offers a space for personal social commentary, and the opportunity to ask questions or give suggestions about new resources or tools. Feedback I subsequently received from students identified that such efforts “kept them in touch,” “helped reduce isolation,” were “helpful,” they were “more confident to ask questions,” and it provided opportunities for students to “tackle [their] learning in a different manner.” This strategy improved the volume of social communication with students, but also assisted in additional supports and services being identified for distance learners.

Delivery of my formal lectures emulated the didactic approaches of past instructors from my own educational experiences. As a gatekeeper I controlled students’ access to information and merely transmitting material; information, facts or ideas were readily accepted uncritically. Retention of information was superficial and did not promote a deeper approach to learning (Ramsden, 2003). Through my involvement in the GCE I was encouraged to challenge my approach and subsequently changed the way I conduct formal lectures in an attempt to address this ineffective communication approach. I now make direct linkages between course aims and to the students as future practitioners from the outset of each lecture; this strategy creates a broader personal understanding and commitment to the subject (Ramsden, 2003). I also introduced a five minute discussion partway through lectures; these mini discussion sessions encourage students to engage with the content in meaningful ways. This helps students to make sense of and apply information, evident changes have been noted in student construction of knowledge; one student commented: “the five minute discussions help me to contribute to my own understandings and address my misunderstandings.”

Conclusions and Future Directions

In conclusion, the GCE has been instrumental in assisting me to expand my teaching and learning horizon. The in-service application of learning aided in transforming my notions of teaching and teaching practices. I was challenged to look deeper than my own needs and encouraged to examine the bigger picture of teaching and student learning in higher education. My quest to seek answers gave me new insight about my own students, the diversity of their needs, and the importance and value of inclusive teaching practices. The knowledge gained from this powerful experience has instilled in me the desire to strive for continuous improvement, to engage in critical reflection, to communicate my successes and failures and to continue on my journey to develop and grow as a teacher. I will continue the work to breakdown barriers that impact students from diverse backgrounds who are engaged in education. Future aspirations include promoting and supporting learning by aligning assessment tasks to different learning preferences.

References


Biography

Mellissa Kruger is a Lecturer and Course Coordinator in the Social Work Degree Program at the Centre for Regional Engagement, University of South Australia. Her research interests include service learning, community engaged learning, and teaching and learning in higher education.
The Impact of an Outdoor Orientation Program on First-Year Student Perceptions of Life Effectiveness and Campus Integration

Anna H. Lathrop, Timothy S. O’Connell, & Ryan A. Howard
Brock University

Although outdoor orientation programs, as a special type of orientation designed to enhance student retention, are relatively commonplace in the United States – we are not aware of any such campus-wide initiatives in Canada. Research indicates that outdoor orientation programs impact students in a positive way, enhancing academic success, personal development, and integration into campus life. This exploratory, mixed methods pilot study reports on the results of an investigation that administered three pre and post surveys that measured indicators of “Life Effectiveness,” “Sense of Community,” and “Sense of Place” on a group of seven, first-year students who participated on a five-day canoeing trip in the wilderness of Algonquin Park, Ontario, Canada. The program, entitled “Brock BaseCamp,” exposed students to a curriculum that included networking with student facilitators about campus life, in addition to acquiring technical skills of canoeing and outdoor living. Results indicated that students were positively influenced in all three measures and that the Brock BaseCamp experience enhanced their social integration into campus life.

Introduction

Canadian universities in the 21st century face the challenges of lower enrolments, enhanced global competition, and the desire to increase and foster diversity. In the province of Ontario, the Higher Education Quality Council of Ontario (HEQCO) has issued a report that indicates the Ontario university system will begin to follow a model of differentiation defined on the basis of structure, type of programs offered, how research and teaching are provided, institutional status, and student composition (Rae, 2005). This model is also hinged to a move toward greater accountability and the development of performance indicators (such as the National Survey of Student Engagement, or NSSE) that determine whether universities are meeting the outcomes expected of them – including student retention.
One strategy to enhance student success and promote student retention, driven by statistics that indicate that over 20% of students who enter university fail to complete their degrees (Finnie & Qiu, 2009), are first-year or pre-term orientation programs (Hollins, 2009). The goals of these orientation programs are to provide information in the form of education and peer network support that will lead to higher levels of academic performance, emotional and social maturity, and a more positive view of the institution. These first-year programs have historically been delivered as classroom-based, theory-oriented courses, seminars and/or support group interventions (Lamothe et al., 1995; Tinto, 1997).

Over the past several decades in the United States, a number of universities have adopted an alternative approach to orientation program delivery – one that includes a wilderness component designed to enhance personal growth (Davis-Berman & Berman, 1996), positive peer relationships (Gass, Garvey, Sugarman, 2003), academic performance (Oldmixon, 2007), and retention (Wolfe & Kay, 2011). Barefoot and Koch (2011) report that over 20% of the 1,300 public and private colleges and universities they surveyed offered pre-term orientation programs with a wilderness or outdoor education component. Interestingly, we are not aware of any such campus-wide wilderness orientation programs for first-year students in Canadian universities or colleges.

This exploratory pilot study was designed to assess the impact of one such outdoor orientation program, entitled Brock BaseCamp, on students’ personal development and their integration into university life. The program was initiated at Brock University, St. Catharines, Ontario – a medium sized university (with 17,000 full-time students) located atop the Niagara Escarpment and situated in a UNESCO Biosphere Reserve. Seven incoming first-year students and two upper-year student leaders participated in a five-day canoe trip in Algonquin Provincial Park, located north of Toronto, in the summer of 2010. In addition to a curriculum that included teaching the technical skills of canoeing and outdoor living, the two upper-year student facilitators also incorporated specific discussion topics that focused on the “ins-and-outs” of student life. In informal settings (e.g., around the campfire, when paddling, while hanging out at the campsite, etc.) the group engaged in conversations about networking with peers and professors, time management, study skills, the importance of work/school/life balance, and even where to buy the best pizza. Formal discussion topics included group dynamics/leadership; undergraduate life; diversity and positive interpersonal relationships; living away from home; and health/well-being. The BaseCamp program was designed to build community, promote academic success, increase personal capacity (self-confidence and leadership) and promote an appreciation of the natural world.

All seven incoming students participated in a mixed methods, exploratory pilot study that entailed the administration of three surveys (pre-trip, post-trip and four months later) and participation in a post-trip focus group. The three survey instruments used in the study measured life effectiveness, sense of community and sense of place. These survey measures were selected because of their relevance to knowledge and behaviour that we believe might be linked to academic success and campus integration.

The Life Effectiveness literature examines the extent to which a person’s actions, behaviour and feelings are effective in managing and succeeding in life (Neill, Marsh & Richards, 2003). The Life Effectiveness Questionnaire (Neill et al., 2003) measured eight indicators of personal change, including time management, social competence, achievement/motivation, intellectual flexibility, task leadership, emotional control, and active initiative as well as overall perceptions of life effectiveness. In addition, in order to explore the potential impact of this experience on the group’s attitude toward one another and their sense of affiliation with the institution, measures of performance were selected from the Sense of Community and Sense of Place literature. The Brief Sense of Community Index (BSCI) measures feelings of belonging and mutual dependence within a group (Long & Perkins, 2003), and The Sense of Place Questionnaire (Todd, Young, Anderson, O’Connell, & Breunig, 2009) measures feelings of connection and attachment to a specific influential location (i.e., Algonquin Park). In addition to these quantitative
measures, six of the seven students participated in a follow-up focus group session conducted four months post trip. Questions in the focus group, which was facilitated by the researchers (who also administer the BaseCamp program), were designed to further explore the impact of BaseCamp participation on the formation of peer-network social supports, level of integration into university life, and perceptions of academic success.

Results from the three quantitative measures indicated that the five-day outdoor orientation experience did significantly impact Life Effectiveness, Sense of Community, and Sense of Place indicators (see Table 1). The Life Effectiveness subscales of “time management,” “task leadership,” and “active initiative” significantly increased, as did the sense of community factors of “membership,” “influence,” and “shared emotional connection” – all of which increased during the trip and remained at high levels four months later. Social aspects of place were also found to change. Significantly, students reported that Algonquin Park provided them the opportunity to associate with special people in their lives, socialize with others, and that they had fond memories of time with others in that place. Students reported they still experienced heightened levels of these social impacts of place four months after the completion of the trip. However, it is important to note that results reported as statistically significant must be interpreted with caution due to the small sample size. This is a limitation of this exploratory pilot study.

The main themes that emerged from the focus group transcripts further reinforced these findings. Participants reported that they developed and continued to feel a strong sense of community with their peers and student leaders. They identified that these connections and enhanced social support networks helped them throughout the first term of their studies and they reported that helpful “tips” about campus life (e.g., importance of meeting professors, how to plan in advance for assignments) contributed to their academic success. As one student reflected:

_Brock BaseCamp was an awesome experience. Our leaders did a fantastic job helping us understand what first year was going to be like and telling us about all the resources available to us. I think being in an “outdoor classroom” really helped us have more fun and become friends a lot faster than being part of a normal orientation._ (Jonathan, BaseCamp participant)

Although many of these findings are congruent with the previous relevant literature (e.g., Austin, Martin, Mittelstaedt, Schanning, & Ogle, 2009; Bell, 2006; Jones & Hinton, 2007, Wolfe & Kay, 2011), it is important to note that this pilot study is among the first, to our knowledge, that demonstrates the effectiveness of outdoor orientation programs within a Canadian context. Future research is needed to continue to track this initial cohort (and successive first-year cohorts) as they proceed throughout their university career. As Rummel, Acton, Costello, and Pielow (1999) recognize, academic success and social integration are key factors that students continually visit and revisit as they evaluate their life at school, and which either reaffirms (or disconfirms) their decision/choice to attend a particular university. Student retention is an ongoing process. When institutions of higher learning are able to convey a unique and meaningful sense of community, sense of place and space, students will feel that they belong – and will remain actively and successfully engaged. Outdoor orientation programs offer the potential to introduce prospective students to this type of engagement. As William commented after his Brock BaseCamp experience: “It’s not just a building that you come to for class, it becomes a home.”
Table 1  
*Paired sample* t*-tests*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pre-trip</th>
<th>Post-trip</th>
<th>Pre-trip</th>
<th>Post-trip</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life Effectiveness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time management</td>
<td>17.00</td>
<td>4.16</td>
<td>19.86</td>
<td>2.48</td>
<td>-2.41*</td>
<td>.05</td>
</tr>
<tr>
<td>Social competence</td>
<td>18.71</td>
<td>3.64</td>
<td>20.29</td>
<td>2.50</td>
<td>-1.67</td>
<td>.15</td>
</tr>
<tr>
<td>Achievement motivation</td>
<td>20.57</td>
<td>3.05</td>
<td>21.57</td>
<td>2.37</td>
<td>-1.08</td>
<td>.32</td>
</tr>
<tr>
<td>Intellectual flexibility</td>
<td>19.86</td>
<td>4.67</td>
<td>21.00</td>
<td>2.83</td>
<td>-0.89</td>
<td>.41</td>
</tr>
<tr>
<td>Task leadership</td>
<td>17.14</td>
<td>2.80</td>
<td>19.29</td>
<td>2.69</td>
<td>-2.50*</td>
<td>.05</td>
</tr>
<tr>
<td>Emotional control</td>
<td>19.43</td>
<td>3.91</td>
<td>21.14</td>
<td>2.61</td>
<td>-1.22</td>
<td>.27</td>
</tr>
<tr>
<td>Active initiative</td>
<td>20.00</td>
<td>3.32</td>
<td>22.29</td>
<td>2.43</td>
<td>-1.64</td>
<td>.15</td>
</tr>
<tr>
<td>Self confidence</td>
<td>19.86</td>
<td>3.24</td>
<td>21.43</td>
<td>2.82</td>
<td>-3.67**</td>
<td>.01</td>
</tr>
<tr>
<td>Sense of Community</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Membership</td>
<td>2.71</td>
<td>1.50</td>
<td>6.00</td>
<td>0.00</td>
<td>-5.81***</td>
<td>.001</td>
</tr>
<tr>
<td>Influence</td>
<td>5.67</td>
<td>1.03</td>
<td>6.50</td>
<td>1.05</td>
<td>-2.71*</td>
<td>.04</td>
</tr>
<tr>
<td>Integration &amp; Fulfillment of Needs</td>
<td>7.17</td>
<td>2.23</td>
<td>9.50</td>
<td>0.88</td>
<td>-2.36</td>
<td>.06</td>
</tr>
<tr>
<td>Shared Emotional Connections</td>
<td>6.71</td>
<td>1.98</td>
<td>9.71</td>
<td>0.76</td>
<td>-3.97**</td>
<td>.01</td>
</tr>
<tr>
<td>Sense of Place</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trip location means a lot</td>
<td>3.17</td>
<td>0.75</td>
<td>3.50</td>
<td>0.55</td>
<td>-1.00</td>
<td>.36</td>
</tr>
<tr>
<td>Trip location allows bonding with others</td>
<td>2.83</td>
<td>0.98</td>
<td>3.83</td>
<td>0.41</td>
<td>-2.24</td>
<td>.08</td>
</tr>
<tr>
<td>Trip location is the best place to do activities I like to do</td>
<td>2.86</td>
<td>0.69</td>
<td>3.29</td>
<td>0.76</td>
<td>-2.12</td>
<td>.08</td>
</tr>
<tr>
<td>I get satisfaction out of the trip location more than other places</td>
<td>2.29</td>
<td>0.95</td>
<td>2.71</td>
<td>0.76</td>
<td>-2.12</td>
<td>.08</td>
</tr>
<tr>
<td>I associate special people in my life with the trip location</td>
<td>2.43</td>
<td>0.79</td>
<td>3.43</td>
<td>0.79</td>
<td>-3.24*</td>
<td>.02</td>
</tr>
<tr>
<td>Being in the trip location is an important part of my life</td>
<td>2.86</td>
<td>0.69</td>
<td>3.29</td>
<td>0.49</td>
<td>-2.12</td>
<td>.08</td>
</tr>
<tr>
<td>I would prefer to spend more time in the trip location</td>
<td>3.14</td>
<td>0.69</td>
<td>3.29</td>
<td>0.76</td>
<td>-0.42</td>
<td>.67</td>
</tr>
<tr>
<td>Visiting the trip location allows me to spend time with others</td>
<td>3.14</td>
<td>0.38</td>
<td>3.71</td>
<td>0.49</td>
<td>-2.83*</td>
<td>.03</td>
</tr>
<tr>
<td>I have fond memories of past experiences with others in the trip location</td>
<td>2.43</td>
<td>1.27</td>
<td>3.43</td>
<td>0.79</td>
<td>-2.65*</td>
<td>.04</td>
</tr>
</tbody>
</table>

Note. *p < .05. **p ≤ .01. ***p ≤ .001
References


Biographies

Anna H. Lathrop is Associate Dean for Undergraduate Studies, Faculty of Applied Health Sciences, Brock University, St. Catharines, Ontario. E-mail: anna.lathrop@brocku.ca

Timothy S. O’Connell is an Associate Professor of Recreation and Leisure Studies, Brock University. E-mail: tim.oconnell@brocku.ca

Ryan A. Howard is a Doctoral Student in Applied Health Sciences (Social and Cultural Health Studies), Brock University. E-mail: ryan.howard@brocku.ca

Anna, Tim and Ryan are the founders and administrative team for Brock BaseCamp.
Using Arts-Based Activities to Foster Transformative Learning During a Teaching Practicum in Kenya

Glenda Black & Rogerio Bernardes
Nipissing University

This essay explores and presents strategies we, as Canadian faculty facilitators of a teaching practicum in Kenya, used to foster the pre-service teachers’ knowledge and understanding of critical reflection and transformative learning processes by using arts-based activities. Participation in the arts-based activities while in Kenya encouraged the pre-service teachers to reflect upon and make sense of their cultural, social, and pedagogical experiences, and provided opportunities for them to gain insights that perhaps would not have been revealed using more traditional reflection formats. The transformational learning experienced by the pre-service teachers as they were immersed in arts-based pedagogical activities was evident on a personal and professional level.

Introduction

During the practicum 22 pre-service teachers and two faculty facilitators from Nipissing University, North Bay, Ontario, were immersed in a Kenyan community. The teaching assignments for the three weeks were in grades 3-7 of a primary school in a rural, agricultural area of the country populated by two different tribal traditions, the Kipsigi and Maasai. We worked directly with the Kenyan classroom teachers in a collaborative teaching environment. Outside of school hours our group was invited into the homes, high school, church, and local health facilities of the community. We also contributed to the building of a library and participated in the cultural events of our Kenyan hosts. Following these experiences we applied and expanded the transformational learning process of critical reflection by using arts-based activities to assist the pre-service teachers in addressing some of the disorienting dilemmas they encountered (Merriam, 2004; Mezirow, 1991, 2000). For our pre-service teachers these included pedagogical, social, and cultural situations that created cognitive and emotional dissonance.

Transformational Learning Theory

Transformational learning theory is an adult learning theory based on the fundamental principles that
adults make meaning and learn from personal experiences (Mezirow, 1991). In transformational learning, life experiences are filtered through one’s values, beliefs, and assumptions, mediated and made sense of (Mezirow, 1991). Mezirow (1996) further explains the transformation process as a perspective transformation – a paradigm shift.

Mezirow (2000) developed a multi-phase process of transformational learning. The first step in the process is experiencing a “disorienting dilemma” that prompts one to engage in the second stage of “self examination” due to “feelings of fear, anger, guilt, or shame” (p. 22). In our situation, the dilemmas or issues we had difficulty understanding, one of which is described later in this essay, often led to an initial state of confusion. The step that follows is “critical assessment” of one’s assumptions. Kreber (2004) concurs with Mezirow that critical reflection is key to transformational learning. Using Mezirow’s categories (content, process, premise) for levels of reflection, Kreber concludes that teacher educators must begin with premise reflection that involves critically “questioning our presuppositions underlying our knowledge” (p. 31). The notion of providing pre-service teachers with the opportunity to reflect critically is supported by Merriam (2004) who stated, “mature cognitive development is foundational to engaging in critical reflection and rational discourse necessary for transformative learning” (p. 65).

During the Kenyan practicum we provided opportunities for the pre-service teachers to experience the traditional forms of reflection such as journaling and peer dialogue. To further foster their learning toward greater critical understanding we also invited the pre-service teachers to question their own assumptions using creative formats.

**Arts-Based Activities for Critical Reflection**

While in Kenya, many of the pre-service teachers wore a shirt with the quote, “Be the Change.” Of course, this is part of Ghandi’s quote, “Be the change you want to see in the world,” and refers to the notion that you cannot change the world until you change yourself. It was clear that the pre-service teachers were experiencing personal changes as evidenced in their discussions during our ‘highlights of the day,’ the emotion in their voices as they interacted with community members, and when they taught and played with the children. Nevertheless, recounting the events they experienced was not enough. In support of Merryfield (2000), we, as faculty facilitators, recognized that the Kenyan “experiences alone do not make a person a multicultural or global educator” (p. 440). We acknowledged that for intellectual growth and transformational learning the pre-service teachers needed the opportunity to engage in critical reflection (Merriam, 2004). Criticos (1993) maintained, “effective learning does not follow from a positive experience but from effective reflection” (p. 162).

Although some of the pre-service teachers explored and documented their changes and observations through journaling and photographs, the process of writing reflections in journals did not meet the learning preferences of each group member. The non-journaling pre-service teachers may have been classified as non-reflective if not provided the opportunity to express their thoughts and emotions through alternative forms. We also questioned how much critical reflection was occurring in the journaling. In the traditional forms of recording and discussing reflections, it is possible that the pre-service teachers were describing their experiences without critically thinking about them. Building on the transformational learning process of critical reflection we developed and implemented arts-based learning activities that would help our pre-service teachers reflect critically on their experiences and challenge any previously held assumptions. The learning opportunity we assigned met the group’s diverse learning needs and fostered inclusivity and transformative learning by helping them confront the disorienting dilemmas they encountered daily.

For our arts-based activity we suggested topics for the pre-service teachers to explore through any medium they chose: visual arts, drama, poetry, song, story, or dance. The activity was presented as an opportunity for the pre-service teachers to think outside the box, collaborate with their colleagues, and have some fun. For convenience, we assigned
cabin mates for groupings, and the presentations were made to the entire group. The suggested topic list included:

1) Maasai Warriors: Explore how their roles have changed from being warriors to being academics and ambassadors for their culture.

2) Community and Individuality: What we call cheating in the classroom our host teachers call assisting. Explore the tension between these two value systems? Do we privilege one over the other? Is one superior? Can they coexist?

3) Childhood: Explore what it means to be a child in Canada and in Kenya. What should childhood experiences look like? Should every child be guaranteed certain experiences? What are the differences between childhood and adulthood?

4) Identity: Explore your identity as you transition from student to teacher. Has your experience in Kenya changed your idea of who you are as a teacher? As a member of the global community?

5) Power: As White educators visiting a developing country we are privileged in certain ways. Some of these ways are fairly evident, but some are invisible. Explore issues of power and how it is used.

6) The power of Song: As guests in Kenya, we followed the example of our Kenyan hosts and often introduced ourselves by singing songs we had prepared. Explore the power of this practice. How might this be used in Canadian classrooms?

The groups were cautioned not to try and seek answers to any of these questions but rather to start by exploring the pertinent themes whether they be childhood, identity, or community; hopefully by exploring themes and ideas with open minds, the insights would follow. To model our expectations, we presented first. Our topic was the power of stories. Through drama and song, our interactive presentation explored how, in our society, stories and oral traditions have been supplanted by science and ‘facts.’ We investigated the idea that in North American society facts must be written down and the written word privileged. We contrasted this with the Kipsigi and Maasai tribes who have a rich oral tradition, and how this practice has served them well. The passing down of their history, knowledge, and traditions through oral forms has sustained the continuation of their culture and the survival of their communities for hundreds, and perhaps thousands, of years.

When it was their turn, the pre-service teachers’ presentations reflected their diversity as learners. Their topics included those we suggested and some of their own. The following is a summary of a presentation using a drama role play format in which one group explored previously held assumptions regarding cheating. From our pre-service teachers’ perspective the Kenyan students were cheating during assignments and tests. Classroom conditions forced the Kenyan students to sit shoulder-to-shoulder where they openly looked off each other’s work and often exchanged papers. After trying a variety of failed strategies to prevent cheating, our pre-service teachers were clearly exasperated, in part because they knew that their Kenyan pupils would face national standardized examinations. It was decided that they would ask the Kenyan host teachers for help. The reply was that the students were not cheating but rather assisting each other. Initially, our pre-service teachers were perplexed by this reply because the Kenyan students’ actions would clearly be labeled as cheating in any North American school. Through their role play presentation and subsequent discussion our group began to understand how Kenyan culture was deeply invested in the value of community. They role played the consequences of a hunter who would not share his catch in times of hunger, and the owner of a homestead who would not share his well water in times of drought. How would the community
Using Arts-Based Activities to Foster Transformative Learning

survive? Along the same line of thought, if everyone in a community is willing to share, does it matter who has the knowledge? In contrast, they noted examples and became deeply aware of how North American society and our educational systems are deeply invested in the values of independence, individuality, and competition.

It was precisely because we were immersed in a different culture and experienced the immediate effects of community (students assisting in this instance) that we were confronted with our own assumptions. However, it was the arts-based activities that provided the necessary vehicles for our students to directly confront their disorienting dilemmas and fully appreciate the position of the Kenyan students and teachers. In the words of one pre-service teacher:

“There are things that I learned that could not really be taught or have the same effect unless you have experienced it first hand. Some of the things that changed me the most and impacted me were experiences that we had, but most importantly the feelings and emotions that came with those experiences. It’s not something that someone else could understand without going through this themselves.”

Another pre-service teacher commented:

“My experience in Kenya has opened my eyes to a variety of new experiences. Going back into a Canadian classroom, I will definitely embrace cultural difference in a different way. I feel that I will use the diversity of a classroom as a teaching tool. I will take time for storytelling and make it fit into the curriculum. I have also learned the importance of community and feel a strong urge to make my classroom a big community, more so than I did before I left.”

Relevance for Teacher Educators

As teacher educators we emphasize the importance of reflection to improve our professional practice. As practicum faculty facilitators, we learned that we needed to provide the strategies to encourage critical reflection and transformative learning. Critical thinking and transformative learning does not happen by itself. In our classrooms we instruct our pre-service teachers to differentiate instruction for their students. We must model the concept of differentiation and provide instructional strategies to meet the diverse needs of our learners. The arts-based activities met the diverse learning needs of the group and allowed the pre-service teachers to examine their own biases, personally experience other ways of knowing, and actively engage in transformative cross-cultural experiential learning.

References


Biographies

Glenda Black is an Assistant Professor in the Schulich School of Education, Nipissing University, North Bay, Ontario. She teaches curriculum related courses in the B.Ed. program, and educational leadership courses in the Graduate Studies program. Her research interests include: educational leadership, curriculum development and instruction, and indigenous and cross-cultural education.

Rogerio Bernardes is an Assistant Professor in the Schulich School of Education, Nipissing University, North Bay, Ontario. He teaches Physical and Health Education. His research interests include teaching approaches that are inclusive of bigger bodies in physical education and international and cross-cultural education.
Many environmental educators and philosophers have identified anthropocentrism and the socially constructed separation between humans and “the more-than-human world” (Abram, 1996) as primary root causes of current ecological devastation. This separation is embedded in Western schooling content and structures and is often unintentionally reinscribed by educational content and practices. This paper describes three ways I work to disrupt this artificial separation between humans and the non-human ‘nature’ within a graduate level course: 1) attention to discourses; 2) offering counternarratives; and 3) provision of experiences that support ways of knowing and being introduced in course readings and class lectures.

Introduction

Many environmental educators (e.g., Barrett, 2009; Bell & Russell, 2000) and philosophers (e.g., Abram, 2010; Plumwood, 2002) have identified anthropocentrism and the socially constructed separation between humans and “the more-than-human world” (Abram, 1996) as primary root causes of current ecological devastation. This separation is embedded in Western schooling content and structures (Gruenewauld & Smith, 2008) and is often unintentionally reinscribed by educational content and practices. This paper describes three ways I work to disrupt this artificial separation between humans and the non-human ‘nature’ within a graduate level course: 1) attention to discourses; 2) offering counternarratives; and 3) provision of experiences that support ways of knowing and being introduced in course readings and class lectures. Given this context, and the fact that the course is situated in Plains Cree territory, exploration of animist perspectives were selected as central to the course.

The course, entitled ENVS 811: Multiple Ways of Knowing in Environmental Decision-Making, is set in the context of an interdisciplinary graduate program in environment and sustainability at the University of Saskatchewan. It involves critical examination of human-nature relations with particular emphasis on epistemology. Students
are asked to analyze their own decision-making beliefs and practices in the context of multiple understandings of the world. Course objectives include: Understanding that there are multiple ways of knowing, all of which are valuable to environmental decision-making, and that the higher status given to some knowledge systems over others has had significant (often negative) social, economic, and environmental effects. Students also become familiar with a range of explanations for animist and transrational knowing and appreciate the significance of engaging these in environmental decision-making from the perspective of making quality ethical decisions. They are also encouraged to practice integrating multiple ways of knowing into decision-making in both personal and professional contexts, as applicable.

Theory

Much of the course content supports creating spaces for a range of perspective on knowledge-making and decision-making processes. This includes both rational and transrational ways of knowing. By transrational, I mean those ways of knowing that are not against or counter to, but extend beyond Western rationality (Astin, 2004). These include unexplainable intuitions, gut feelings, sudden inspirations, embodied knowledge, dreams, non-verbal telepathic conversations with animals, and knowledge received through the use of a dowsing instrument. Many of these ways of knowing have been central to ancient cultures around the world and are currently being brought forward in research methodologies such as dialogic inquiry (Barrett, 2011), intuitive inquiry (e.g., Anderson & Braud, 2011), contemplative inquiry (Zajone, 2008), some arts-based research approaches (e.g., Lipsett, 2002), and Indigenous methodologies (e.g., Debassige, 2010; Wilson, 2008). Unfortunately, these ancient ways of knowing have been both marginalized and silenced by the cognitive imperialism of Eurocentric traditions upon which Western academia was built and is frequently maintained (Battiste & Henderson, 2000).

In the context of the limited epistemological frameworks given acknowledgement in many academic contexts, support is needed for expressions of knowing that transcends rational empirical methods of knowledge production. This minimally requires ‘trans-systemic’ methods and processes (Battiste 2007) that reach beyond normative (in academic contexts at least) systems of knowledge and support deepened understandings of Indigenous ways of knowing. Although multiple epistemologies are engaged, I will focus on animism for this particular paper since it forms a significant amount of the course content. While scepticism is important to engage in the face of all knowledge claims, it is equally important that particular ways of knowing should not be privileged over another, and criteria for assessment match the type of knowledge being assessed. Curriculum and pedagogical practices which decentre dominant discourses about the nature of knowing (epistemology) and reality (ontology) are necessary beginnings to realizing alternate ways of knowing, being, and learning.

Animism is a relational ontology that assumes the human-nature relations go beyond the physical-material. In doing so, it challenges many aspects of the socially sedimented human-nature binary and hierarchy, and extends beyond conventional (within most Eurocentric academic contexts) epistemologies and ontologies. An animist ontology assumes non-human Others, or persons, such as trees, birds, rocks, clouds, rivers, and other entities not only possess self-consciousness and intentionality (i.e., agency), but are able to “communicate intelligently and deliberately” (Harvey, 2006a, p. 187). Although animism is most often discussed in the context of Indigenous cultures, experiences of animism exist in diverse cultural contexts (e.g., Stuckey, 2010). As Harvey (2006a) notes, there are some cultures which are animist and others where one can be an animist even though the culture itself is not an animist one (see Barrett, 2009). These understandings of animism challenge previous definitions established within Eurocentric anthropological traditions, which associated animism with primitive cultures, superstition and immature spiritualism (Bird-David, 1999). The word ‘spirit’ is often not included in academic discussions of
animism as it is currently being taken up by scholars such as Harvey (2006b), yet it lurks under the surface.

Research and Praxis

In the first of two post-course focus groups, students highlighted several key course components as foundational to their learning. Three of the most important are discussed here. They are: 1) attention to discourses and the multiple ways in which discourses enable and constrain what is thinkable and unthinkable (Britzman, 1995); 2) exposure to counternarratives through course texts, guest speakers, and class discussion; and 3) provision of experiences that support ways of knowing and being that were introduced in course readings and class lectures. I will spend most time on the first approach, then briefly introduce the second and third. Data collection and analysis is ongoing.

Attention to discourses

To help students understand discourses and their relative power they hold, I often work with a set of balance scales. I define discourses as sets of meanings (Weedon, 2004), or mini- and meta-narratives which take on the illusion of truth. These become entrenched, and are inscribed in bodies through everyday speaking and acting (Foucault, 1977/1995; Weedon, 2004), as well as through physical spaces (Probyn, 2003). As students are exposed to new understandings, attention to discourses which reinscribe their previous and well-entrenched understandings becomes essential, particularly as they discuss their new learning with other students, peers, or family members who in some cases, hold radically different perspectives. Discourses are the actions (or the verb) of invisible assumptions; they reinscribe these assumptions with each speaking and acting. Making the work of discourses visible is often an important first step in reducing the power they have to invisibly prescribe what is often assumed to be normal, unchangeable, and real.

As a class, we identify discourses prevalent within the course and students’ personal and academic lives, then in some instances, use a balance scale to metaphorically demonstrate that discourses hold power (weight), that power produces subjectivities (who one can be), and affects individual agency, (a person’s ability to act and think independently). For example, discourses of animism have relatively little weight if spoken in isolation and would generally be represented by a kernel of popcorn on the scale. But in the context of increasing recognition of the limitations of one perspective or worldview, raising frustration with the lack of successful resolution of complex environmental dilemmas using current approaches, and increased acknowledgement of the value of Indigenous knowledges, discourses supportive of animist sensibilities are finding increased traction. Consequently, in some contexts, they may have more power (perhaps the weight of a large marble). In others, particularly those that are entrenched in the metanarratives of material realism, they are still easily dismissed. To help students get better at identifying discourses and the ways in which they are at work in their lives, I introduce the discourse game. Throughout the rest of the course, I ask students, both in their day-to-day interactions, and within the course itself, to identify “big D” discourses (Rogers, 2004) that, as educational scholar Kumashiro (2004) notes, make some things possible or do-able, and others impossible. What are the epistemological discourses that make it impossible to use dreams as data, or to inform important decisions? What ontological discourses make experiences of telepathic communication with animals seem impossible to imagine as anything more than metaphor (see Nadasdy, 2007; Sheldrake & Smart, 2000)? What discourses are at work, where do they originate, and upon what underlying understandings of reality are they based? And what are the perceived or actual risks when these discourses are challenged or, conversely, what might they enable if such counternarratives are engaged? All of these questions feed back into our discussions of what ways of knowing are able to be used in environmental management decision-making processes. They also clarify the relative safety of explicitly engaging them in their personal, academic and professional contexts.

Introduction of counternarratives

Through course texts, guest speakers, student presentations, and class discussions, students are intro-
duced to a variety of counternarratives which challenge dominant and prevailing discourses within the fields of environmental sciences and resource management. In addition to guests from outside the university, student presentations also provide significant opportunities for expressions of diverse epistemological perspectives. Hearing diverse points of view from peers and invited experts enhances course readings by providing live and often storied representations of diversity. In introducing these different perspectives, I emphasize that the point is not to advocate for replacing one knowledge system with another, but rather to create a shared ethical space (see Ermine, Sinclair, & Jeffrey, 2004) where individuals can begin to imagine how multiple ways of knowing – including transrational and Indigenous knowledges – can be used to address complex environmental problems.

Direct experience
Students are given numerous opportunities to attend to their own multiple ways of knowing through course assignments and in-class activities. To counter the emphasis on intellectual knowing present in most academic settings, I introduce a series of in-class activities to help students become more comfortable accessing ways of knowing that transcend rationality. These activities lead up to the Natural History Journal assignment which invites students into a practice of what Conn (2007) talks about as a restored ecological consciousness. It requires that students slow down and pay attention to direct perceptual knowing based on direct experience with a non-human being. The first step is to allow themselves “to be chosen by a natural being” (Conn, 2007), then to spend 20 minutes or more with that being at least two times a week. Students keep a journal of observations, insights and experiences and reflect on these through a synthesis assignment at the end of the course. In all three of the offerings of the course, many students have identified this assignment as critical to their understanding of the counternarratives presented.

Summary
Based on student feedback in post-course focus group, meeting course learning objectives requires a suite of pedagogical approaches. For these students, three strategies were identified as essential: exposure to counternarratives, identification of constraining discourses, and direct experience. A learning atmosphere conducive to exploration of new, and often challenging ideas, as well as time to process what they were learning were also viewed to be essential.

Acknowledgements
I would like to acknowledge the support of the Social Sciences Research Council of Canada and the University of Saskatchewan Teaching Learning Scholar grant for financial support, the students who participated in the focus groups and surveys, and Dr. Sheryl Mills, Gwenna Moss Centre for Teaching Effectiveness, for assistance with design and facilitation of the focus groups.

References


Barrett, M.J. (2011). Doing animist research in


**Biography**

M.J. Barrett holds a joint appointment in the School of Environment and Sustainability and the College of Education at the University of Saskatchewan. Her research addresses questions of how a deepened understanding of Indigenous and other transrational ways of knowing can enable environmental students, professionals, and researchers to more effectively and respectfully understand and engage multiple knowledge systems in environmental management contexts. It also queries into social constructs which act as barriers to developing and applying such understanding, and how to convey these concepts to students.
Introduction

Recent challenges to the Canadian economy have sparked debate about how the country can remain competitive in global markets. One school of thought suggests the nation must move its attention from developing a workforce centred on manufacturing to one that concentrates on producing jobs related to a knowledge economy. In other words, the emphasis must shift from the ‘construction’ of items to the ‘creation’ of ideas. This learning places considerable importance on having a workforce educated beyond the secondary level. Some speculate possessing an undergraduate degree in the future will be the equivalent qualification of a high school diploma in the 1970s as an entry level credential (University of Toronto, 2008). This growing belief that a greater degree of our populace needs higher education is reflected in the escalated enrolment at tertiary institutions (Statistics Canada, 2010).

Driving this increase is a youth cohort under the age of 22, and, for this reason, many universities focus their programming on the needs of younger students who pursue university study either directly from secondary school or very soon thereafter (Association of Universities and Colleges of Canada, 2007). However, with this steady rise in attendance (and potential expansive ability range), specific concerns have come to light centering...
on student readiness and the issue of alignment between secondary and university education systems (Business Council of Manitoba, 2011). Student readiness can be defined as the level of preparation a student needs to succeed – without remediation – in a credit-bearing course at an institution that offers a baccalaureate degree or transfer to a baccalaureate program (Conley, 2007). Difficult transitions for students entering higher education have prompted researchers to urge educators, policymakers, and politicians to think about learning within the context of a K-16 framework. In doing so, a greater sense of alignment between learning outcomes and assessment standards may be fostered in the present dichotomy that arguably exists between secondary and higher education.

Purpose and Method

Assuming alignment issues are indeed a contributing factor to student readiness, my study examined connections between secondary education curriculum outcomes (content standards) and the evaluation of knowledge and skills (performance standards) pertaining to them. The relationship between these standards and those delineated by a single post-secondary institution were then determined. In particular, I examined the subject of English Language Arts (ELA) to determine alignment between secondary and university standards within the province of Manitoba. This examination included analysis of provincial curriculum/evaluation documents and course outlines, along with input from five subject area secondary teachers and three university professors.

At the secondary level the document analysis included examination of provincial ELA curriculum outcomes (content standards) and the evaluation methodology in recent (2009-2011) provincial examinations (performance standards). These elements were compared to professors’ course syllabi and major assignments identified by a former university English department chair. Additional information gathered through interviews with these high school and university teachers addressed the means by which they determined content standards, appropriate measurement instruments and items, and relevant performance standards.

Results

A major finding was that problems pertaining to readiness might have stemmed from differing objectives and means of assessment that existed between the two levels of education. In the interviews, secondary teachers expressed the challenges related to balancing instruction within six focus areas of language arts. The curriculum documents defined these areas as: listening and speaking, reading and writing, and viewing and representing (Manitoba Education and Training, 2000). The high school teachers also found it difficult to create unit and lesson plans that covered the entire range of learning outcomes. Document analysis of the province’s curriculum framework outlined five general learning outcomes and 56 specific outcomes that teachers were expected to teach and assess. In contrast, at the post-secondary level, the English department chair indicated their faculty focused on developing and evaluating students’ critical thinking skills and language use primarily through essay writing. General and specific learning outcomes were not specifically articulated in course syllabi distributed by the professors. Instead the syllabi often focused on course descriptions, assignment types, and grading weights. Generally, the evaluation was comprised of major essays presented three times during the academic year and a final essay form examination at the end of the course.

There were also differences in terms of what was considered ‘student proficiency’ according to the level of study – secondary to post-secondary. Whereas secondary ELA teachers were cognizant of content standards or outcomes, their awareness of, and ability to construct, performance standards was not as evident. High school teachers could access two provincial documents that discussed the latter standards. The earliest of these writings, entitled Rethinking Classroom Assessment with Purpose in Mind (Manitoba Education and Training, 2006), provided limited explanation as to how performance was specifically determined. The document
only mentioned that alignment was a concern: “Curriculum, assessment, instruction, and learning are interconnected and interact in an iterative and sometimes (but not always) cyclical process. All four need to be aligned and coherent for the learning to be effective and meaningful” (p.15).

A second provincial publication, Communicating Student Learning (Manitoba Education and Training, 2008), offered classroom teachers slightly better insight to the establishment of performance standards by explaining that “the basis for grades must be derived from the learning outcomes” (p.25) and citing the use of criterion-referenced standards so both educators and learners would understand “why ‘good’ is good and describe what competency looks or sounds like” (p.26). Teachers were encouraged to develop criteria that described performance standards that fit into levels of proficiency. It was explained that while two levels, meeting and not meeting expectations, seemed to make sense, it was important to design rubrics that expanded to four levels.

The teachers’ theoretical knowledge towards the establishment of performance standards appeared to be scant. A number of those educators interviewed explained that their understanding of performance standards came not from theory but through their actions as actual practitioners in grading provincial standardized examinations.

In contrast to the secondary emphases, at the post-secondary level the emphasis was on ‘high standards’ and ‘rigorous expectations.’ However, there was a lack of uniformly developed or utilized content and performance standards within a department. In other words, standardization of their expectations was absent. There also was an expressed sense of professional ‘independence’ with regard to assessment methods. In fact, it was noted that the determination of what constituted a letter grade of ‘A, B, C, etc.’ in relation to the cut-off scoring percentile range differed among English department professors.

Discussion

This disjuncture between both content and performance standards found between secondary and higher learning may be due to the fact secondary education historically has involved a student body whose range of academic abilities varies greatly in comparison to the sub-set typical of learners in universities. Given this population variance, secondary education traditionally has focused on creating suitable content standards. Thus, the subsequent performance standards also may be intended more for determining minimum competencies addressing our society’s vocational pluralism.

The findings suggested that Manitoba high schools and universities need to determine common ground for the creation of content and performance standards. Notably, they need to establish what is meant by performance considered to be ‘proficient’ and what criterion reflects such a term. Prior research shows that the process of creating performance standards and attaching labels indicating the student’s level of performance is an arduous task beset with technical difficulties and political controversies (Cronin, Dahlin, Adkins, & Kingsbury, 2007; Hamilton, Stecher, & Yuan, 2008; Linn, 2003). It may be that teachers and the professoriate require better training with regards to these practices. The problem is that the environments are ‘substantially’ different. One emphasizes conforming to prescribed documents; the other has at its foundation ‘academic freedom’ that is reflected in the diversity of expectations and syllabi. The result is a strong disconnect between expectations that students must meet from one level of education to the next. This difficulty does not change the fact that high school teachers are not always sure how to assess and university faculty appear to use essay writing as a primary method for assessment.

Because Manitoba universities do not have entrance examinations such as an ACT or SAT, there also appears to be a need for funding and expert work towards research on the predictive validity of provincial standards and determinants of university success. Additionally, the growth of Manitoba high school Advanced Placement and International Baccalaureate programs and their espoused post-secondary transitional success for students should be examined. It would be important to learn what differences (e.g., student characteristics,
curriculum objectives, teaching materials, teacher characteristics) exist between such programs and general education courses and any potential impact these differences may have.

Some universities in North America and Europe have attempted a complex approach to standard-setting, involving both the criterion referencing of students’ performances and consideration of statistical information about the grade distribution (Baird, 2011). It appears that post-secondary institutions are mindful of establishing elements of consistency and implementing standardized practices when it comes to teaching and evaluating students as evident by the scholarly research recently produced (Choy & Lidstone, 2011; Cizek & Bunch, 2007; Harman & McDowell, 2011; Yorke, 2011). Manitoba’s institutions of higher learning should be aware of the issues and trends surrounding assessment and consider the practices and policies discussed and implemented in both secondary and tertiary learning. In establishing this overall goal educators and learners will have greater understanding of expected outcomes between the two levels of education.

Policy Recommendations

Based on the conclusions, a number of policy recommendations resulted from the study. To begin with, the content and evaluation criteria of all first-year university courses should be examined in relation to their comparative high school subjects. A second policy initiative related to this concern aims at the establishment of a provincial government committee to determine the means and degree to which alignment may be established. Government involvement at this level is necessary for various reasons. This bureaucracy contains individuals who have operational knowledge pertaining to the two systems. These people may be able to identify where gaps exist and determine ways for transitioning students to bridge these gaps. Finally, teacher education pre-service and in-service programs should be developed so that curriculum and teaching methods ensure professionals can prepare students to meet new standards. At tertiary institutions, centres of teaching enhancement need to undertake this same goal with regard to faculty members.

References


Cronin, J., Dahlin, M., Adkins, D., & Kingsbury,


**Biography**

Dean Beaubier is a high school classroom teacher who holds a doctoral degree in Education Studies from the University of Nebraska-Lincoln. His interests include equity issues, policy planning, and concerns surrounding assessment. He can be reached at dbeaubier@rrsd.mb.ca.
Is Strategic Development of Leadership Capacity for the Higher Education Workplace Possible?

Majorie Angel Brown
University of Toronto

Beginning graduate students who are working in higher education can benefit from establishing a professional development plan designed to enhance leadership capacity. The challenge is to align personal goals with those of the graduate program, yet ensure that collegial socialization and professional competency development occurs. Professional socialization refers to the acquisition of values, attitudes, skills, and competencies pertaining to a professional subculture. In this paper, I describe an activity I designed and the process I used that address equity, diversity, and inclusion as one professional competency area in my socialization process as a strategy to become a more effective leader.

Introduction

Graduate student socialization is a process of “voluntarily learning new and different sets of attitudes, values, and behaviours from those in my background and previous experiences for the purpose of integrating the new professional role into my identity” (Weidman, Twale, & Stein, 2001, p. 6). I am seeking involvement and investment by faculty in my Ph.D. program, as recommended by Thornton and Nardi (cited in Weidman, Twale, & Stein, 2001), that Black women Administrators and indigenous scholars write about as missing in their experiences (Byrd, 2009; Henry & Tator, 2009; Lewis & Bush, 2010). These recommended experiences include clear, realistic guidelines, collaborative dialogue, and formal mentoring roles (Cress, 2008; Freese & Strong, 2008; Mighty, Ouelett, & Stanley, 2010).

Equity, Diversity, and Inclusive Excellence (EDI) for Socialization

As I began a new journey embarking on a Ph.D. at the Ontario Institute for Studies in Education/University of Toronto, I wanted to maximize opportunities to develop my competence within a framework of professional socialization. I reviewed the report Professional Competency Areas for Student Affairs Practitioners, which was developed by a joint task force comprised of members of College Student Educators International (ACPA), and Student Affairs...
Is Strategic Development of Leadership Capacity for the Higher Education Workplace Possible?

Administrators in Higher Education (NASPA), and finalized July 24, 2010. While the profession as described by the document is prevalent in the United States, and the report is intended primarily for that audience, I am a member of both associations and subscribe to the learning outcomes for my own skill and role development.

The competencies outlined were developed and endorsed by both organizations. They are listed with a description first, and then several categories of expected learning and skill development for each of basic, intermediate, and advanced levels. The intention is for student affairs practitioners to examine themselves and devise a strategy to develop capacity, and to practice the necessary attributes outlined. I designed a profile for myself that will serve me for years to come as I continue to grow and learn. I expect this profile to evolve during each year of the Ph.D. as I adjust and become transformed, and set objectives in all competency areas and within each level.

Each competency area begins with a description, and each has three levels: basic, intermediate, and advanced. The 10 competency areas are listed below:

1. Advising and Helping
2. Assessment, Evaluation, and Research
3. Equity, Diversity, and Inclusion
4. Ethical Professional Practice
5. History, Philosophy, and Values
6. Human and Organizational Resources
7. Law, Policy, and Governance
8. Leadership
9. Personal Foundations
10. Student Learning and Development

Equity, Diversity, and Inclusion (EDI) is the third of the ten competencies, and is described as “the knowledge, skills, and attitudes needed to create learning environments that are enriched with diverse views and people. It is also designed to create an institutional ethos that accepts and celebrates differences among people, helping to free them of any misconceptions and prejudices” (ACPA/NASPA, 2010, p.10). Each competency has several levels.

Below is a statement from each of the three EDI levels:

Basic – one should be able to assess and address one’s own awareness of EDI, and articulate one’s own differences and similarities with others.

Intermediate – one should be able to identify systemic barriers to equality and inclusiveness, and then advocate for and implement means of dismantling them.

Advanced – one should be able to provide leadership in fostering an institutional culture that supports the free and open exchange of ideas and beliefs, and where issues of power and privilege are identified and addressed (p.10-11)

How to Improve Practice of Educators

During my session at the Society for Teaching and Learning in Higher Education (STLHE) Conference in June 2011, I used the above EDI basic competency as an example to demonstrate how I assess my own awareness on a regular basis. The participants then de-briefed how and when they could do the same in their various roles on their own campuses. I disclosed that I wanted to grow and I explained I was following the recommendations of those who have gone before me. Guido-DiBrito and Chavez (2003) explain, that “as educators, we bring our own strongly imprinted sets of norms, values, behaviours, and assumptions into learning environments as well [as our students]. Ongoing reflection and self-analysis of the daily influence of these cultural aspects is essential for higher education and student affairs educators to be effective in creating multic culturally competent learning environments” (p. 18).

This particular activity was an adaptation
of a process described as a means to consider how to “value the other,” from Chavez, Guido-DiBrito, and Mallory (2003). The authors encourage readers to follow these steps: create a pie by drawing a large circle on a piece of paper; divide the circle by drawing lines from one side of the circle to the other until four to eight pieces of pie are represented; label each piece of pie with social identities; consider the level of awareness at the ‘affective, behavioural, and cognitive’ levels of understanding; and fill in the pie chart to create a map of the current state of awareness. If I complete this exercise on a regular basis and keep the dated results, I will be able to see changes when comparing levels of awareness over time, becoming more competent in valuing diversity in myself and others. The key is to use an intersectional approach when I consider my many social selves as well as my personal ethnic identity.

I strive then to use my awareness to improve my practice, seek out diverse experiences, and become consciously aware of the meaning of these experiences through critical self-reflection. As Ford and Dillard (1996) explain, “the process of becoming multicultural is a recursive cycle of deconstructing self as object, reconstructing self as subject, and engaging in subject-to-subject relations with others” (p. 237). Engaging in this self-reflective exercise is one way to begin the cycle to develop EDI knowledge, skills, and attitudes.

Why Must I Be Intentional and Self-Reflexive?

There is evidence from scholars, researchers, and administrators in the United States and Canada that suggest the discourses of inclusion, and attention to attracting and retaining historically under-represented graduate students serve a neo-liberal agenda that does not really support social justice and equity (Byrd, 2009; Cress, 2008; Mighty, 1991; Siegel, 2006). Further, for a Black woman like me to work in higher education, I must be prepared to deal with pervasive and systemic racism and sexism (Henry & Tator, 2009; Lewis & Bush, 2010). Pope, Reynolds, and Mueller (2004) point out that “[today] one’s ability to engage in deeply multicultural practices and pedagogies is no longer constrained to one’s membership in the group served and is the daily responsibility of every educator” (p. 18). As a racialized person and someone marginalized on multiple dimensions, I therefore need to be intentional about my own development.

In an effort to arm myself with the tools needed to face the reality described by scholars, I decided to examine my assumptions about higher education, access, equity, diversity, and inclusive excellence. I identified four areas in which to begin my self-assessment before applying to the Ph.D. program:

1. my ability to deal with the implementation of rules and regulations, or red tape
2. the program requirements
3. my own personal effectiveness and learning needs as a professional working in the higher education environment with no plans of becoming a professor
4. theories about professional socialization as a graduate student

My evaluation of the outcome from this reflection is outside the scope of this paper. However, an analysis of my skills, lead to a positive decision to boldly begin this journey because I wanted to become a more influential leader and contribute to organizational effectiveness. Berman (2006) suggests that organizational effectiveness refers to both outcome and output measures – outputs are “the immediate results of organization activities” and outcomes are “measures of the extent that the organization attains their goals or ultimate purposes” (p. 6). By the same extent student or employee effectiveness would refer to immediate results of my planned activities as outputs, and my outcomes would be the measures of the extent to which I attain my goals aligned with the program or organization. This is the approach I usually take in preparing my professional development plan. However, in 2009, I also included a review of my intercultural maturity (King & Baxter Magolda, 2005), in light
of the ten competency areas in order to highlight my capacity to deal with the structure and culture of a public organization. Bozeman (2000) defines red tape as ineffective and excessive rules, regulations, and procedures that “do not advance the legitimate purpose the rules were intended to serve” and reduce organizational performance and effectiveness (p. 12). Before returning to university student mode, I wanted to check that I was willing and ready to work with others in a prescribed program, and prepare myself for the inevitable red tape of the application process and other procedural needs of each area of the university bureaucracy.

Summary

I made the decision to socialize myself as a graduate student before applying to graduate school. Scholars indicate that personal changes begin to occur before entering the graduate student environment; I looked to my professional associations, family, and other supports to provide well-balanced approaches to managing the inevitable changes that would take place. In preparation for the inevitable change, and as a result of my self-assessment, I organized a chart and reflective journal to address each of the years recommended for my Ph.D. program. My decision to focus on one professional competency in the paper, Equity, Diversity, and Inclusion, was motivated by a desire to integrate my learning with practice. The method I used was to draw upon the research and theories of scholars working in higher education and student affairs. I examined myself, reflected upon my findings, and created an integrated chart and other tools to aid in tracking my progress. So far, my strategy has helped to highlight areas for improvement in my practice as I continue to build leadership capacity.

References


maturity. *Journal of College Student Development, 46*(6), 571-592.


**Biography**

Majorie Angel Brown is a Ph.D. Candidate in the Department of Leadership, Higher, and Adult Education of Ontario Institute for Studies in Education (OISE) and the University of Toronto. Her research interests are related to the strategic development of leadership capacity; student transition and engagement; and organizational development of higher education workplaces for equity, diversity, and inclusive excellence.
Applying Universal Instructional Design to Course Websites by Using Course Evaluations

Irene Carter, Donald Leslie, & Denise Kwan
University of Windsor

The authors explore their use of learner-centred teaching strategies and Universal Instructional Design (UID) on course websites. UID is based on universal design, the design of products and environments intended to be usable by all people to the greatest extent possible (Burgstahler & Cory, 2008). UID applies universal design to instructional products and environments, including course websites. Seeking to assess and improve course website accessibility, faculty aimed to consider to what extent they employ UID as a means to promote inclusive practices and greater accessibility. Through the University of Windsor’s university-wide learning management system (CLEW) Learning Community, faculty administered teaching evaluations to students in eight undergraduate courses. Although the evaluations indicated students considered website course delivery involved a fairly high level of accessibility, future studies are required to determine to what extent course websites reflect UID-based teaching strategies that promote accessibility.

Introduction

Fichten et al. (2003) estimate the number of North American post-secondary students with a disability ranges from 5% to 11% (p.75). Bryson (2003) illustrates that in a class of 50 students, there will likely be four with auditory learning disabilities, one to two with visual/organizational visual disabilities, one to two with visual or hearing impairments, one with lower ability, two to four with mental health issues, two to four with attention deficits, one to three with medical conditions, one to three with mobility limitations, and three to eight who are underprepared. This illustration of a class of 50 students indicates that the number of students requiring diverse methods of teaching and learning ranges from 32% to 58%. In Ontario, the Accessibility for Ontarians with Disabilities Act (2005) supports the plan to achieve accessibility by 2025 by developing, setting up, and enforcing accessibility standards that include services such as education. Accessibility for all post-secondary students results in increased rates of student recruitment, engagement, and retention (Ministry of Community and Social Services,
2008). In this paper, we reinforce how important accessibility is in a post-secondary Ontario setting, specifically seeking to outline and evaluate guidelines and strategies that instructors can use, effectively, to create course websites that are accessible to all.

Learner-Centred, Teaching Principles and Universal Design

A learner-centred approach aims to meet students’ learning needs based on the perspective of the student (Hubball, Gold, Mighty, & Britnell, 2007). Instructors share decisions about learning with students, allowing them some control over their learning (Weiner, 2002). Instructors aim to provide clear learning expectations, help students make use of their knowledge, and promote principles of accessibility while still upholding academic rigor. The Seven Principles for Good Practice in Undergraduate Education represents widely recognized, evidence-based teaching practices (Chickering & Ehrmann, 1996; Chickering & Gamson, 1987). The principles include encouraging student-faculty contact, active listening, stressing time on task, providing prompt feedback, communicating high expectations, developing reciprocity and cooperation among students, and respecting diverse talents and ways of learning (Chickering & Gamson, 1987). In a learner-centred environment, these principles apply to post-secondary websites and classrooms.

Instructional methods that pose barriers for diverse learners lead to poor outcomes, including limited understanding of curricular material, inability to engage, frustration, lower grades, inability to complete the course, and lack of success in the course overall (Keeler & Horney, 2007). Traditionally, students with special needs received retrofitted instruction designed specifically for them, and often inconsistent with the content and rigor of the general education curriculum (Boone & Higgins, 2007, as cited in Sapp, 2009). The educational standards movement and increasing student diversity served to promote educational improvement and reform. Universal design, and its application to teaching and learning, Universal Instructional Design (UID), surfaced as a necessary approach (Bryans Bongey, Cizadlo, & Kalnbach, 2010).

Universal design is the design of products and environments intended to be usable by all people to the greatest extent possible without the need for adaptation or specialized design (Center for Universal Design, 2011). UID is the application of universal design to instructional products and environments that goes beyond the traditional approach of making accommodations and adjustments for individual learners (Burgstahler & Cory, 2008). The principles of UID recommend that instructors plan for equitable use, flexibility in use, simple and intuitive use, perceptible information, a tolerance for error built in, and low physical effort. Additionally, instructors are to consider size and space for suitable use, create a community of learners, and create an inclusive climate. These principles promote the consideration and potential needs of all learners while removing barriers and upholding academic rigor (Burgstahler & Cory, 2008; Coomber, 2007).

UID creates physical, social, and learning environments to meet the needs of a diverse population (Curry, Cohen, & Lightbody, 2006). This framework guides the design of seamless education for the widest number of learners, thus minimizing the need for individual variations (Burgstahler & Cory, 2008; Hitchcock & Stahl, 2003). UID supports learning by providing multiple and flexible methods of presentation and strategic learning; by providing various means of expression and apprenticeship; and by providing many choices for engagement (Hall, Strangman, & Meyer, 2009; Hitchcock & Stahl, 2003). UID allows learners to experience minimal barriers and to maximize their access to course and instructional materials (Hall et al., 2009), presenting clearer expectations and unambiguous instructions. Thus, UID involves effective teaching techniques, inclusiveness, accessibility practices, and application of technology (Bryson, 2003).

Universal Instructional Design, Course Websites, and Accessibility

Technology performs an increasingly widespread
Applying Universal Instructional Design to Course Websites by Using Course Evaluations

Applying Universal Instructional Design to Course Websites by Using Course Evaluations

and invaluable role as a cost-effective way to advance the Seven Principles for Good Practice in Undergraduate Education (Chickering & Ehrmann, 1996) with its potential for flexible, encouraging, and adjustable experiences (Hitchcock & Stahl, 2003). The increasing demand for accessible post-secondary websites encourages instructors to use UID to ease understanding among diverse learners. Current learning environments call for both assistive technologies and UID, because only together is there acceptable accessibility and support to promote learning for all (Hitchcock & Stahl, 2003).

Elias (2010) tailored eight principles of UID relevant to course websites. He ensures equitable use with useful and accessible instructional materials available to all learners in identical or equivalent formats. Providing learners with choices in methods of use upholds flexible use by considering individual learners’ abilities, preferences, schedules, and levels of connectivity. A course design that everyone understands meets the principle of being simple and intuitive. Effectively communicating necessary information to all learners ensures information is perceptible. Tolerance for error is obvious when adverse effects of learners’ accidental or unintended actions are minimized. Efficient, comfortable websites result in low physical and technical effort, minimizing physical or mental fatigue. A web-based community of learners and supports promotes a learning environment where there is interaction between students, faculty, and administrative services. Also, positive instructional climate is created when students receive welcoming instructor feedback. These principles are applicable to components of course websites which include course notes, syllabi, schedules, access to grade information, links to added resources, assessments, feedback, chat rooms, discussion boards, and virtual office hours (Bryans Bongey et al., 2010; Hitchcock & Stahl, 2003; Keeler & Horney, 2007; Sapp, 2009).

Desire2Learn (2011), Blackboard Learn (2011), Sakai (2011), and the Collaboration and Learning Environment Windsor (CLEW) is the University of Windsor’s customized learning management system (Centre for Teaching and Learning, 2012). Some features of CLEW that instructors use include the ability to post lecture notes or PowerPoint presentations on-line, make announcements, and guide learning through online lessons. CLEW also creates opportunities for discussing group work in discussion forums, accepting assignments on-line, forwarding confidential feedback and grades, and providing instructors with training opportunities.

The web provides a growing source for course resources and tools to improve students’ learning experiences (Leung & Ivy, 2003). Assistive technology helps individuals with disabilities to perform functions otherwise difficult or impossible, and includes computer hardware and software as well as mobility devices, such as walkers and wheelchairs (Access IT, 2012). The Web Accessibility Initiative (WAI, 2011) is sponsored by government and industry. The WAI supports agencies such as Canada’s Assistive Devices Industry Office (Canadian Assistive Devices Industry – Information Sources, 2011) that focus on offering support to persons with disabilities. The WAI develops strategies, guidelines and resources to make the Web more accessible; and it works with organizations around the world, promoting core evaluation tools for accessibility, conducting education and outreach, and coordinating research and development. Additionally, the Web Content Accessibility Guidelines 2.0 (WCAG, 2011) support accessible web content by providing information to instructors and others who are striving to apply UID.

Desire2Learn (2011) focuses on research, development, service, and support, and aims to ensure their system and tools are user-friendly and easy to navigate. Blackboard Learn (2011) focuses on fostering student engagement, supporting educational efficiency, delivering open and extensible learning, and connecting student instruction with institutional improvement. Sakai, a learning management system used by over 350 institutions (Sakai, 2011), provides open-source software to support users in teaching, learning, and research.

Based on the Sakai learning management system platform, the Collaboration and Learning Environment Windsor (CLEW) is the University of Windsor’s customized learning management system (Centre for Teaching and Learning, 2012). Some features of CLEW that instructors use include the ability to post lecture notes or PowerPoint presentations on-line, make announcements, and guide learning through online lessons. CLEW also creates opportunities for discussing group work in discussion forums, accepting assignments on-line, forwarding confidential feedback and grades, and providing instructors with training opportunities.

The web provides a growing source for course resources and tools to improve students’ learning experiences (Leung & Ivy, 2003). Assistive technology helps individuals with disabilities to perform functions otherwise difficult or impossible, and includes computer hardware and software as well as mobility devices, such as walkers and wheelchairs (Access IT, 2012). The Web Accessibility Initiative (WAI, 2011) is sponsored by government and industry. The WAI supports agencies such as Canada’s Assistive Devices Industry Office (Canadian Assistive Devices Industry – Information Sources, 2011) that focus on offering support to persons with disabilities. The WAI develops strategies, guidelines and resources to make the Web more accessible; and it works with organizations around the world, promoting core evaluation tools for accessibility, conducting education and outreach, and coordinating research and development. Additionally, the Web Content Accessibility Guidelines 2.0 (WCAG, 2011) support accessible web content by providing information to instructors and others who are striving to apply UID.
effectively to web-based course instructional materials used on an LMS (Caldwell, Cooper, Guarino Reid, & Vanderheiden, 2008; Hitchcock & Stahl, 2003).

Teaching Evaluation of Course Websites

To gain insight into the accessibility-related strengths and weaknesses of CLEW, the authors conducted an evaluation of undergraduate students’ views about CLEW’s accessibility. In the 2010 fall semester at the University of Windsor, approximately 350 undergraduate students from eight courses, six in social work and two in disability studies, answered 12 additional course evaluation questions. These questions reflected UID on-line learning recommendations, best practices associated with UID and accessibility standards as outlined by the AODA (2005). The rating scale choices were: (1) extremely poor, (2) very poor, (3) poor, (4) adequate, (5) good, (6) very good, (7) outstanding, and (0) not applicable. The questions supplemented the existing, end-of-term, course evaluations. Overall, scores averaged a rating of 5 out of 7 or better (Table 1).

The responses supported instructors who used UID principles in developing their course websites. Questions that directly referred to the accessibility and usefulness of CLEW received the highest ratings. The high ratings for questions 4, 6, and 8 showed CLEW complies with accessibility guidelines; however, it remains unclear whether the high evaluation of CLEW regarding accessibility suggests a learning system that performs well overall within a UID framework. Weaknesses of this learning system may exist, and may be attributable to the learning system, the instructor, or both. The lowest ratings were for questions 3, 11, and 12, suggesting such problems as communication barriers, difficulty of use, lack of adaptability of technology, and limited usefulness.

The combined ratings were high (5 or higher), which reflected better than anticipated outcomes. However, knowledge of, and sensitivity towards, accessibility concerns may be more present in social work or disability studies students who answered the questions. The question remains whether students from other disciplines or diverse course designs might evaluate the accessibility of their course websites differently. Future evaluations should seek responses about the accessibility of course websites from students in other disciplines. Also, future studies should consider assessment for each course in regard to the Seven Principles for Good Practice in Undergraduate Education and the eight principles of UID. Moreover, this evaluation did not compare the ratings between students with disabilities and students without disabilities. Future studies should also seek responses from students with disabilities about the accessibility of course websites.

There were limitations to the study. Students’ evaluations might have rated their instructors rather than the accessibility of the learning system. The presence of outliers influenced the rating averages. For example, in question three, where students in course C selected “not applicable,” the instructor may not have used the course website to communicate with students. Moreover, in question 12, the “very poor” outcome was attributable to one response. Students did not consistently answer all twelve questions, suggesting future studies should better manage low response rates. The evaluation instrument needs improvement; for example, several questions contain more than one idea, presenting opportunities for misinterpretation by respondents and by analysts interpreting the results. Those questions should be split into multiple questions that highlight only one idea at a time. Some questions appeared to evaluate the same underlying idea, allowing for multiple interpretations, and requiring rewording to highlight their differences. Future studies should also consider the use of focus groups that could help to further develop and revise evaluation questions.

Conclusion

Our findings from this preliminary study indicated high student ratings for the accessibility and usefulness of the course website. Further research is needed to determine the extent that the results are attributable to the learning management system (L.
## Table 1

*Student Evaluation of Course Web Site Results*

<table>
<thead>
<tr>
<th>Courses A to H</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>A*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. How well did the web site postings facilitate your learning?</td>
<td>5.3</td>
<td>5.3</td>
<td>6.7</td>
<td>6</td>
<td>4.6</td>
<td>5.7</td>
<td>6.1</td>
<td>5.6</td>
<td>5.7</td>
</tr>
<tr>
<td>2. How well was the course material presented on the course web site in an organized, well-planned manner?</td>
<td>5.2</td>
<td>5.5</td>
<td>6.5</td>
<td>6</td>
<td>5.1</td>
<td>5.9</td>
<td>6</td>
<td>5.8</td>
<td>5.8</td>
</tr>
<tr>
<td>3. How well did the instructor communicate clearly and effectively on the course web site?</td>
<td>5.5</td>
<td>5.6</td>
<td>0</td>
<td>5.3</td>
<td>5</td>
<td>6.1</td>
<td>5.8</td>
<td>5.7</td>
<td>4.9</td>
</tr>
<tr>
<td>4. How ‘readable’ were the course web pages (i.e. font, font size, use of white space/web design, etc...)?</td>
<td>5.5</td>
<td>5.6</td>
<td>6.9</td>
<td>6.2</td>
<td>5.2</td>
<td>6</td>
<td>6.1</td>
<td>5.8</td>
<td>5.9</td>
</tr>
<tr>
<td>5. How responsive was the instructor to difficulties you may have experienced with the web site?</td>
<td>5.8</td>
<td>5.6</td>
<td>5.9</td>
<td>5.4</td>
<td>5</td>
<td>6</td>
<td>6</td>
<td>5.7</td>
<td>5.7</td>
</tr>
<tr>
<td>6. How well was the course web site organized to promote your learning?</td>
<td>5.2</td>
<td>5.4</td>
<td>7</td>
<td>6.7</td>
<td>4.9</td>
<td>5.9</td>
<td>6</td>
<td>5.7</td>
<td>5.9</td>
</tr>
<tr>
<td>7. How well did the web site explain content clearly?</td>
<td>5.5</td>
<td>5.5</td>
<td>6.6</td>
<td>6.1</td>
<td>4.9</td>
<td>6</td>
<td>6</td>
<td>5.7</td>
<td>5.8</td>
</tr>
<tr>
<td>8. How well were you able to easily navigate the web site to find information about the course?</td>
<td>6</td>
<td>5.9</td>
<td>5.8</td>
<td>5.9</td>
<td>5.2</td>
<td>6.2</td>
<td>6.3</td>
<td>5.9</td>
<td>5.9</td>
</tr>
<tr>
<td>9. How well did the web site provide clear guidelines and expectations for assignments?</td>
<td>5.3</td>
<td>5.4</td>
<td>5.4</td>
<td>5.6</td>
<td>5.4</td>
<td>6</td>
<td>5.9</td>
<td>5.9</td>
<td>5.6</td>
</tr>
<tr>
<td>10. How well were course materials posted in a timely fashion?</td>
<td>5.8</td>
<td>5.5</td>
<td>6</td>
<td>5.6</td>
<td>5.4</td>
<td>6.4</td>
<td>6.3</td>
<td>6.1</td>
<td>5.9</td>
</tr>
<tr>
<td>11. How well did the web site accommodate different technical systems through the use of multiple formats?</td>
<td>5.2</td>
<td>5.6</td>
<td>4.3</td>
<td>4.8</td>
<td>4.7</td>
<td>6</td>
<td>6</td>
<td>5.6</td>
<td>5.3</td>
</tr>
<tr>
<td>12. The value of the overall course web site learning experience was…</td>
<td>5.3</td>
<td>5.4</td>
<td>1</td>
<td>6</td>
<td>4.7</td>
<td>6.2</td>
<td>6.1</td>
<td>5.9</td>
<td>5.1</td>
</tr>
</tbody>
</table>

*Average
Stolarchuk & G. Fawcett, personal communication, September 23, 2011). Factors that scored lower, such as communication barriers, difficulty of use, and adaptability of technology also require further investigation. Questions to consider in such future research include: (a) How much of a barrier is an LMS that implements UID in the course design? and (b) How much of an effort is required in integrating UID into the online course design?

References


Applying Universal Instructional Design to Course Websites by Using Course Evaluations


**Biographies**

Irene Carter is an Associate Professor at the School of Social Work in the University of Windsor. Dr. Carter’s interests focus on curriculum development, disability studies, clinical practice, and social support for persons with intellectual and developmental disabilities.

Donald Leslie is a Professor and Bachelor of Social Work Coordinator in the School of Social Work at the University of Windsor. Dr. Leslie is involved in non-profit organization and board governance, workplace accommodation of persons with disabilities, disability studies, and is a 2010 recipient of the Ontario Confederation of University Faculty Associations (OCUFA) Teaching Award.

Denise Kwan is a Masters of Social Work graduate, University of Windsor.
Accessibility Challenges Facing Students

The post-secondary educational environment can be extremely challenging for students with disabilities, international students, and other at-risk populations. A key challenge facing these stakeholders is access to lecture content and the requirement for adequate notetaking skills.

In post-secondary education, research demonstrates that studying lecture notes results in a greater learning experience and higher grades (Peverly et al., 2007; Titsworth & Kiewra, 2004). While notetaking is clearly connected to academic achievement (Kiewra, 1985a; Leitch & MacMillan, 2002), studies show that students with disabilities record up to 70% less lecture information than students without disabilities (Hughes & Suritsky, 1993).

Manual notetaking can be extraordinarily difficult for students with disabilities. Learners with physical disabilities may lack the fine motor skills necessary to take copious notes throughout a class.
period. Students with learning disabilities often experience difficulties capturing lecture notes and may benefit from audio recordings or instructor-generated notes (Hughes & Suritsky, 1993). Hearing impaired students utilizing visual language interpreting typically require notetaking support, as simultaneously attending to an interpreter, the instructor, and the notetaking task is nearly impossible.

Notetaking support services

Notetaking is one of the most requested support services for students with disabilities (Elliot, Foster, & Stinson, 2002). Services can be categorized by the notetaking methodology used and the extent and form of resulting notes.

Various intermediary notetaking models are used in Canadian post-secondary institutions including peer notetaking, computerized notetaking, and remote stenography. Volunteer, peer notetakers can be helpful, but students with disabilities have little control over the content of lecture notes being recorded and are dependent on the skills of the notetaker (Elliot et al., 2002). Professional services, such as stenography, Communication Access Realtime Translation (CART), and remote captioning are usually more effective at capturing content, but are expensive and sometimes in short supply.

The format of notes is also varied and ranges on a continuum from traditional shorthand outlines, summarizations, to verbatim transcripts. Because less than 40% of information presented during lectures is typically captured by traditional notetakers (Titsworth, 2004) and summarization techniques using computerized notetakers are subject to interpretation errors, verbatim transcription provides the most complete lecture resource. Transcripts have been used to support diverse learners in college courses through increased content access and engagement (Leitch, 2002; Rose, 2006; Wald, 2006). However, creating transcripts is traditionally expensive, relies on professional intermediaries, and limits benefits to those with disabilities.

Speech recognition: A new support

Speech recognition technology can be used to convert a recorded lecture into a searchable transcript for review and study purposes (Bain, Basson, & Wald, 2002). Case studies have demonstrated that post-secondary students with disabilities found speech recognition generated transcripts of academic lectures useful and enhanced access to lecture material (Leitch & MacMillan, 2002). Students without disabilities also noted that transcripts, “helped fill the gaps” in their notes, facilitated revision of notes in preparation for exams, and improved understanding of the lecture material (Hede, 2002; Leitch & MacMillan, 2002). Creating accessible, digital archives of key information allows all users to retrieve accessible information on demand an in the format that best suits their individual learning needs.

Longstanding challenges facing post-secondary students with disabilities regarding notetaking and evidence that speech recognition based transcription can improve accessibility for at risk students prompted a group of researchers to launch a new initiative targeting Canadian youth.

Project Description

Through a project supported by Canada’s Social Development Partnerships Program, a team of leading National Disability Organizations, universities, and industry partners ran an applied research project to explore the perceptions of students with disabilities towards a Hosted Transcription Service and SR generated multimedia transcripts.

Hosted Transcription Service (HTS)

Hosted Transcription Service (HTS) is a prototype, speech recognition powered platform that performs speaker-independent, offline transcription of audio and video files. To use HTS, authenticated users visit an online portal, log into secure user accounts, and upload a media file for automatic transcription.

Multimedia transcripts

While traditional transcripts are typically generated by listening and manually typing what is heard, multimedia transcripts refer to machine-generated
text that is synchronized with the original spoken language source. Users access multimedia transcripts through a conventional web browser in various accessible formats. These learning resources facilitate multimodal access to content and allow students to review, search for key words/phrases, and interact with these new learning resources according to personal preferences.

The primary research question during this project was how students with disabilities responded to and described their experiences using HTS and multimedia transcripts. A second key area of the project investigated pedagogical benefits for faculty participants. Given the project was designed to both iteratively improve the technology and simultaneously evaluate its impact on students, an applied research model with primarily qualitative methods was selected as the mode of inquiry. Research objectives included:

- determining whether students found HTS easy to use;
- determining how students used HTS and multimedia transcripts;
- identifying difficulties encountered when using HTS and accessing multimedia transcripts; and
- articulating faculty perceptions of HTS and/or multimedia transcripts.

**Methodology**

Students with disabilities were recruited from Canadian post-secondary institutions to participate in the study. Applicants completed an online form that required prospective participants to self-disclose the presence of a disability. An initial cohort was selected for pilot testing in September 2010. They were required to complete a participation agreement that included their instructor’s signature, which granted permission to record lectures and submit them for transcription.

Before using HTS, participants completed a brief, online pre-technology survey that attempted to capture current perceptions of SR technology, current services being used to access lecture content (i.e., note taking services) and to identify any logistical barriers that may impede participation.

Participants completing the pre-technology survey were given user accounts for HTS. Students subsequently recorded lectures and uploaded the media for transcription. Once the system processed uploaded jobs, an automated email notification was sent to the student indicating that the job was complete and a raw, unedited version of the multimedia transcript was available. While speech recognition systems use advanced statistical models to improve recognition, they still contain recognition errors. Project organizers therefore passed the raw transcript to a human editor who corrected errors. The edited version subsequently replaced the raw multimedia transcript available through the student’s account.

At the end of the academic semester, students who submitted recordings for transcription were given a post-technology survey to assess their experiences with HTS and multimedia transcripts.

**Preliminary Results**

During this first phase, 69 students applied to participate, 33 received their instructor’s permission, and 17 ultimately submitted recordings for transcription. A total of 65 lectures were made available to students as multimedia transcripts. The results of this initial phase were encouraging as the majority of students that completed post technology surveys indicated the technology improved their understanding of lecture content and increased independence compared to traditional support services. One student expressed her feelings about the system and how it provided a new level of information:

“I have reviewed the transcript and am thrilled! I am just beginning to realize the magnitude of how much I am actually missing! She spoke very clearly and I ‘thought’ I was understanding her primarily because
I was very familiar with the content. However, reviewing the transcript, I began to understand her presentation at an entirely different level. Thank you!”

Some students voiced concerns with the system: “I was very frustrated and discouraged when I received the unedited transcripts…too much lecture not enough notes…and way too long.” These comments spoke to the perceived difference between traditional hand written notes and the availability of transcripts. The student in this case was one of the few that utilized unedited versions of the speech recognition generated text. Most participants based their experiences on the final outputs that did not include recognition errors.

Although it was not originally part of the evaluation, researchers were curious why so many students signed up to participate, yet did not follow through.

Through discussions with many service providers, a number of factors emerged. Finding a method to properly record lectures was an unforeseen obstacle. Many students tried to use digital recorders, simply placing them on or near the instructor's desk. Recordings captured through this method were very low quality and contained too much ambient noise. Audio quality is a key variable in using speech recognition. Initially, technical specifications mandated that students record audio in .wav format, which was not feasible with some devices students tried to use. Other reports suggested that some of the participation requirements, such as a five hour transcription limit per applicant, were cited as disincentives.

Some instructors did not grant permission, voicing concerns about having their lectures recorded and transcribed. Despite the presence of participation agreements that expressly prohibited unauthorized reproduction and dissemination of recordings and resulting transcripts, a small number of instructors felt uncomfortable with having their lectures recorded. Others worried that peers or superiors could potentially use the resulting transcripts to monitor or evaluate teaching methods and in class performance.

Two instructors noted that given HTS was initially hosted on servers residing in the US, it was subject to the US Patriot Act that allowed authorities access to the records of internet service providers. In one case, the instructor felt the lapel microphone was too inconvenient and uncomfortable to wear.

The above objections were the exception rather than the norm, as most instructors welcomed the opportunity to assist students with supports that could improve learning opportunities.

**Future Activities**

A second phase of testing began in September 2011. Based on preliminary findings, a number of key changes were instituted. Researchers developed a series of videos to explain key aspects of the project and increase awareness of this opportunity. The application process was streamlined and organizers removed a five hour transcription limit and opened the timeline to cover the entire course period. Developers also changed HTS to allow a wider variety of multimedia formats, including high-quality mp3s. As an added incentive, a $50 stipend was offered to those students that successfully participated in the project.

A complete evaluation and publication of final research results occurred in 2012. During the second phase, researchers also collected feedback from participating academics/instructors, with the goal focusing on understanding pedagogical implications associated with these technologies.

Behind the scenes, a technical team conducted statistical modeling using the transcribed lectures to improve recognition performance. A new stream of customized acoustic and language models designed for the lecture environment were developed. These scientific endeavors may ultimately lead to more robust technologies, which should improve the overall ease-of-use of the systems; encourage increased adoption; and ultimately lead to increased access to information for at risk students. Complete project information, including demonstrations of HTS technology/multimedia transcripts and details about research outcomes, are available at www.transcribeyourclass.ca.
Beyond this project lifecycle, future lines of inquiry could explore the benefits and experiences of other students, including international students and second language learners. Using quantitative methods to investigate whether the presence of HTS and multimedia transcripts improve academic performance could generate further evidence supporting the expanded use and adoption of these technologies in higher education.

References


Kiewra, K.A. (1985a). Students’ note-taking behaviors and the efficacy of providing the instructor’s notes for review. *Contemporary Educational Psychology, 10*.


Biographies

Keith Bain is the lead of the international Liberated Learning Consortium and Adjunct Professor in the Department of Finance, Management Science, and Information Systems at the Sobey School of Business. Keith helped co-found an international
research group dedicated to improving accessibility through speech recognition based captioning and transcription systems. He has presented keynote addresses and special sessions on speech recognition and accessibility in over ten countries, including the renowned CSUN Technology and Persons with Disabilities Conference, Australian Pathways National Conference, and the China Information Accessibility Forum. In addition to invited lecturers at prestigious universities such as MIT and the Indian Institute of Technology, his work was honoured by a National Education Award from the Learning Disabilities Association of Canada and an International Faculty Award for Innovation from IBM Research.

Eunice Lund-Lucas has been the Manager of the Disability Services Office at Trent University for 22 years. Eunice has been a member of several provincial committees looking at support for students with disabilities at the post-secondary level and served on the executive of the Inter-university Disability Issues Association and as President a national organization of service professionals in post-secondary education in Canada. Currently, Eunice represents Trent’s involvement in the Liberated Learning Consortium, an international research network to introduce speech recognition in the learning environment.

Janice Stevens served as the Project Coordinator for the Liberate Learning Youth Initiative. Janice Stevens utilized her experience in the area of speech recognition and learning technologies to educate individuals and organizations on the benefits of accessible educational media. Janice has a Computer Programming diploma from CDI College and a diploma in Business Information Technology from NSCC.
An Internal Audit of a Virtual Learning Space to Facilitate Clinical Decision-Making in Nursing

Beryl McEwan
Charles Darwin University

Gylo Hercelinskyj
University of Canberra

In any nursing program, it is a challenge to foster an awareness of, and engagement with, the complexity and reality of nursing practice. During their studies, nursing students have to learn the relevant underpinning theoretical knowledge for practice as well as develop their understanding of the role and responsibilities of the registered nurse in clinical settings. At a regional Australian university the Bachelor of Nursing is offered externally with the student cohort predominantly off-campus. There are significant challenges in providing opportunities to enhance learning (Henderson, Twentyman, Heel, & Lloyd, 2006) and to foster early professional engagement with the nursing community of practice (Andrew, McGuiness, Reid, & Corcoran, 2009; Elliot, Efron, Wright, & Martinelli, 2003; Morales-Mann & Kaitell, 2001) in a context for learning nursing knowledge and inter-professional collaborative practice. This paper presents the results of a series of internal audits of students’ feedback of the Charles Darwin Hospital (CDU) vHospital™ undertaken from 2008 to 2010, following integration into theory and clinical nursing subjects in the Bachelor of Nursing program. The feedback from students demonstrates the value students place on teaching and learning activities that provide realistic situated learning opportunities (Hercelinskyj & McEwan, 2011).

Introduction

Studying at university is demanding at the best of times (Andrew, McGuiness, Reid, & Corcoran, 2009). Regardless of when students completed secondary school, they have difficulty with the change from school-based learning, adjusting to the self directed nature of learning, and becoming independent learners.

Nursing is a practice-based discipline and
students have to be able to apply their learning in clinical settings during and after completion of their degree. Role socialisation is important to foster their understanding and appreciation of the role as well as the responsibilities and scope of nursing practice (Henderson, Twentman, Heel & Lloyd, 2006; Morales-Mann & Kaitell, 2001; Tiwari, Lai, So, & Yuen, 2006).

Charles Darwin University (CDU) is a dual sector Australian university located in the Northern Territory with over 21,000 local, national, and international students (CDU, 2011). The Bachelor of Nursing program is one of the largest programs at CDU and is delivered internally and externally. The external nature of this program means that many students do not actively connect with the University until they attend required clinical intensives on campus. As a result, their socialisation into nursing, understanding of the requirements and knowledge essential for registered nursing practice and ability to apply knowledge and concepts in a clinical setting are delayed. It also limits their appreciation of the complexities of the nursing role, particularly where they have not yet been exposed to clinical settings or where students have experience in lower level nursing roles.

**CDU vHospital™**

To address some of these issues, a more flexible learning resource was required to enable external students to engage with nursing earlier in their program. The CDU virtual hospital project commenced in 2006 to offer a learning space where students can apply nursing knowledge and concepts to practice and reflect on nursing activities in an authentic clinical environment. The CDU vHospital™ was integrated into the program in 2008 and has since been used in first and second year subjects, including an introductory mental health subject.

The CDU vHospital™ is a cased-based online learning environment that helps students to develop critical thinking skills and the ability to make sound clinical decisions with the support and guidance of academic staff. It aims to facilitate early engagement with nursing and to foster student understanding of the role and requirements of professional nursing practice. Case-based learning was chosen in preference to problem-based learning because it better suits the large, predominantly external, student cohort and because of the constraints on staff availability and infrastructure at the University (Stjernquist & Crang-Svalenius, 2007). Each case presented in the CDU vHospital™ reflects the diversity of the NT population and are exemplars of common health problems seen in the NT and the broader Australian context.

Cases are presented as patient stories. Like a book, students follow the patient through the various chapters representing the patient journey from admission to discharge. Each case includes text, still photos, videos and voice recordings to tell the story and students are required to complete a range of activities such as documenting assessment findings and calculating medication doses. This enables them to make clinical judgements about nursing care and to see the consequences of their actions.

Students work through each case, explore nursing problems and, apply nursing knowledge and concepts to realistic situations. Contextualising learning in this way assists students to become familiar with clinical nursing practice, facilitates the development of professional identity and fosters role socialization (Lave & Wenger 1991). It also presents the patient in a holistic way and demonstrates how the social determinants of health can impact on an individual’s well being (Andrew et al 2009; Stjernquist, & Crang-Svalenius, 2007).

**Internal Audit**

Since initial integration, students have been invited to provide feedback on the CDU vHospital™ as part of ongoing quality improvement processes. This feedback has been incorporated as part of regular internal subject audits. Students also provided anecdotal feedback on the discussion boards or blogs available on the learning platform, when on campus or through phone or email conversations with academic staff.
A review of the student responses and comments from 2008 until 2010 has identified several consistent patterns. This paper presents an overview of student feedback of the CDU vHospital™ undertaken from 2008 to 2010 following integration into nursing subjects.

The importance of learning in context
The CDU vHospital™ has given students a context in which to develop an understanding of the reality and complexity of nursing practice. It has helped them to understand the nursing role and responsibilities and how nurses work with others in providing patient care. Students have found the visual, audio and interactive activities a welcome change from textbook learning. The cases helped them to apply theory to practice in a more engaging way than reading from a book.

this experience...was great, a look at actual processes in the hospital, it helps you understand what is involved in nursing, the team work and communication between staff members is so important (2008)

The pictures, videos and interactive exercises made the whole experience very life-like and I found that really useful. I felt as though I was dealing with a real patient and I still remember things I learned from my patient, whereas something I read in a textbook I would have to revise (2010)

Generally, students found the CDU vHospital™ a useful way to put subject content into a context that assisted their learning and understanding (Lave & Wenger, 1991). It highlighted the complexity and reality of nursing practice in a hospital setting. Many commented on how it helped them to view the patient in a more holistic way and that applying theory to practice to a specific case better assisted their learning and understanding rather than just reading a textbook. The individual cases also assisted students to develop their critical thinking skills as they applied learned theory to specific cases. For students currently working in other nursing roles in non-hospital settings, it enabled a revision of skills and knowledge related to patient care in hospital settings.

...made me feel as though I was actually doing a unit that actually had something to do with nursing (2009)

it was a bit like being on placement because I learned to link the theory and practical elements of the unit so I could apply this to the patient (2010)

However, some found it time consuming and one student was not overly impressed with accessing yet another resource on the internet. Most students found the site accessible and, once familiar with it, easy to navigate.

Feeling part of a community
The CDU vHospital™ has also made students feel part of a nursing community of practice and through the virtual peripheral participation has fostered their role socialisation and the development of their professional nursing identity (Wenger, 1998). Students have been delighted to recognise faces when they come to campus for clinical intensives and the personal touches embedded in the resource provide students with a connection to the nursing program and, to some extent, the University.

...it was great to hear and see some faces and especially when they were faces recognised from CTB in Darwin. Felt a very close connection (2009)

.....especially when my name was prompted. It gave you a feeling of inclusion not just looking into a computer and following prompts (2010)

Listening [sic] to handover’s [sic], and when my name poped [sic] in the
Preparation for clinical
For those with little if any clinical experience, CDU vHospital™ has helped them develop some understanding of what they might experience when on clinical placement and what might be expected of them as nursing students. Students with no clinical experience were excited at being able to “visit” a hospital setting and to see what was involved in nursing.

...has helped me understand my role and responsibilities as an RN (2010)
..opportunity to assess and care for the patient without having to worry about making mistakes or feeling silly because you can start over without having caused actual damage to a person or community (2010)

Many students commented on how the CDU vHospital™ highlighted the importance of communication and teamwork between nurses and other members of the multidisciplinary team. They also became much more aware of the interaction between patients and staff and how they need to develop good communication and assessment skills to provide effective nursing care.

Ease of access, usability, and navigation of the CDU vHospital™
There have been consistently negative comments about some aspects of the CDU vHospital™ such as the small page size and the way students move between pages. Most of these issues are related to the delivery platform and construction of the site and have not yet been addressed despite the consistent student feedback.

Some students were unable to access, view and/or hear some aspects, particularly the embedded videos. This was usually related to their browser, system components and their download capacity.

One student was not able to access the CDU vHospital™ at all because of intermittent satellite internet access and download capacity.

Conclusion and Future Directions
As a teaching strategy, the CDU vHospital™ has demonstrated the effectiveness of an interactive, contextual learning environment for students. It provides a safe and authentic environment in which to apply theory to practice and to prepare for clinical practice (Andrew, et al., 2009; Morales-Mann & Kaitell, 2001; Stjernquist & Crang-Svalenius, 2007). The feedback from the internal audit indicate that students value the CDU vHospital™ as an alternative learning resource that provides a realistic situated learning opportunity and a way to engage with the academic and professional community of nursing practice (HerceIinskyj & McEwan, 2011). The CDU vHospital™ offers a real opportunity to promote early engagement with nursing and the professional nursing community during their program to foster early role socialisation, development of professional identity and post-graduate role specialisation.

Issues around infrastructure and technical access continue to be problematic. Access to resources is not always equitable as we can’t account for students’ access to appropriate technology and/or knowledge of or comfort in using technology. As with any electronic resource the question of long term currency and viability needs to be highlighted and addressed.

We have recently received a small internal grant to review the current cases to ensure currency of content and are planning to seek further funds to extend the current cases and develop new ones. We are planning to develop a proposal to gain funds to undertake a review of the platform and online presentation of the resource to address some of the technical and format issues consistently identified by staff and students.

One of the criticism of the CDU vHospital™ has been that is very hospital and medical/surgical focused. In the future we hope to extend the CDU vHospital™ to include a primary health care
centre, more cases in other clinical settings such as paediatrics or emergency care, and to develop professional development activities for currently practicing registered nurses.

References


Biographies

Beryl McEwan is a lecturer and Ph.D. candidate in nursing at Charles Darwin University. Her research and academic interests include nursing as a community of practice; role socialization, transition, and development of professional identity in nursing; and flexible and virtual teaching and learning in higher education.

Gylo Hercelinskyj (Ph.D.) was the academic coordinator of the CDU vHospital™ from 2008-2011 at Charles Darwin University. She is now Assistant Professor at the University of Canberra. Her research and academic interests include professional identity and role socialisation in nursing, online and virtual learning and teaching in higher education, and intercultural competence in nursing education.
Developing an Educational Technology Group for Pre-Service Teachers

Jay Wilson
University of Saskatchewan

The College of Education Technology Group is a pilot program that supports teacher candidates in developing an understanding of the integration of technology. By engaging teacher candidates with local schools the program is enhancing technology-based learning in the classroom for high school students, especially those from First Nations and other cultural backgrounds. This innovative program is based on the key goals of the College of Education and the Learning Charter of the University of Saskatchewan. This paper will share an overview of the first two years of the pilot and what has been learned about the application of technology to provide an enhanced learning experience for teacher candidates.

Background

The Education Technology Group (ETG) was formed in 2009 to create opportunities for teacher candidates to learn about the use of technology in classrooms. Its main goal is to expose teacher candidates to technology in an authentic teaching and learning environment. The Group is sponsored by the College of Education at the University of Saskatchewan and supervised by a faculty member in the Department of Curriculum Studies. The ETG goes beyond a focus on the nuts and bolts of technology to include the opportunity to work in culturally unique educational settings. The College of Education is a leader in Aboriginal education in Canada. Therefore, increasing the theoretical and pedagogical awareness of First Nations culture and integrating it into the teacher education program is one of the other tasks of the ETG. This formal emphasis is especially important with the ongoing demand for teachers sensitive to the needs of First Nations students. With the influx of new ethnic groups to the province it is also key to raise student awareness of the area of English as an Additional Language.

The ETG completed its second year as a pilot project. This paper will share an overview of these two years, and how what has been learned might assist in our understanding of the application of technology to provide an enhanced learning experience for teacher candidates.
Theoretical Foundation

The theoretical foundation for the pilot was based primarily on the ideas of timing and authenticity – timing in that technology integration for teachers must begin in their pre-service experiences (Smarkola, 2007) and authenticity in that learning environments must include the actual implementation of technology in meaningful ways (Wenger, 1998; Wilson & Schwier, 2009). According to Milman and Molebash, (2008) and echoed by others (Franklin, 2007; Sang, Valcke, van Braak, & Tondeur, 2010), the best time for learning about teaching with technology is during pre-service in-school experiences. It is in the early stage of the beginning teacher’s career that they have the time and the support to investigate possibilities and truly experiment. Another key component supporting the ETG plan is the need to situate learning in authentic situations (Herrington and Herrington, 2008). Stein, Issacs, and Andrews (2004) say that post-secondary classroom learning is often not authentic. Working in the classroom with actual students creates ‘wicked problems’ (Rittel & Webber, 1973) that do not exist in artificial teaching situations. The feedback that teacher candidates receive from the K-12 students is honest and often more helpful than what they would receive in a university-based environment. In addition, there is tremendous pressure for pre-service teachers to increase their use of technology (Albion, 2008; Bitter & Legacy, 2008). Learning to deal with the pressure is much more manageable for someone in a supportive environment such as a group or cohort (Ward & Overall, 2009).

Along with the limited understanding of applying technology in the classroom is a lack of exposure to English as an Additional Language training (EAL), an underdeveloped understanding of immigration trends and limited contact with First Nations students. The ETG provides an opportunity to reinforce the importance of social change by providing a chance to give to those students who are most in need of extra skill building and attention.

The Program

Both years of the pilot (2009 and 2010) began in the Fall semester with an e-mail request sent to all first-year education students. The ETG is presented as a volunteer opportunity to work with technology in a K-12 setting. The pilot groups consisted of seven students in 2009 and nine students in 2010. In 2009 the majority of the participants were studying Secondary Science. In 2010 most of the participants were enrolled in Secondary Math. Both years did have representation from English Language Arts, as well as Practical and Applied Arts. Before beginning the program, all participants were required to complete a survey to self-assess their level of ability and confidence when it came to applying technology in teaching and as a part of their daily lives. The results of the self-assessment indicated that the volunteers had a wide range of technology skills, experience and levels of confidence. Many had never used technology for anything more than e-mail, social networking, and writing essays. Despite where the participants suggested they were on their self-assessment, there was no required pre-requisite training or previous experience. What was important was that the teacher candidates were willing to make a formal effort to combine the technology and teaching together. Two partner schools were chosen to host the group based on potential benefits to their students as well as the teacher candidates. Both institutions were different in many ways. Participating schools were the English as an Additional Language program at Walter Murray Collegiate (made up of 90 plus students) and the general student body at Oskayak High School (Saskatoon’s only all First Nations High School).

What Happened

The first two years had a similar rhythm in how students worked together. The program started with an attempt to understand the needs of the participating Education students. They were asked to share what they were interested in learning. Orientation visits were made to the participating
Developing an Educational Technology Group for Pre-Service Teachers

schools to learn about the philosophy of each school, the students, available resources, and teaching possibilities. Scheduled group meetings allowed the participants to gather every week to share and learn about teaching and technology. These group gatherings continued throughout the entire school year. After two or three group meetings, the teacher candidates were required to spend a minimum of one half-day a week in one school, but additional visits were encouraged. Teacher candidates worked alone and in pairs with the students on technology-based projects that supported their learning and engagement. Projects included science fair displays, video production, digital personal narratives, and cultural multimedia presentations. The visits were intentionally casual. It was the responsibility of the students to manage their visits in consultation with their classroom teachers and students. The visits continued until the end of the university school year.

Results

At the end of the university school year pilot participants were asked the following questions:

1. What were your expectations or goals for participating in the technology group program?
2. In what areas of technology have you developed a better understanding?
3. Has your confidence with using technology increased or decreased?
4. What has been the impact on you as a developing teacher from participating in this program?
5. What would you say the impact has been on the students?
6. What would you change about the program?

The responses showed that the main motivation for involvement was to develop a basic understanding of technologies to help participants to become better teachers. Students did not feel a need to become technology experts. They also were looking for practical, hands-on opportunities. They shared that they had learned to use and apply a variety of technologies, web resources, interactive whiteboards, digital photography, digital audio, and in particular, digital video production. All participants reported increased levels of confidence, although the amounts varied. They gained confidence in using technology and the integration of technology in their teaching. The experience had a positive impact on the participants as teachers and as individuals as it helped them to connect to students in fresh ways. They enjoyed the opportunity to engage with teachers and their students, especially those from First Nations and other cultural backgrounds. The teacher candidates felt they served as important role models for the high school students. Through their involvement in the program immigrant students felt they were able to develop a stronger presence within their schools and they discovered new ways to participate in the culture of the school. Having the teacher candidates in the classroom afforded more individual attention and instruction to students. The participants and the teachers wished that the group could start earlier to increase the frequency of school visits. The most important request from the teacher candidates was to be part of their own cohort so that they could focus their efforts on the ETG, an experience they felt was far more beneficial compared to other in-school opportunities.

What Worked Well and What Lies Ahead

Most importantly, teacher candidates developed their understanding of English as an Additional Language and improved their knowledge of different cultural aspects related to teaching. In addition to the weekly meetings, they made efforts to expand their knowledgebase through professional development opportunities and self-study. The experience raised their awareness of other cultures and they became more comfortable working in a First Nations learning environment. The need to be proactive and professional in developing understanding is a trait that will be promoted in future versions of the ETG.

Teacher candidates valued the opportunity
to work as a group and created strong professional and personal bonds with one another. They looked forward to the time spent with the other members of the group in the weekly meetings. They used the time to share their thoughts and experiences of the past week. As they were working in the schools at different times the opportunity to reconnect with the other teacher candidates was valuable. The regular meetings are an important aspect of the design of the ETG that must be maintained.

Participants improved their overall confidence and skill set with technology. They were given plenty of freedom to choose the technologies with which they could work. Based on this approach they initially chose tools that they were comfortable with and then branched out into other areas. Professional development technology sessions were highly valued and gave them an opportunity to try the technology and then move it into the classroom setting. The ability to have a choice and support the choice with training is another important aspect that must continue to be included in the ETG.

Facilities differed from building to building, and inconsistencies existed with the availability of resources. At one school students had access to every piece of hardware and software. The options were overwhelming at times for the teacher candidates. They felt that they did not know where to start. At the other school there was almost no technology available. The lack of resources made planning difficult at times due to the uncertainty around the technology available on any given day. Funding has been received to purchase equipment to take to the school where there is a need. Addressing the technology uncertainty will give the participants a stronger foundation on which to base their instruction. Availability to resources is an ongoing issue in schools and this provided a good opportunity for teacher candidates to encounter these problems.

The limited amount of time students are able to commit is a significant factor. Teacher candidates have many demands on their time and making regular visits in conjunction with the other program requirements was difficult for them. An attempt will be made to formalize the cohort process by attaching the group to the faculty leader and making involvement in the ETG the main student teaching experience. Scheduling the group to start as soon as the school year begins would go a long way to enhancing the experience. In the third pilot students will be contacted during the summer to plan and allow the group to start earlier in the year.

Conclusion

The pilot has improved the university student experience by facilitating the creation of deeper meaning around theory and by increasing teacher competency in a supportive collaborative environment. As the program enters its third year the feedback from former participants is being used to make changes. It is hoped that through these changes a well-timed, authentic, culturally connected introduction to technology will continue for a growing number of educators entering the teaching profession.

References


**Biography**

Jay Wilson is an assistant professor in the Department of Curriculum Studies at the University of Saskatchewan. His program of research centres on authentic learning, studying the social impacts of technology, and technology skill development in educators.
Using Technology for Tutor and Student Learning Exchange

Katherine Hewlett
Norwich University College of the Arts

This project built upon the AchieveAbility initiative, which develops materials and training for teaching specific learning difference learners in schools and colleges. AchieveAbility devised the concept for the 'InCurriculum' Project and brought together a consortium of United Kingdom higher education institutions to deliver the practice: Norwich University College of the Arts, the University of Westminster, and De Montfort University. All partners delivered a range of art and design courses, using a variety of complementary learning techniques.

The project was set up to investigate how changing teaching and assessment practice could be beneficial to different learning styles. The contextual justification for this action research project was to investigate effective practice to retain students within their higher level courses and to support their successful attainment. The project was funded by the Higher Education Academy for a three year period, during which the United Kingdom educational landscape changed rapidly from a widening access perspective to a more business-orientated model of delivery. To make these changes, technology was shown to be essential to the negotiation that evolved for the learning exchange between the student and staff.

Introduction

Evidence drawn from Higher Education Statistical Agency (HESA, 2005) shows that students with a learning difference (dyslexia) tend to take arts or vocational courses. By this definition, they ghettoize themselves by collecting in educational places that provide a teaching experience conducive to their learning. The visual approaches to learning in art and design are known to be valuable for students in any discipline (Steffert, 1999).

This project investigated such learning and assessment to develop and transfer to other areas of higher education, and sought to look at art and design curriculum, especially with an emphasis on studio critique, aural, and visual learning. The purpose was to develop a student-centred approach in both teaching and assessment that could be transferred to
other subject areas thereby supporting measurable improvement in levels of student achievement and retention for all students with the ability to progress. The project was set within an inclusive learning context.

From the outset of this project, there was a growing realization that technology would emerge as an important element of the negotiated learning and teaching relationship. The evaluation confirmed this to be the case and if utilized could provide a range of learning interactions, as a consistent negotiated mechanism. The result was teaching and assessment practice that included a wide range of students at different learning levels.

The purpose of this paper is to look at the notion of a student experience enhanced by technology, if used in an interactive and negotiated way between the student and the tutor. Underpinning this negotiated learning exchange was the use of technology to understand better both tutor and student learning styles practice.

Each institution worked with three modules during the life of the project. The institutional tutors came to the consensus that a learning strategy could only be developed in dialogue with the student. The underpinning principle for this approach is that a connection has to be made to bridge the gap between the learning and the activity. A depth of student and staff understanding can then happen to enable strategies for student engagement.

The practice bridged this gap and enabled students to develop strategies that allowed them to engage with a range of assessment tools, making the link between learning style and assessment task. Visual and aural strategies were used to develop cognitive thinking. The outcomes were: increased learner confidence in their studies, and the development of student managed support networks.

Methodology

Ten staff and over 300 students took part in the evaluation process, made up of a mixed-method qualitative and quantitative approach. Questionnaires provided a baseline for student experience on entry to the modules and tracked experience on exit from each module; one-on-one interviews provided additional depth of understanding about staff and student experience; and focus groups provided a rich source of material around the effectiveness of the assessment practice developed. Each student completed learning styles questionnaires at the beginning of each module. However, a key finding was that text-based questionnaires are prescriptive and therefore not entirely accessible to students with a range of learning approaches. Open-ended questionnaires were conducted halfway through each module, and scaled questionnaires on exit from the module.

It was important to ensure that the same format of questionnaire was used for continuity of approach. It was found that the scaled questionnaires elicited a more student focused response whereas the open-ended questionnaires were more tutor directed. Also, in some cases students were to understand their preferred way of learning (if this had not been apparent to them), yet many did not take ownership of that knowledge after completion of the module within the research project.

In the final year of the project, the institutional tutors began to produce talking head diaries, which were then placed on a Vimeo site (http://vimeo.com/user2956163). The InCurriculum website also profiled the methodology and a set of resources drawn from the project. www.incurriculum.org.uk

Educationalists were able to provide feedback on the project progress during a series of seminars. The overriding theme with came through was that effective student centred teaching and learning was essential for student retention. The following points were also listed:

- Learners must be strategic.
- Learning spaces must be used as an open space for implicit and explicit learning.
- Students should be treated as the producer and expert for peer assessment in learning
- Staff must hear the evidence from students and reconnect with the student experience.
• There should be more of a connection between curriculum design and policy.
• Institutional processes should be put into place for internal subject reviews.
• The package of materials must be available for different validation.
• Students must be given the opportunity for different assessment methods.
• Cases should be proposed to validation committees for different assessment strategies.

The Student Experience Enhanced by Use of Technology

Evaluation findings showed that good teaching practice, such as setting learning goals and providing innovative formative and summative assessment on learning outcomes, was extremely effective; however, more measurable ways of assessing these outcomes was needed. In addition, for these measures to be put in place, tutors felt they needed more time to prepare materials and alternative methods of assessment due to heavy workloads elsewhere.

A consistent theme that emerged was the excellence of the student-tutor dialogue and the need for this to be maintained for a positive and successful student experience.

Technology

Substantial feedback from the students showed that they did not see activities in a virtual environment as learning. For many students the personal contact with the tutor was deemed as learning. Students felt disengaged in a virtual environment and yet if managed, in negotiation with the tutor, technology became a highly valued way of interacting (Hepplestone et al., 2011). The negotiation involved tutors using online resources to free up time to do more intensive tutorials with eLearning tasks used to accommodate different learning styles. Different types of visual communication were identified such as, video and iPhones.

The aural feedback emailed as an MP3 file gave students more meaning and context through voice intonation rather than written feedback. However, tutors realized that these methods had to be linked with a record of grades as being essential for consistency between paperwork, video, and sound files. Marking, instruction (use of PowerPoint), and online assessment occurred through Camtasia – by working on the document itself. With Camtasia, the screen-back facility enabled visual feedback comments. Tutors found that students became more engaged and gained a greater understanding about how to improve their work.

Feedback

The combination of online and face-to-face teaching and learning methods were highly valued. Students wondered: “why use digital media when you can just come and talk.” However, the ability to reflect in their own time, to have space for learning, flexible means of accessing feedback, and choice on formative assessment methods was considered extremely helpful when integrated with face-to-face contact. Students stated that the project practice had enabled them create a discourse about their own learning with their peers and tutors, which supported their progression. Evidence of student progression was captured through tutor and student tutorials and progression to further study.

Recommendations

Practice

As this was a three year project there were many varied suggestions and recommendations for future practice:

1) Technology should be used to support student learning by making a range of materials available and enabling independent study through flexible use of learning spaces, such as
televisions, laptops, and iPhones.

2) Tutorial systems should be transferred to the Virtual Learning Environment (VLE), and the learning styles approach reconfirmed on the VLE to assist reflection on learning.

3) MP3 feedback can be used for assessment purposes, particularly within group discussion situations, and to provide a more structured approach for the purposes of formative assessment.

4) Criteria of assessment should be made clear and informed to the students with feedback that is constructive, specific, critical, and easily accessible.

Policy

5) Evidence of student progression should be captured for institutional policy development on assessment frameworks.

6) Cases of good practice for inclusive student centre assessment should be included to validate committees for the planning of different assessment strategies.

7) Staff toolkits (guidance materials) should be available for validation committees to implement assessment practice.

8) Because many students did not see the VLE as a learning environment or tool, VLE as a learning environment should be investigated.

Conclusion

Tutors soon realized that different delivery methods could be used for different learning styles. Changes to course material helped student comprehension. Use of technology was linked to each element of teaching so that the learning tasks could be mapped against the outcomes.

There was a greater emphasis on formative assessment with use of peer student feedback through discourse and visual methods. The formative assessment approach gathered evidence about the value of interactive learning that also provided learning space to enable students to reflect in their own time. This approach provided a flexible way for students to gain knowledge of their learning and reconfirm the learning acquired. It was apparent that imaginative use of technology enabled different assessment approaches that could be presented in different formats, such as a wiki or MP3. Tutors did, however, mention that this imaginative use of technology meant additional teaching time was spent on this practice. This presented a challenge to several tutors due to other commitments. It is proposed that this would be an area for additional research.

References


Biography

Katherine Hewlett is an educationalist and also an expert in project development. After 30 years working in Higher Education, Further Education, and Schools she is undertaking Ph.D. at Norwich University College of the Arts. She provides tuition to a range of educational institutions across the UK sector. She is Founder and a Director of AchieveAbility.
Digital Storytelling and Diasporic Identities in Higher Education

Gail Benick
Sheridan College Institute of Technology and Advanced Learning

The increase in global migration to Canada has changed the demographic profile of students in Canadian higher education. Colleges and universities are becoming increasingly diverse by race, ethnicity, and culture. At the same time, the process of teaching and learning is on the cusp of transformation with technology providing the tools to alter the way post-secondary educators teach and how students learn. What pedagogical approaches have emerged to maximize educational benefit from these twin forces of migration and technology? This paper explores the use of one method that has attracted global interest: digital storytelling. Specifically, the article considers student-generated digital stories as a means to authenticate the multiple perspectives of learners and create space for their diverse voices in post-secondary education.

Introduction

The increase in global migration has radically altered the demographics of Canada (Boyd & Vickers, 2000). According to the 2006 census, foreign-born people in Canada accounted for close to 20% percent (more than six million) of the total population, the highest proportion in 75 years. Between 2001 and 2006, Canada’s foreign-born population increased by 13.6% – four times higher than the growth rate of 3.3% for the Canadian-born population during that same period. Approximately 60% of newcomers were from Asia, compared to 12% in 1971; 16% were from Europe, compared to 62% in 1971; 11% were from Central and South America; and 11% were from Africa (Statistics Canada, 2007). In the past, newcomers from each of these source regions (Central and South America, as well as from Africa) accounted for less than 10% of recent immigrants to Canada (Murdie, 2008).

The dramatic shift in immigrant origins beginning in the 1970s has contributed to the racial, ethnic, and cultural diversity of learners participating in Canadian post-secondary education today. Many immigrants who came to Canada over the last four decades now have Canadian-born children entering various stages of adulthood. Among people age 15 years and older in 2001, nearly 17% were the children of one or more foreign-born parents (Boyd, 2008).
These second generation Canadians are participating in post-secondary education in growing numbers. In fact, second generation Chinese and South Asian young adults are more likely than non-visible minority youth to attain university degrees (Statistics Canada, 2007). The 2001 Census data show that 40% of second generation Chinese young adults, age 20-29, living in large Census Metropolitan Areas, have bachelor’s degrees or higher, and 32% of South Asians in that cohort have achieved those academic credentials compared to 24% of non-visible minority, third generation young adults (Boyd, 2008; Corak, 2008).

Research suggests that the trend toward increasing participation rates of second generation Canadians in higher education will continue, particularly given that the proportion of immigrants entering Canada with a university degree is on the rise. This proportion reached an historic high of 42% among those arriving between 1995 and 2000 (Corak, 2008). As Corak (2008) states, “second generation Canadians are more educated than those whose parents were born in Canada. They have made these gains not just because their immigrant parents are more highly educated and are able to pass on this advantage…but also because, even when their parents are less educated, they are more likely to move up the schooling ladder” (p. 16). The need to embrace the diversity of students – their unique approaches to learning, their racial, ethnic and cultural backgrounds, and their multiple intelligences – has never been greater.

Digital Storytelling in Higher Education

In the last decade, digital storytelling has emerged as a practice applicable to the needs of diverse learners. Broadly defined, digital stories are personal narratives told by combining text, images, audio, and video to make short films (Coventry, 2008a). In the classic model of digital storytelling, pioneered by the Center for Digital Storytelling in Berkeley, California, digital stories are narrated in the storyteller’s own voice. They are produced by using inexpensive, readily available software with a focus on compressing the elements of the film into a short piece only a few minutes long (Lambert, 2002). In contrast to commercial and professional mass media production of the industrial information age, the Center’s method of computer-based storytelling favours small scale, bottom-up production employing user generated content. The latter is more characteristic of the participatory, grassroots culture created by the surge in social media (Jenkins, 2006) and reflects the tremendous leap in expressive capacity facilitated by digital technologies (Shirky, 2008).

Interest in digital storytelling has grown exponentially since the Center for Digital Storytelling initially developed their approach in the early 1990s. A robust literature now exists documenting the global popularity of digital storytelling with strongholds in North America, Great Britain, Australia, and Scandinavia (Hartley & McWilliam, 2009; Lundby, 2008; Meadows, 2003; Ohler, 2008). The Center alone has helped to produced 12,000 digital stories. Hundreds have been displayed on the British Broadcasting Corporation’s Wales website (Lundby, 2008).

The diffusion of digital storytelling in higher education has been no less remarkable. A special issue of Arts and Humanities in Higher Education highlighted the implementation of digital storytelling in universities (Coventry, 2008b) where this emergent pedagogy is utilized in a variety of fields, including literary studies, creative writing, American studies, social and cultural history, teacher training, English as a Second Language ESL, and gender studies. To date, the research supports a generally favourable view of digital storytelling as a powerful teaching and learning tool with three main benefits: increased learner engagement through valuing and validating the life experiences of students; expanded opportunities for skill building with an emphasis on the 21st century requirement of digital, media, visual, and informational literacies; and the addition of new channels for the development of voice through multimedia authoring, an option lacking in standard essay assignments (Benick, 2011; Clarke & Adam, 2011; Oppermann, 2008). Digital storytelling is considered particularly advantageous in classrooms...
Digital Storytelling and Diasporic Identities in Higher Education

comprised of learners from diverse racial and ethnic backgrounds because, as Benmayor (2008) notes, it’s a “social pedagogy which constructs a safe and empowering space for cross-cultural collaboration and learning” (p.188).

Digital Stories and Diasporic Identities

My experience integrating digital storytelling into the course, Intercultural Communication, jointly administered by Sheridan College Institute of Technology and Advanced Learning and University of Toronto at Mississauga in the Greater Toronto Area, confirms the value of this pedagogical tool in diverse learning environments, particularly as a means of increasing awareness of cultural identity among new and second generation Canadians. Recent research on the psychosocial integration of racialized youth in Canada suggests that “multicultural settings provide opportunities for becoming aware of one’s cultural identity, not only in contrast to a dominant majority, but through contact with other cultures” (Khanlou, 2008, p.55). My intercultural communication course, offered one semester annually, proved to be a case in point. In 2005, for example, the results of a course survey showed 30 different languages were represented among the 127 respondents, including Urdu, Polish, Korean, Arabic, Italian, Serbian, Swahili, Tamil, and French. The digital storytelling assignment required students to narrate an aspect of their personal or family experience pertaining to immigration, settlement, or adjustment in Canada. Equally as important, students were encouraged to show their multimedia productions in class. By investigating how their cultural identities were shaped and screening the films in a public venue, the students’ stories became part of the course learning materials. After the digital stories were screened, students in the audience were required to provide written feedback assessing the impact of the movies on their understanding of immigration and settlement. Specifically, students were asked what insights regarding immigration they gained from viewing the films and in what ways their attitudes toward immigrants may have changed as a result of the screening. In this way, the diversity of the immigrant experience reflected in the movies became the thematic thread weaving the peer-to-peer learning together.

The content of the student films explored an array of experiences typically associated with the migration process – harrowing journeys to Canada, lonely first days at school, acute feelings of social difference, and ambivalent return trips to the place once called home. A Chinese student described the first leg of his family’s voyage from Viet Nam to Canada, recounting how his father protected his young Vietnamese bride, the student’s mother, from nightly rapes occurring on the fishing boat transporting them to a refugee camp. An Eastern European student documented his family’s clandestine escape from Communist Rumania, ominously titling the film, “Don’t Look Back.” A Sri Lankan noted that she was embarrassed by her non-western name in kindergarten, while an Italian reported that she was humiliated by her nonna’s homemade pasta in her lunchbox. An Indian student described how he felt ostracized from the boys in his neighbourhood because he lacked hockey equipment and a pair of skates. A Malaysian student lamented his boredom when he returned to his homeland for a summer vacation. In short, the students’ digital stories depicted the varied and often difficult pathways from the dream of migration to settlement in Canada, suggesting a bumpy, uncertain road rather than a predictable straight line to adjustment and social inclusion (Jedwab, 2008; Kobayashi, 2008).

Although all of the films dealt with concrete places and events, the meaning of these stories, considered holistically, transcended the specific narratives described in the students’ multimedia productions. Indeed, it may be more enlightening to view these digital stories as “schematic narrative templates” (Erstad & Wertsch, 2008, p. 30) in which similar stories with different characters are told over and over, making them the basis for our collective memory and national narratives. Erstad and Wertsch (2008) call such stories cultural tools. The plots are neither new nor original. Narrative accessibility and affective impact are prioritized over formal experimentation or aesthetic innovation, enabling
these stock tropes to become deeply embedded in our socio-cultural environment and fixed in our emotions.

While it may be too early to predict the endpoint for the first and second generation Canadians featured in these tales, the student narratives do capture turning points in the construction of their cultural and personal identities (Hull & Katz, 2006). A prime example derives from the digital story of a Korean student who came to Canada as a 13 year old. She described the distressing conflict she faced between her fun-loving Korean self and her shy Canadian self. Imagining herself divided into two competing selves, she spoke alternatively in Korean and English throughout the film. Her moment of awakening came when she suddenly realized that she could claim both identities. In the final sequence of the film, the student, holding a Koran flag in one hand and a Canadian flag in the other, triumphantly lifted both to the sky. In another digital story, an international student described coming to the University of Toronto at Mississauga from China. Deficient in cooking skills and alone in Canada, she ate six dozen boiled eggs in her first two weeks here. On the way home from class one day, she stopped at the Chinese market and bought a package of pork chops to fry for dinner. Her efforts, however, appeared thwarted when sizzling hot oil seared the meat and burned her arm. Yet, in her assuring voiceover, the student pinpointed this potentially harmful experience as a turning point. With more practice, she said, her cooking improved, and in time, she learned to fit into her new environment as well. In these films and many others which focused on navigating the challenges of migration, students came to understand the complex world they live in and their agency in creating a place for themselves in it. Given the increasing inflows of international students (Statistics Canada, 2011) who maintain ties with family and social networks beyond the borders of Canada and the mounting number of transnational migrants who function in two social fields, the opportunity to explore cultural bifocality (Vertovec, 1999) through digital storytelling can not only be timely, but also valuable for students facing a range of barriers.

In my Intercultural Communication course, the benefits for students participating in the digital story project were two-fold. As generators of digital stories, students became more firmly anchored in their kinship networks and communities of belonging. They researched the immigration and settlement experiences of their parents and grandparents, sometimes uncovering family photo albums tucked away in basements or attics (Benick, 2011). An increased understanding of parental sacrifices emerged from this assignment, as well as an eagerness to share the digital stories with those relatives remaining in the family’s country of origin. As an audience, students appreciated the opportunity to view the personal side of immigration rather than the official and statistical picture typically provided in lectures and textbooks. Alternate versions of immigration began to emerge during the in-class screening process as student started to question their assumptions about immigrants presented in the media.

**Conclusion**

Jean Burgess (2006) called digital storytelling an act of “vernacular creativity” based on everyday language and the informal communicative practice of telling personal stories. As a movement, Burgess noted, digital storytelling is “explicitly designed to amplify the ordinary voice” (p. 205-206) and to legitimate it as a worthy contribution to public culture.

In higher education, digital storytelling has emerged as an alternative medium of knowledge production recognizing diverse voices and mother tongues previously undervalued in the academy. At the same time, digital storytelling authenticates ways of knowing that fall outside of the expert paradigm. From a teaching and learning perspective, the practice of digital storytelling privileges intuitive and local knowledge drawn from non-academic sources, most often lived experience and memory. This openness to different forms of knowledge building and the recognition of a multiplicity of voices in the classroom may well be digital storytelling’s most enduring legacy to post-secondary education.
Digital storytelling is one pedagogical tool that can be used to increase inclusivity in post-secondary classrooms. Other inclusive pedagogies range from the incorporation of collaborative problem solving to alternative assessment techniques. As the demographic profile of students in higher education continues to change, new spaces must be provided for learners to gain knowledge in diverse ways, to imagine and create.

Resources


Biography

Gail Benick is a Professor at Sheridan College Institute of Technology and Advanced Learning in the Faculty of Humanities and Social Sciences. Her teaching and research focus on Canadian immigration, diversity, and human rights.
A Post-Class Question Strategy That Provides Feedback and Connects In- and Out-of-Class Learning

Alison B. Flynn
University of Ottawa

An instructional method is described that was used in a large, introductory organic chemistry course to ask online, post-class questions and to use the students’ answers to design the lesson and learning activities for the following class. Additional goals of this method were to provide relevant, regular, and prompt feedback to students and the instructor, to emphasize the value of time on task (i.e., that learning takes time) and to connect in- and out-of-class learning. Herein, the results of formative project evaluation and preliminary results of an educational evaluation of the method are also described.

Introduction

Many strategies have been developed to actively engage students in large classes (Boehmler & Smith, 2006; Caldwell, 2007; Cameron, 1999; Clouston & Kleinman, 1999; Cutts, Kennedy, Mitchell, & Draper, 2004; Harley, Maher, Henke, & Lawrence, 2003; Harpp, 1994; Lyon & Lagowski, 2008; Rutherford, 2004); however, it remains challenging to provide students with relevant, individualized feedback, to emphasize the value of time on task (Chickering & Gamson, 1987), and to connect in- and out-of-class learning.

Recently, online organic chemistry homework programs (ACE Organic: Achieving Chemical Excellence; Connect: Teaching and Learning Program; OWL: Online Web Learning; Reaction Explorer: Organic Chemistry Tutorials; WileyPlus: Courses in Organic Chemistry) have been developed that provide some important advantages over other homework software. The programs have questions that ask students to draw their own answers (molecules), which provides a valuable addition to multiple choice, matching, ranking, and numeric questions. The software is capable of molecular recognition (i.e., of recognizing the molecule that the student has drawn and comparing it to the correct answer), which allows the program to give tailored feedback that is based on the student’s own answer. Using the gradebook, the instructor can review the answers provided by each student, thereby obtaining information with respect to the students’ level of understanding.
Even though I assigned weekly quizzes from one of the aforementioned homework programs (ACE Organic: Achieving Chemical Excellence) and reviewed the more difficult questions in class, I felt that the quizzes were somewhat disconnected from the in-class work. This disconnection was especially evident when the difficult questions were reviewed long (up to two weeks) after the topic had been covered in class. Furthermore, and not surprisingly, discussion forum statistics (where students asked many quiz-related questions) peaked in the hours before the quiz was due. This surge in participation suggested that students were not reviewing the concepts discussed in-class immediately following the class, which would be ideal to cement their learning (Chickering & Gamson, 1987).

To address these concerns, I developed a post-class question method with the intent of satisfying the following objectives: 1) to encourage students to spend time on task; 2) to connect in- and out-of-class learning; 3) to provide prompt, regular, and relevant feedback to the students; and 4) to provide feedback to the instructor. This method is based on scaffolding learning theory, which involves supporting students through the learning process by appropriately sequencing content, tasks, and teacher and peer support until students can apply new skills and strategies independently (Larkin, 2002). Herein, I have described the method and the initial results of the evaluation of the method’s effectiveness.

Description of the Method

I assigned an online post-class question after each class; an example is shown in Figure 1. The question probed the students’ understanding of a subject and/or concept taught in that class. The students had two attempts to answer the question and the program provided feedback based on their response. In the first two courses (while the method was being developed) the post-class questions were worth bonus marks only (up to 1% of the student’s final mark). In 2010 and 2011, post-class questions were worth 2% of the final grade. The student was accorded 100% for a correct answer, 90% for an incorrect answer, and 0% if he/she did not attempt the question.

I reviewed the students’ answers prior to the following class, and used these answers to design the first segment of the next class. If most of the students had obtained the correct answer, then we spent very little class time, if any, discussing the topic related to the post-class questions. However, if students struggled to answer the question, then I used the students’ answers to design a clicker question, typically in multiple-choice format, which contained the correct answer along with the most common incorrect ones. If students struggled to answer the clicker question, then I asked them to pair up and to discuss the problem. I asked the clicker question a second time and the results of that question drove an in-class discussion, which concluded that section. An overview of the method is shown in Figure 2.

Background

The courses described herein, Organic Chemistry I and Organic Chemistry II, are large (250-420 students per section), first- and second-year organic chemistry courses at the University of Ottawa. They are generally considered to be challenging courses. Approximately 67% of students enrolled are from the Faculty of Science, 21% from the Faculty of Health Sciences, 6% from the Faculty of Engineering, 5% from the Faculty of Social Sciences, and less than 1% from other faculties such as the Faculty of Arts. Organic Chemistry I and II are required courses for the majority of students’ enrolled and are required for admission to many graduate programs and professional schools, such as medicine.

Each course involved weekly quizzes and twice weekly post-class questions using ACE Organic, an online homework program (ACE Organic: Achieving Chemical Excellence), clickers (Bhattacharyya, 2006) (except in 2008 when clickers were not used), two midterms and a final exam. The first-year course also had a three-hour laboratory component. In each course there were two 80-minute lectures per week, optional 80-minute tutorial sessions, and optional written assignments for which answers were posted on the course website.
A Post-Class Question Strategy

**Post-class question from March 10**
Maximum allowed tries per question: 2

(1) **Question #1328** An alcohol is converted to its lactylate (a sulfonate ester), then allowed to react with a strong, UNhindered base to give the alkene shown. Draw the starting alcohol.

![Click image to launch MarvinView™](image-url)

Your response is incorrect (1 try).
What would Zaitsev say about the direction in which this alcohol would eliminate?

**Figure 1**
A post-class question with feedback for an incorrect response. Source: ACE Organic. Used with permission.

![Online post-class question method](image-url)

**Figure 2**
Online post-class question method
I typically spent 5-10 minutes creating each question, 2-10 minutes reviewing students’ answers, and 5-10 minutes to creating a new clicker question (which I did for approximately two thirds of the classes). At the end of the semester, I spent about 20 minutes calculating the grades by exporting the data from the ACE gradebook to an excel spreadsheet then assigning the marks as described above.

I started assigning post-class questions a few weeks into each class (to give students time to get used to the course and its requirements) and, subsequently, at least one post-class question was assigned after every class. Students could answer a question correctly in as little as two minutes, depending on their levels of proficiency and commitment to reviewing/learning the lesson in question. Unfortunately, ACE organic does not provide statistics on the amount of time taken for a student to complete a question/assignment. Students could also review and/or re-do the questions as part of the preparation for midterms and final exams.

Project Evaluation

I designed an evaluation of this project, which is currently underway, largely based on the format suggested in the National Science Foundation’s 2010 User-Friendly Handbook for Project Evaluation (Frechtling et al., 2010). The first phase of the evaluation involved a formative evaluation of the method; the second phase is a summative evaluation. The results of the formative evaluation phase are described below, which sought to answer the following questions: 1) What was the participation rate in each class? 2) What were the students’ opinions and suggestions with respect to the aforementioned project objectives? 3) What were the instructor’s opinions and suggestions with respect to the aforementioned project objectives? The summative evaluation phase is currently underway, in which the key research questions are: 1) What is the degree of improvement in learning outcomes, if any? 2) What is the most effective way of using the post-class question method? The preliminary results of the summative evaluation are described below.

Participation rates

The participation rates varied from 61.4% to 75.1% (Table 1) and were higher in the second-year course than in the first-year course. In 2010, I increased the weighting of the post-class questions to 2% of the students’ final grade; they had previously been worth bonus marks only. There was a concurrent improvement in participation rates on post-class questions when comparing rates between different cohorts of the same course (Table 1). In every course, at least 25% of the class did not participate. While the reasons for this have not yet been explicitly probed, it is perhaps because of the low weighting of the post-class questions (bonus marks or 2% of the students’ final grade). Class attendance did not change significantly with the addition of post-class questions, which could be attributed to the fact that clickers were already in use in the class (for which participation marks were assigned), the fact that lecture notes were not available online for the course.

<table>
<thead>
<tr>
<th>Course</th>
<th>Number of post-class questions</th>
<th>Average participation rate on post-class questions (%)</th>
<th>Standard deviation (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic Chemistry I 2009</td>
<td>10</td>
<td>61.4&lt;sup&gt;a&lt;/sup&gt;</td>
<td>9.1</td>
</tr>
<tr>
<td>Organic Chemistry I 2011</td>
<td>15</td>
<td>68.5&lt;sup&gt;a&lt;/sup&gt;</td>
<td>9.8</td>
</tr>
<tr>
<td>Organic Chemistry II 2008</td>
<td>15</td>
<td>65.8&lt;sup&gt;b&lt;/sup&gt;</td>
<td>9.4</td>
</tr>
<tr>
<td>Organic Chemistry II 2010</td>
<td>18</td>
<td>75.1&lt;sup&gt;b&lt;/sup&gt;</td>
<td>12.5</td>
</tr>
</tbody>
</table>

<sup>a</sup> $t(20) = 1.85, p = 0.0394.$  <sup>b</sup> $t(31) = 2.44, p = 0.0104.$
A Post-Class Question Strategy

perhaps providing motivation for students to come to class), and/or other reasons.

The feedback received on student surveys has been extremely positive. A selection of students’ responses is shown in Figure 3, below. Specifically, students responded that the post-class questions helped them learn class material, that they reviewed their notes regularly in order to answer the post-class questions, and that they gave a reasonable effort to respond to the questions.

The students’ comments were also very positive. For example students said that:

“Post-class questions really forced me to review the stuff i [sic] learned in class, so i think it was a great idea.”

“Also going over the [questions] which most people had trouble with in class was also good, because then we could see exactly where we went wrong.”

“The post-class questions were great to encourage at least a little ‘daily’ reviewing, and again, I think it’s great that we were rewarded just for trying.”

Very few technical difficulties were reported, the main one being that the program was “picky” and so a slight error in the student’s answer, which might be unrelated to the student’s understanding of the concept being tested, was nevertheless recorded as incorrect. Most students learned to draw organic molecules on a computer for the first time in Organic Chemistry I and they could do so through online tutorials before attempting an assignment. Fewer than five students per course reported technical difficulties related to drawing/submitting answers.

Survey statement

Figure 3

Selected student survey results from Organic Chemistry I, 2009 (N=604)
Instructor’s opinions and suggestions

Overall, I feel that the time required to create the questions, review students’ answers, and design follow-up questions/discussion topics was well worth the effort. It was helpful to see students’ answers regularly instead of just after midterms/exams and to be able to address common errors so easily and often. It also seemed that student engagement had improved in the class, which was particularly observed with more students asking questions about the last class’ lesson and having more students contributing to in-class discussions (anecdotal, qualitative results).

The largest technical difficulty on my part arose with the release time of the questions (i.e., when the question became available to students). With the program that we were using, I could not specify a specific time to release the question, and so there was occasionally a delay between the end of the class and the posting of the question, depending on how long it took me to get back to a computer. This was a very minor problem and for the most part the post-class questions were straightforward to assign and review.

Comparison of learning outcomes

Preliminary results at the question level suggested that learning outcomes have improved. For example, Table 2 shows a post-class question (for which answer choices were not provided) in which I asked students to draw the first organic intermediate for the reaction shown. Initially, only 27% of students obtained the correct answer. When I asked the same question at the beginning of the following class as a clicker question, with the correct answer along with the most common incorrect answers shown, 55% of students obtained the correct answer ($t(766) = 8.441, p < 0.0001$). After peer discussion, 88% of students gave the correct answer to the same question ($t(652) = 10.826, p < 0.0001$). Although the same question was asked each time, Mazur has shown that students often arrive at the correct answer after peer discussion, especially when 30 – 70% of students have initially answered correctly, and even if the correct answer was not originally the predominant answer (Mazur, 1997).

A comparison of the final exam results between 2008 and 2009 for question types ($S_{\text{N}1}$) that were similar to the one shown above (Table 2) also

<table>
<thead>
<tr>
<th>Method used to ask the question</th>
<th>Student answers (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td>Online ACE post-class question (N=439)$^a$</td>
<td></td>
</tr>
<tr>
<td>Clicker question (individual) (N=380)$^b$</td>
<td>18</td>
</tr>
<tr>
<td>Clicker question (after peer discussion) (N=380)$^b$</td>
<td>2</td>
</tr>
<tr>
<td>Final exam question (N=606)$^{a,c}$</td>
<td></td>
</tr>
<tr>
<td>Final exam question, 2008 (N=680)$^{c,d}$</td>
<td></td>
</tr>
</tbody>
</table>

$^a$ Data from 2 sections. $^b$ Data from 1 section. $^c$ The question was a variation on the same topic. $^d$ Organic Chemistry II (Data from 2 sections).
A Post-Class Question Strategy

suggested an improvement in learning outcomes. While the question shown in Table 2 was given as a post-class question in the Organic Chemistry I class in 2009, a question of this type was not asked as a post-class question in the Organic Chemistry II class in 2008. An approximately equal amount of time was spent in class on the topic on this topic (i.e., the $S_N$1 reaction) in both courses. In 2009, 80% of students were able to draw the correct answer on a different question of the same type as the post-class question. This was in contrast to the 67% of students in 2008 who were able to draw the correct answer ($t(1281) = 5.356, p < 0.0001$).

A correlation between post-class questions and grades, but not necessarily that the post-class questions have caused the improvement in grades. There was no statistically significant difference in the students’ final grades or GPAs between cohorts that used post-class questions and those that did not (which was provided to the author, stripped of all student identifying information, by the Institutional Research and Planning office at the University of Ottawa). This was not surprising given the number of factors that can affect a final grade or GPA, particularly between different courses or different cohorts of students. Nevertheless, the promising results thus far are encouraging and more investigation is merited.

Concluding Remarks

Asking online post-class questions after every class encouraged students to review each class immediately upon its completion and the online homework program provided them with feedback tailored to their individual answers. I used this method to gauge the degree of students’ understanding after every class, identify common errors, and tailor subsequent classes accordingly. Preliminary project evaluation results suggest that this method had a positive impact on student learning, although there was not a statistically significant difference in students’ final grades following the introduction of the method. The merits of this method are currently being more fully evaluated.

Acknowledgements

I thank Carolyn Hoessler for her advice regarding measuring student learning in this project. Thanks also to all colleagues who attended and participated in the session at the STLHE annual conference at the University of Saskatchewan in June 2011. Many helpful suggestions arose from the discussions during and after the presentation, for which I am grateful.

References


Clouston, L.L., & Kleinman, M.H. (1999). The design and synthesis of a large interactive


**Biography**

Professor Alison B. Flynn is a Science Lecturer in the Department of Chemistry at the University of Ottawa. Her research interests are focused on the development and evaluation of teaching and learning methods to improve students’ academic success in the sciences.
Community-Based Research: Learning About Attitudes Towards the Criminal Justice System

Tammy A. Marche & Jennifer L. Briere
University of Saskatchewan

Research points to the pedagogical value of an engaged and community service-learning approach to developing understanding of course content (Astin, Vogelgesang, Ikeda, & Yee, 2000). To help students achieve a better understanding of how the discipline of psychology contributes to the discipline of law, some students in a second year psychology class participated in a community-based research project, partnering with the Elizabeth Fry Society and the John Howard Society. The objective of the study was to determine whether there are differences in attitudes towards the criminal justice system between individuals who have, and have not, been in conflict with the law. The student-researchers interviewed men and women from the John Howard and Elizabeth Fry Societies, who had been in conflict with the law, regarding their attitudes toward the criminal justice system, and compared their responses to those given by undergraduate psychology students who did not participate as student-researchers in the project. Responses revealed some commonalities (e.g., recommendations to change sentencing practices) as well as differences (e.g., satisfaction with the justice system). The students wrote a research report describing the findings of the study as well as their reflections on their experience. In addition to the positive feedback received from the community organizations, the students participating in the project reported that they found it to be a positive, enriching, and rewarding experience.

Introduction

The objective of this paper is to demonstrate how instructors can facilitate students’ understanding of course material by partnering with community-based organizations on research projects that benefit both students and community organizations.

With a 40-year history, the service-learning teaching strategy takes students’ learning outside of the classroom and into the community (Beatty, 2010). Jacoby (1996) defines service learning as “a form of experiential education in which students engage in activities that address human and community needs together with structured opportunities
intentionally designed to promote student learning and development” (p. 5). Community-based research is a collaboration between academic researchers (professors and students) and community members that seeks to solve a pressing community problem and/or effect social change and social justice (Strand, Marullo, Cutforth, Stoecker, & Donohue, 2003). These mutually beneficial partnerships between students and community organizations promote students’ understanding of course content and often result in positive academic outcomes (Astin, Vogelgesang, Ikeda, & Yee, 2000).

To help students better understand how psychology contributes to the criminal justice system, and to gain hands-on experience of the Canadian justice system, students enrolled in a second-year psychology course, *Psychology and Law*, participated in a research project in partnership with the local chapters of the Elizabeth Fry Society and the John Howard Society. Both organizations work to enhance the dignity of men (John Howard Society) and women (Elizabeth Fry Society) who are, or who may be at risk of becoming, criminalized. Both societies advocate for effective and just changes in the criminal justice system, and educate the public on issues related to the criminal justice process.

Using interview-style data collection, the project examined whether there were differences in attitudes towards the criminal justice system between undergraduate students and individuals who had been in conflict with the law. Students read papers describing background literature on the research topic. They learned that by determining where differences in attitudes exist, ways of increasing satisfaction and confidence in the justice system can be identified, and that public support is necessary for the system to work effectively (e.g., Indermaur & Hough, 2002; Roberts, 2004; Tyler & Huo, 2002).

**Project Method**

To ensure that students had sufficient background and experience to carry out the project, those interested in participating as student-researchers submitted a statement of interest. This statement included a description of prior research methods courses, previous experiences with using psychological research methods, and previous community service learning and volunteer experiences. All students met these requirements. They then received instruction in ethics (e.g., data confidentiality and procedures for obtaining informed consent, debriefing, and participant withdrawal) and guidelines for data collection for the project via handouts, participation in a group meeting and by online ethics tutorials. The students and instructor also met with representatives from the community agencies to learn about the organizations and their expectations regarding data collection. The agencies were responsible for recruiting participants who had been in conflict with the law and the interviews took place at their facility during a mutually agreed time. In some cases, the agency hosted a small social before commencing the interviews. Students taking the *Psychology and Law* class were asked to answer the same interview questions as did the participants who had been in conflict with the law. Participants from the organizations were given a small financial gift of thanks after the interviews, which they were unaware of at the time of the interview, whereas there was no reward for the student participants. After the interviews, the students submitted all data forms to the instructor to be scored and analyzed. Students were then provided with a write-up of the results, along with a brief interpretation of the statistical findings. They were expected to write an 8-page term paper describing the study results and their reflections on the project.

**Study Method**

**Participants**

Over four offerings of the *Psychology and Law* course, 28 student-researchers (27 females; 1 male) conducted interviews with 33 individuals who had been in conflict with the law (19 females, $M_{age}=35$, range: 21-48 years; 14 males, $M_{age}=31$, range: 22-53 years). In addition, 71 undergraduates, who were mostly Arts and Science students (60 females, 11 males; $M_{age}=22$, range: 19 - 42 years), served as
the comparison group by responding to the same interview questions. Sixty-two undergraduates were of European/Caucasian decent with the remaining undergraduates being of First Nations/Métis, East Indian, Asian, Central American, or other decent. The majority of both the females (n = 12) and males (n = 11) who had been in conflict with the law, for primarily serious offenses, were of First Nations/Métis decent, followed by East Indian (females n = 3, males n = 2), and European/Caucasian decent (females n = 3, males n = 1).

Measures and procedure
The interview was based on four questionnaires that assessed confidence and satisfaction in the criminal justice system as well as attitudes towards sentencing practices and the criminal justice system overall. After consent forms were signed, the student-researchers interviewed either a male or female participant who had been in conflict with the law. Questions were read aloud to participants, due to literacy concerns, as the participants followed along on their own copies and the student-researchers recorded the responses. To collect the undergraduate responses, hard-copies of each of the four questionnaires, as well as consent forms, were distributed to the students during regular class time. The second author read the questions to the students, in an interview-like format, and they recorded their own responses.

Participants completed the Confidence in the Criminal Justice System (Tufts, 2000) measure, which includes six questions that are answered using a 5-point scale ranging from 1 = “Not at all confident” to 5 = “Extremely confident” (e.g., “Please rate your confidence in the local police service.”). Participants’ satisfaction was assessed with Satisfaction with the Criminal Justice System (Tufts, 2000), a 5-point scale ranging from 1 = “Strongly Disagree” to 5 = “Strongly Agree” 10 questions, e.g., “The courts do a good job of ensuring a fair trial for the accused.”). Participants also completed the Attitudes Towards the Criminal Justice System scale (25 questions, e.g., “Laws are usually bad.”), which is a sub-scale of the Criminal Sentiments Scale (CSS, Andrews & Wormith, 1984), and Attitudes Towards Sentencing Practices (Tanachuk, 2010) questions using a 5-point scale, with 1 = “Too Harsh” to 5 = “Too Lenient”; e.g., “Do you feel that sentences given to female offenders are too lenient, too harsh or just about right?”).

Participants were also asked to respond to the open-ended question: “How do you think confidence in the criminal justice system could be increased?”

Participants were thanked and debriefed; any questions that they had were addressed by either the student-researchers or the course instructor.

Study Results
Undergraduates reported significantly more confidence in the criminal justice system (M = 21.41, SD = 3.41) than individuals who have been in conflict with the law (M = 16.44, SD = 3.96), t (100) = 6.50, p < .001. Undergraduates also reported significantly greater satisfaction with the criminal justice system (M = 30.23, SD = 4.89) than did individuals in conflict with the law (M = 25.35, SD = 6.89), t (99) = 4.06, p < .001. Additionally, undergraduates reported significantly more positive attitudes towards the criminal justice system (M = 89.26, SD = 10.26) than people who have been in conflict with the law (M = 76.96, SD = 12.03), t (93) = 4.97, p < .001. In terms of attitudes towards sentencing practices, the difference between the undergraduates (M = 19.13, SD = 2.80) and individuals in conflict with the law (M = 17.66, SD = 3.12) approached significance when the Bonferroni correction to control for Type I error was applied (α = .01), t (94) = 2.30, p = .02.

Although we found that undergraduates and individuals who have been in conflict with the law appeared to differ in terms of some of the responses they gave to the open-ended question “How do you think confidence in the criminal justice system could be increased?,” a number of common themes emerged across both groups. For example, individuals who had been in conflict with the law and undergraduate students both indicated rehabilitation (more programs to minimize reoffending) as a means to increase confidence in the criminal justice system. Also, male and female participants who had been in conflict with the law both agreed that prevention programs need to target youth in order to prevent
involvement in the criminal justice system. See Table 1 for more examples.

Summary and Conclusions

As part of the research report write-up, the student-researchers spent time reflecting on why attitudinal differences exist between these two groups and they argued that actions need to be taken to improve confidence and satisfaction in the criminal justice system to ensure its effectiveness, highlighting some of the responses made by the participants (Table 1). They also commented on the similarities found across the two groups (e.g., the need to change sentencing practices). These findings were reported to all students in each of the four offerings of Psychology and Law classes in a lecture discussing the relationship (linkages and tensions) between criminal justice and social justice. The participating students informally reported their experiences and reflections to the class and we discussed ways in which the justice system can become more responsive to the local communities and national agencies with which it interacts.

Many studies have examined the benefits that engaging in community-based learning has for students, faculty, universities and communities (e.g., Eyler, Giles, Gray, & Stenson, 2001). Students in the current project reported a number of personal outcomes (e.g., enhancing personal identity, moral development, interpersonal development), social outcomes (e.g., reducing stereotypes, increasing a sense of social responsibility), and learning outcomes (e.g., improved ability to apply what they are learning to the real world). The student-researchers, and especially the Psychology and Law students who did not participate, initially reported knowing nothing about the community partners, with many students reporting that they had never heard of the organizations. A description of each organization, illustrated with the content on each organization’s website, was provided to all students during the class lecture on social justice. Thus, similar to other service learning programs (e.g., Lane, Hudson, McCray, Tragash, & Zeig, 2011), the student-researchers found the project to be a positive, enriching and

Table 1
Themes from the question “How do you think confidence in the criminal justice system could be increased?”

<table>
<thead>
<tr>
<th>Group</th>
<th>Theme</th>
<th>Response Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduates</td>
<td>(a) Change the court system.</td>
<td>(a) “Ensuring a speedy trial,”</td>
</tr>
<tr>
<td></td>
<td>(b) Respond to all inquiries similarly.</td>
<td>(b) “Respond to all inquiries in the same way,”</td>
</tr>
<tr>
<td></td>
<td>(c) Gain public input.</td>
<td>(c) “Public voting on punishment for crime (in general, not for a specific case).”</td>
</tr>
<tr>
<td></td>
<td>(d) Change the information that the media shares about the criminal justice system.</td>
<td>(d) “Media attention on good things police, corrections and law enforcement provide.”</td>
</tr>
<tr>
<td>Individuals in Conflict with the Law</td>
<td>(a) Ensuring confidentiality.</td>
<td>(a) “Police tell you they won’t use information you tell them against you, but they do.”</td>
</tr>
<tr>
<td></td>
<td>(b) Involve family.</td>
<td>(b) “Involve family more.”</td>
</tr>
<tr>
<td></td>
<td>(c) Direct money towards community resources.</td>
<td>(c) “More money to help community, direct behavior away from negative.”</td>
</tr>
<tr>
<td></td>
<td>(d) Change the jails.</td>
<td>(d) “Jails are not run effectively, dirty grounds,”</td>
</tr>
<tr>
<td></td>
<td>(e) Include aboriginal culture.</td>
<td>(e) “Incorporate the aboriginal justice system into it.”</td>
</tr>
</tbody>
</table>
rewarding experience that augmented the skills and knowledge learned in the classroom. As the following quotes attest, the community service learning project enriched students’ experiences.

“I think it should be mandatory for all students to do more research based work within the community. Not only does it help students to better understand their subject, but it also allows you to help out the community.”

“An important element of the community service-learning experience was having an opportunity to apply the knowledge we learned in class out into the community. Integrating ‘real life’ knowledge and experiences directly from people in conflict with the law with classroom based knowledge made it a more enriching experience and supported learning on a multidimensional level.”

“I was able to compare and contrast what I learned in class versus what I discovered in the community.”

The project also appeared to affect some students well after the course had ended. For example, one of the students, because of her experience with the project, subsequently secured summer employment with the Elizabeth Fry Society and, in the subsequent school year, worked on a justice-related honours thesis.

As a faculty member, this project provided the first author with the opportunity to learn about community service learning and to improve teaching pedagogy, as well as enhance understanding of social justice issues. As for benefits to the community organizations, members of the organizations have consistently reported that the project provides their clients with an opportunity to have their voices heard. Some of the men and women reported that this was the first time anyone had asked about their experiences or had taken an interest in their opinions.

Partnering with the University may also provide other research opportunities, which have the potential to benefit both the staff and clients from community organizations.

The community agencies were presented with a written description of the results of the study, and a copy of the current paper. They have also been invited to help design the next research project. During the coming year, we plan to increase the community agencies’ role in the project as we move toward developing the next community-based research project, one that aims to achieve social change and social justice.

References


**Biography**

Tammy A. Marche is an Associate Professor at St. Thomas More College, University of Saskatchewan. Tammy’s interests are in the forensic aspects of memory and she is a member of the Centre for Behavioral Sciences and Justice Studies, University of Saskatchewan.

Jennifer L. Briere is a Ph.D. candidate in the Psychology Department at the University of Saskatchewan and was the Research Assistant for this project.
Discovery, Integration, Communication, Engagement: Learning Through Scaffolds in a Field-Based Course

Thomas Yates
University of Saskatchewan

A field-based course in an applied science program can have numerous learning outcomes. These are typically addressed through demonstration, active participation by the students, communication between students and instructor and amongst students, and independent work by students individually or in small groups. Such courses are also opportunities for students to develop their critical thinking. The author’s experience is that teaching techniques used to deliver field courses are generally inherent and based on the experience of the instructor and the teaching culture within the academic unit. These techniques are typically not drawn from the pedagogical literature, although they do have similarities to such established concepts such as scaffolds. Recognition of teaching concepts drawn from the pedagogical literature and their application to the design and teaching of field-based courses may improve the delivery of course material and provide a better student experience. Thinking and teaching in terms of the support that scaffolds represent may also smooth the transition from classroom to outdoors back to classroom. Supported learning based on established teaching methods will improve a student’s opportunity for Discovery, Integration, Communication and Engagement.

Introduction

Field courses are a rare opportunity for undergraduate students to make their own discoveries, integrate what they observe, communicate to their peers, and engage with the community. The potential impact and value of these courses may be enhanced by applying three interrelated approaches. The first is the application of informed teaching concepts drawn from the pedagogical literature. Like many instructors I initially based my course design and teaching on practices established within the department by my peers, as well as my personal experience and knowledge. Although this intuitive approach is
effective, student learning may be better served by consciously using concepts drawn from the literature on teaching and learning. Second, scaffolds as a teaching method is well suited for the delivery of a field-based course because they emphasize using supports such as, modeling, speak-aloud, and reciprocal teaching. Third, in keeping with the concept of scaffolds, improvements may be realized by seeing the course as part of a student learning continuum that begins where a pre-requisite course ends and finishes after submission of course products – for example, written reports for evaluation. This leads to a strategy of supporting students during these before and after periods.

A Unique Undergraduate Course

Renewable Resource Management (RRM) is an applied science degree program offered by the College of Agriculture and Bioresources that addresses a growing demand for graduates trained in sustainable land management. The program offers a suite of innovative core courses that are intended to foster inquiry-based learning – be question-driven, involve critical discourse, require self-direction, and involve students in research-type activities such as information gathering, synthesis, and communication of results. The Field Course in Renewable Resource Management (RRM 301) encapsulates the innovative learning nature of the RRM program. RRM 301 is a 20-day course, longer than typical field courses, and provides an experiential opportunity for students to not only learn field skills and critical thinking, but apply the skills and concepts through an independent group mapping project completed with minimal instructor supervision. The learning outcomes are many and varied such as the recognition of landforms, soil parent materials, soil types, plant species, and plant communities; understanding soil-landscape models and how they apply to the delineation of biophysical map units; ecosite classification; the application of sampling strategies, interpretation of soil, forestry, and topographic maps; and the collection of georeferenced and forest mensurative data. A single learning outcome may require a student to learn and apply numerous skills, in addition to the use of the cognitive strategies for interpretation and aggregation of field data.

The original design and delivery of the course is illustrated in Figure 1. The course was envisioned to begin on the first field day and end on the last, even though the submission of a field map and report was at a later date. The course was delivered through a variety of site visits and field exercises that proceeded in a linear progression. Exercises were supported by a course manual that provided a summary of each activity. Skills were demonstrated, practiced, and related to relevant scientific concepts. The complexity of the activities increased over time and successful completion of each exercise required skills and knowledge acquired at previous site visits. It was intended that through these exercises the students would acquire the field skills and knowledge necessary to operate with minimal supervision in regard to safety, data collection and decision-making during independent group mapping project. During this latter two-week period student groups of 3-4 were assigned a land area of approximately 50 hectares. Instructors saw the student groups 1 to 2 times during the day and these visits were short with a focus on providing support to enable student decision-making.

This course was designed and developed based on my experience as researcher and instructor in addition to past practices within the department in regard to existing field-based courses. With enrollment capped at 24, the relationship between instructor and student had a significant component of one-on-one interaction. Day to day teaching took the general form of demonstration on the part of the instructor and practice on the part of the student with opportunities for peer-peer instruction. Skills acquired were subsequently utilized in combination to perform a larger task. Formal teaching concepts from scholarly literature on teaching and learning were not investigated during the development period or applied during the initial delivery of the course. In hindsight, the student was directed to focus on the doing rather than understanding. It is my opinion that the lack of investigation and application of formal teaching methods is not an uncommon approach in the teaching of science courses and certainly fits
with the more general problem of bridging the gap between pedagogical research and the use of that research in teaching.

Challenges

Evaluation of RRM 301 in terms of course content and student experience, based on Student Evaluation of Education Quality (SEEQ) and peer evaluation of classroom performance, has been very positive over the first two offerings of the course. However, from my experience, the experiential nature of field-based courses usually makes them very popular. Thus, high importance was placed on rare negative comments provided by students. Such comments included feelings of a lack of preparation for the field course, and of a loss of support between the end of the field work and the submission of the final report. I also felt that there is mixed success in achievement of learning outcomes related to basic field skills. Some skills were disproportionately applied by students during the independent group mapping project. Thus, as students began the last two weeks of the course I did not consider them to be equally positioned to discover, integrate, communicate, and engage.

A Teaching Concept

A review of the pedagogical literature indicated that the course structure of RRM 301 had similarities to the teaching of higher-level cognitive strategies using scaffolds (Wood, Bruner, & Ross, 1976). Rosenshine and Meister (1992) describe scaffolds as methods used to support a student’s learning between what they are currently able to do and the ability they are attempting to acquire. These methods include the use of demonstration (modeling), verbal prompts (think-aloud), concrete supports, and reciprocal teaching. Application of these methods involves the introduction of course material in small steps, at first simple, but then increasing in complexity. Scaffolds are considered to be temporary and the instructor removes the support as students master the skill leading to independent practice.

Similar to using scaffolds, field skills taught in RRM 301 were first modeled and explained much like using a verbal prompt to support learning. Prompts, as described by Englert, Raphael, Anderson, Anthony, and Stevens (1991) were part of the course manual. Also, students working in small groups were asked to demonstrate findings to other students and the instructor – a form of reciprocal teaching (Brown & Campion, 1986; Palincsar & Brown, 1984). In RRM 301, course material is initially simple and introduced in small steps, but gradually becomes more complex. During the last 10 days of RRM 301 support diminishes leaving the students to work in groups to complete the mapping exercise with little reliance on instructors.

The original design of RRM 301 did not formally incorporate scaffolds as a teaching method. However, it is possible that their formal application may improve the successful achievement of learning outcomes. For example, a conscious use of ‘think-aloud’ may focus the instructor on being more explicit in revealing her or his thought process as they demonstrate as skill, such as the description and classification of soil development. Small steps in this cognitive process, possibly not revealed by the instructor due to their familiarity with the technique

Figure 1

Original Approach to Achieving Learning Outcomes in RRM 301
and unintentionally rendered implicit, may indeed make the difference in the understanding of the application of the technique for certain students. Instructors conscious of the teaching concept being applied may skip fewer or none of these implicit steps leading to better student understanding of the technique and a better experience overall during the latter part of the course when students are working independently.

Equally important is a formal use of student think-aloud (Nielsen, Clemmensen, & Yssing, 2002). Think-aloud used by both instructor and student can foster a dialogue that allows assessment of the student’s understanding and effective reciprocal teaching. Dialogue and modeling are commonly used to teach reading comprehension skills (Doolittle, Hicks, Triplett, Nichols, & Young, 2006; Palincsar & Brown, 1984; Rosenshine & Meister, 1994; Zoller, 2002). During RRM 301 a student may explain how they describe and classify a soil, and reveal to the instructor what they know and how they are applying that knowledge. As well, concrete supports in the form of think-sheets have been shown to support students as they develop the ability to question text as part of comprehension (Rosenshine & Miester, 1992). In RRM 301, the course manual could incorporate think-sheets by including prompts in the form of questions that provide the student support during the exercise and also serve as a means of reflection to reinforce the learning outcomes.

Rethink

Formal implementation of scaffolds would involve a rethink of the course content and delivery; however, it is unlikely, due to the similarities between the formal teaching concepts and the current teaching of the course, that a complete redesign of the course would be necessary. A conscious application of scaffolds may lead to the course being envisioned as in Figure 2. Rather than thinking of the course as a series of scheduled stops (Figure 1), the thinking will be on building skills and learning concepts. The sites used will serve as a context to the delivery of the skill rather the exercise serving as reason to visit the site. The instruction during the first two weeks will be delivered incrementally, building the students toward the ability to execute the independent group mapping project in the latter half of the course. The end of the course would now be the submission of the field report and map (post-field completion), and that period between the final field day and report submission could be supported with additional instructor time in the form of tutorial sessions focused on map creation techniques and data interpretation.

One could view the concept of scaffolds and the associated teaching techniques as applied at two scales. The first is the use modeling, think-aloud, reciprocal teaching and concrete supports for day to day activities that focus of the transfer of relevant field skills and concepts. The second is bridging the gap between the pre-requisite course and the field map and report. This achieved by increasing the complexity of exercises and removing support on previously acquired skills, but requiring their application in more complex activities.

A new course design using the concept of scaffolds may address the previously cited concerns. Greater achievement of learning outcomes and student’s realizing more support may lead to higher test scores, and more informative field maps and

Figure 2

New Approach to Achieving Learning Outcomes Based on Scaffolds
reports. However, the formal use of these techniques and the concept of support may introduce challenges at the aforementioned scales. The day-to-day use of reciprocal teaching and think-aloud is an intensive, potentially exhausting approach to teaching in the field. Daily objectives may need to be modified to allot time for students to verbalize their thoughts in detail. A field-based course with extended contact hours to accommodate tutorial sessions may negatively impact student engagement and have resource implications. Contact hours related to report and map development may be more effectively offered and enhanced as a subsequent course for credit. The development of a subsequent course for the purpose of teaching the applied techniques in geographic information systems needed for map creation could be case-based drawing on RRM 301. This would complete a learning continuum that bridges a gap from the perquisite lecture based course to applied case-based instruction with the experiential field-based course as a key support between.

References


Biography

Thomas Yates is a Lecturer at the University of Saskatchewan, Department of Soil Science. He designs and delivers science courses that focus on applied skills, experiential learning.
Mystery Montage: A Holistic, Visual, and Kinesthetic Process for Expanding Horizons and Revealing the Core of a Teaching Philosophy

Kim Ennis, Carly Priebe, Mayya Sharipova, & Kim West
University of Saskatchewan

Revealing the core of a teaching philosophy is the key to a concise and meaningful philosophy statement, but it can be an elusive goal. This paper offers a visual, kinesthetic, and holistic process for expanding the horizons of self-reflection, self-analysis, and self-knowledge. Mystery montage, a variation of visual mapping, storyboarding, and collage, is utilized to uncover the core of a teaching philosophy and to challenge teachers to expand their horizons within a more holistic context. We share our personal reflections and experiences and conclude by discussing possible applications of this process to other areas of teaching and learning.

Introduction

A teaching philosophy statement expresses a teacher's personal values, beliefs, and approach to teaching and learning. The process of writing a philosophy statement can help teachers to reveal the core of their teaching philosophy (e.g., the reasons why they teach), and to be more mindful or “intentional about what they do” in the classroom (McCready & Raleigh, 2009).

Writing a philosophy statement is a dynamic activity that new and experienced teachers should revisit regularly to reflect on their teaching practice and to help construct a deeper understanding of why they do what they do in the classroom. It can be challenging, however, for new teachers to write their philosophy statement, particularly because the process of determining how one's personal beliefs and values influence professional goals can be an elusive task. McCready & Raleigh (2009) suggest that teachers need to engage in three developmental processes to be more mindful of why they do what they do in the classroom: self-reflection, self-analysis, and self-knowledge. In the first stage, teachers begin learning about themselves and reflecting on their teaching practice. For instance, by completing a teaching or learning inventory, teachers may begin to construct knowledge about their personal beliefs...
and values. They may then write a paragraph in their philosophy statement reflecting on specific examples from their teaching practice. An example of this type of approach is used by Quezada (2004).

Self-analysis is a more deliberate study and critical self-evaluation of one’s beliefs and an understanding of why one teaches the way they do. Nilson (2010) describes a self-analytic approach in which teachers identify a key belief, the assumptions that underlie that belief, and the implications for the classroom. While self-reflection is a systematic process resulting in a more complex and interrelated mental schema of teaching, the key difference is that self-analysis involves an element of critical reflection that involves ongoing self-improvement (Brookfield, 1988).

Self-knowledge results from a process of analysis and critical self-reflection within a broader, more holistic context. This involves building a more interrelated mental schema that compares commonalities and differences. In a self-knowledge approach, multiple interpretations are made, problems are framed and reframed in different ways, and there is a deeper, more intimate, and holistic understanding and awareness that emerges along with continued professional growth. For example, De Voss et al. (2008), suggest a self-knowledge approach in which teachers first prepare their teaching philosophy in writing, then remix and reformulate their statements in various digital media including slideshow presentations, websites, digital visual collage, and digital movies. This process of framing and reframing philosophy statements is an important part of self-knowledge because it requires teachers to think about different and more intimate associations within their teaching practice.

In this paper, we will demonstrate how the nature of mystery montage makes it an effective method for framing a teaching philosophy by engaging teachers in all three developmental processes of self-reflection, self-analysis and self-knowledge. Throughout the paper, we have included reflections from each author, attesting to their personal experiences in building mystery montages. We will conclude with several ideas for broader and future applications for expanding horizons in other areas of teaching and learning.

**Building a Mystery Montage**

The first stage of building a mystery montage is to create a “mystery box” full of tokens of information about ourselves, clues to our lives as teachers: cards, images or photographs (of metaphors or real life experiences), quotes, mementos, feedback from students, or any other materials that might possibly relate to our personal or professional teaching development, practice, strategies, beliefs, or attitudes. This gathering stage corresponds with the first developmental stage of self-reflection.

The second stage, which corresponds with the process of self-analysis, involves identifying associations between these pieces of information, discovering relationships and emphases that result in a contextual structure (i.e., piecing the clues together). Montage is an artistic process that involves adding layer upon layer of images to create a more complex composite; our process builds on the concept by mixing visual mapping (Margulies & Maal, 2002), storyboarding, and collage to build associations amongst the tokens of information collected about ourselves from the mystery box (Figure 1). The visual framework of the process helps to develop a greater sense of self-knowledge by building new associations between philosophy and practice that may have previously been unidentified and unrelated. Montage is therefore a mysterious process in which unexpected juxtapositions reveal new associations and understandings while identifying an overall sense of purpose and deeply felt significance. The process also helps to expand horizons by challenging teachers...
to think more broadly and holistically about what influences their teaching practice.

The third stage corresponds with self-knowledge, and uses the montage to reveal the core of one’s teaching philosophy. Similar to the method proposed by DeVoss et al. (2008), the process of framing and reframing teaching materials over a period of time can help teachers understand the significance of different associations amongst the various aspects of their practice, a form of self-knowledge. The process of framing and reframing embraces creativity, fluidity, and flexibility, while speaking strongly to the idea that teachers (in any stage of their careers) are still becoming who they are in unique and diverse ways. In the following statement, Kim Ennis describes the process of montage and how it helped him to discover the core of his teaching philosophy:

I began by physically gathering all kinds of materials—artist’s statements from my exhibitions of paintings, course outlines for the studio classes I have taught, evaluations from the same classes, letters of support from students and colleagues, diagrams of the teaching-learning situation from my reading, quotes from philosophical and religious texts, excerpts from my own reflective writing, anecdotes about my favorite teachers, images that express my personal outlook— and literally spreading them out on my studio floor. Next, I condensed this material. A certain amount was simply culled and other texts were edited down to their most basic elements and images were cropped. All this was done in a completely physical manner with scissors and a waste basket, keeping all the elements within my visual field. This constant peripheral awareness stimulated new ideas for additional

Figure 1
Mystery montage of Mayya Sharipova
materials that could be included, and also began to establish relationships between certain key elements.

A third phase of arrangement in space grew out of the editing process. Certain elements became central, and lines of connection began to create a web of relationship between these and more peripheral ideas and images. This centralizing process created a center of gravity around which all aspects of my teaching experience began to coalesce, and which also attracted still more ideas and materials from my files and beyond.

Once the arrangement became compact and clear enough, I began to adhere the materials to a large sheet of drawing paper. I began to draw lines of connection, to emphasize certain elements using highlight markers and graphite crayons. In some cases I pasted new material over old, or erased some parts of the drawing, so that the entire process became completely plastic and changeable.

The writing developed naturally from the concept map because all the elements were already arranged in a visually apparent relationship in which some were more dominant than others. Thus the structure of the statement was established along with effective imagery and illustrative details, all in accord with my deeply felt philosophy (Figure 2).

For me, the unique advantages of this method were: 1) that it is largely visual, and therefore more amenable to visually oriented learners than purely textual approaches; 2) that it is largely physical, and therefore directly sensible and manipulable, therefore more accessible to kinesthetic learning; 3) that it is readily altered, and therefore more open to spontaneous and intuitive changes; 4) that the resulting map is a structural analog for the resulting written document, therefore a blueprint that makes the writing process genuine and coherent.

Expanding Horizons: Possible Applications

Formulating a teaching philosophy statement can be intimidating and overwhelming for new faculty members and graduate student teachers with limited experience. Collecting a “mystery box” of items and organizing these items visually can provide guidance in structuring a philosophy statement by providing a visual overview of key points or critical incidence thereby helping to identify central themes. Using a divergent reflective strategy of this kind might
be a helpful starting point to enable new teachers to discover an organizing principle to frame their philosophy statement.

In addition, faculty and graduate students who have already written teaching philosophy statements might benefit from the use of mystery montage to revisit, reflect on, and possibly reconstruct current philosophy statements. Because the process is slightly removed from the philosophy statement itself, teachers can become liberated to explore new areas and connections. As the following statement illustrates, this might result in new directions for a philosophy statement or simply reinforce current key themes:

I found mystery montage useful as a way to reflect on my current teaching philosophy statement. I decided to root my storyboard in community (my central theme) and create a tree-themed map where all the branches grew from the central theme. Through the mapping process, I was able to see (literally) connections that I had not previously made within my written statement. I was also challenged to connect everything back to the central theme, which strengthened and solidified my written statement (Carly Priebe; see Figure 3).

The process might strengthen links between ideas to form stronger connections and continuity throughout an already written statement, as described here:

For me, this process really emphasized the connections and relationships. I was able to put comments and feedback with students in the same place with my goals, aspirations, and favorite teaching quotes, and it helped me to see just how much all of these things align. I realized through this process how much of my teaching is centered on stories and storytelling…
For my continuing professional development, I can continue to think about and map out different aspects of my teaching with my comments from students and this will help me build different associations for future development.

Finally, as alluded to in the previous reflection, mystery montage can be useful in generating new evidence. While the central themes or the heart of the philosophy statement might not change, the process of broadly scavenging for clippings, documents, pictures, and words related to teaching tends to inspire a new vantage point from which to view the evidence.

Some less obvious, broader applications that could be explored in future research might include the use of mystery montage to organize ideas in collaborative work, an application that was utilized in the writing of this paper, as well as to connect and link main themes and topics to develop portfolios. The more linear, narrative version of storyboarding, as opposed to the mystery montage, could also be used to illustrate the learning process over time by creating a before-and-after picture.

Conclusion

Mystery montage is a useful method for framing a teaching philosophy statement that engages teachers in the processes of self-reflection, self-analysis, and self-knowledge. Its fluid and intuitive nature challenges teachers to expand their horizons within a more holistic context, while providing the ability to reveal, through a deeper sense of self-knowledge, the core of one’s teaching philosophy. The method could be used creatively in a variety of other teaching and learning contexts to help both teachers and learners build self-knowledge in a visual format.

References


Biographies

Carly Priebe is a graduate student in the College of Kinesiology at the University of Saskatchewan.
Her interests include examining group dynamics in exercise, sport, and learning environments as well as promoting physical activity through coaching.

Kim Ennis is a graduate student in the Department of Art and Art History at the University of Saskatchewan, a painter, and a studio instructor.

Mayya Sharipova is a graduate student in the Department of Computer Science. She is working on the development of computer educational systems for ill-defined domains.

Kim West is an Educational Development Specialist at The Gwenna Moss Centre for Teaching Effectiveness and Professional Affiliate within the Department of Geography and Planning at the University of Saskatchewan. Her interests involve exploring new and creative approaches to educational development, as well as examining the roles of hope and trust amongst teachers, learners, and staff in college and university environments.
In this paper, I explain the components of “exhilarated learning,” a model for effective classroom environments, and show how this model can be applied to the broader context of community-university engagement. I describe the following three dimensions: human connection, whole body engagement, and linking content to context; and I explore how this model relates to the Scholarship of Teaching and Learning and Scholarship of Engagement.

How can the best practices of effective instruction and lessons from the Scholarship of Teaching and Learning (SoTL) inform the Scholarship of Engagement (SoE)? Let us consider three core aspects of optimal classroom learning environments (i.e., human connection, whole body engagement, and consistent linkages between content and context), and explore how they may be extended to developing community-university engagement.

Exhilarated Learning

While participating in two extensive reflective exercises on best pedagogical practices and innovations, the idea of “exhilarated learning” emerged as an organizing principle that captured the nucleus of three inter-related dimensions.

Human connection: The first dimension

In virtually any learning environment, students enter with some level of tension, anxiety, and/or resistance. If the stress response is activated, it can decrease the brain’s capabilities ability to learn and remember (Kaufeldt, 2010). Nearly all university students have witnessed classrooms in which students are humiliated, put down, or made wrong. At a very basic level, students entering a classroom ask, “Does the professor mean me any harm?” When the instructor creates a welcoming environment and develops positive relationships with students, it puts students more at ease, and facilitates learning. One of the most fundamental principles in effective teaching
is increasing teacher/student contact and connection (Chickering & Gamson, 1987; Lowman, 1995).

Largely under-emphasized in traditional teaching skills programs, this dimension acts on the inevitable wall and unwritten contract between teacher and students. On the students’ side, it creates comfort and predisposes learners to explore the content and to remain open to the possibility of suggested behavioural or conceptual changes. On the instructor’s side, it may enhance the teacher’s confidence, awareness, presence, authenticity, and commitment to results. Many classroom practices such as establishing ground rules, using icebreaker activities, and facilitating relationships between and among students can contribute to a sense of human connection and enhance learning.

Whole-body engagement: The second dimension

University education is often characterized as an experience that occurs above the neck. Stereotypes include passing information from the notes of the professor to the notes of the students, bypassing both of their minds. Most of our understanding of the mind and rationality are based on metaphors that are not supported by cognitive science. Take for example the enduring notion that rational thought is dispassionate. We know this to be false from studies in neuroscience (Damasio, 1994). Those who have lost the capacity to be emotionally engaged in their lives cannot reason appropriately about moral issues. The traditional Western conception of the person with disembodied reason and an objective world must be replaced with the conception of an embodied person. Among the important implications for teaching and learning is the recognition of the centrality of emotion. All learning occurs in a mood and part of fostering student engagement includes attending to and managing the mood of the classroom.

Including emotions, moods, and the importance of the whole body is a completely different paradigm from simple learning styles. Whole-body engagement leverages all the thinking-feeling-acting channels that people use to absorb new information, concepts, and skills. Students become significantly more engaged with the experiential methods encompassed in this dimension. This may promote faster transfer of knowledge and skills, and higher retention rates (e.g., Barnes, 2005). This dimension goes beyond adding to the typical information dissemination mode; it re-conceptualizes the learner and the learning process.

Content to context: The third dimension

One of the biggest challenges for instructors is to keep the parts connected to the whole. This component is all about the importance of a big picture focus. Particularly in the delivery of a semester-long course, it is increasingly challenging and important to connect the pieces to the larger pie. Much of education, training, and courseware design historically has been linear and reductionist, which often leaves learners lost and with no overarching vision of the learning objective or purpose of segmented activities. This dimension brings in one of the most essential, but often forgotten, elements of successful education. Learners need to have the parts connected to the whole (Meron & Peled, 2004). Teachers must be mindful of learners’ developing schemata, and draw connections among new information and concepts and prior knowledge (e.g., Zheng, Yang, Garcia, & McCadden, 2008). Building the connections between content and its broader context provides scaffolding for incorporating new information, facilitates a learner’s ability to decide where to pay close attention, helps make inferences, provides a guide to search for memory, aids in editing and summarizing, and helps produce hypotheses about information that is missing (cf., Anderson & Pichert, 1978).

Teachers facilitate learning by offering practical strategies for students to develop schemata when reading, listening to a lecture, or otherwise being exposed to new ideas so that they are able to recognize familiar ideas and make connections to the text or new ideas. With enough practice, modeling, and exposure, teachers can implement some of these strategies in their classrooms to accommodate students (Navarro, 2008). Awareness of the constant interplay between specific content and the larger context provides students with both the why and the how that contributes to deeper, more meaningful learning and greater satisfaction.
From SoTL to SoE?

How might these three dimensions that can assist pedagogical enhancement be taken to a broader framework? In our effort to expand our reach, perhaps there is a useful connection between the Scholarship of Teaching and Learning (SoTL) and the Scholarship of Engagement (SoE). In SoTL, we are interested in good teaching, which is, as Parker Palmer (2007) suggested, akin to weaving a fabric of connectedness between student, teacher, and subject. A fabric of connectedness, then, between community, university, and project/topic may need to be woven to create good engagement.

SoTL has been conceived as a habit of mind and a set of practices that influence culture in which change occurs and developments can thrive (Hutchings, 2010). At its core, the *sine qua non* of SoTL is the asking and answering of questions about our students' learning, and sharing our insights. I believe there is a potential pitfall in SoE, much like what I perceive with SoTL, for scholars to pursue academic recognition, while losing connection to practice and application that makes a real difference for real people in the real world. Focusing on human connection, whole-body engagement, and the linking of content to context may help to maintain relationship with these realities.

At the most basic level of the academy, faculty are seeking practical ways to plan, implement, and reflect on engaged scholarship due to productivity expectations (Franz, 2009). As Boyer (1996) noted, an expanded view of scholarship is needed as reward systems frequently do not match academic functions, and professors often find themselves wedged between competing obligations. Yet views may be changing slowly, and reward systems seem to exercise powerful influence. Investment in SoE seems to be correlated with rank and years of service at an institution (Glass, Doberneck, & Schweitzer, 2011). Participation in SoE continues to appear to be a risk for more junior (especially untenured) faculty members.

The strong benefits of community-university engagement provide great incentive to move forward. Such engagement represents the convergence of the community's interest and the self-interest in the educational institution. The communities that partner with their local colleges and universities surely accrue benefits and there are also benefits to the institution, the students, and the faculty. For example, faculty and students who participate in community service learning are often the biggest advocates for expanding engagement (Beere, Votruba, & Wells, 2011).

From here to there: Human connection

Although altering the reward system is definitely a positive step, as Chickering and Gamson (1987) asserted, there “are neither enough carrots nor enough sticks to improve undergraduate education without the commitment and action of students and faculty members. They are the precious resources on whom the improvement of undergraduate education depends” (p. 3). By bonding with the community, that commitment and action may be catalyzed by the deep desire to connect with and to assist other people. At a very basic human level, we all want to help each other. That impulse may be so strong that we have to misrepresent reality when we deny it. As described in *Leadership and Self-Deception* (Arbinger Institute, 2010), an act contrary to what one feels one should do for another is an act of "self-betrayal." This leads to seeing the world in a way that justifies self-betrayal, a distorted reality. This process can unravel into mutual mistreatment and collusion in giving each other reason to maintain our justifications. When universities and communities engage in collaborative and caring ways, we may transcend our selfish concerns with rewards and work for something larger and more important. We may, in the words of George Bernard Shaw (1903), then experience “the true joy of life, the being used up for a purpose recognized by yourself as a mighty one.” Perhaps just as it may be the foundation of the classroom, human connection may be one of the essential principles in community-university engagement.

From here to there: Whole-body engagement

It really shouldn't have to be said at this point that we are far more than rational information processors. Yet many seem to cling to trying to persuade behaviour change via data-based argument. It is like trying to
get an unwilling, unmotivated elephant to change direction through conversation with its rider. Just as the classroom becomes more alive and learning becomes more effective when the emotional and physical are included with the intellectual, whole-body engagement may be another vital notion in university-community collaboration. In this dimension, we go beyond interacting at the level of ideas and concepts; we bring our emotions and physical selves along with our intellects to forge deep and meaningful ties. Successful engagement depends on alignment of the university and community at many levels. Alignment is far more than agreeing on ideas; it includes compatible values, which are emotional and visceral. Understanding and operating from a whole-body perspective is crucial for successful engagement.

**From here to there: Content to context**

On the smaller scale of individual learning, we saw how important schema theory can be in helping teachers to facilitate learners linking specific content with a larger representation. Such an approach can be invaluable in helping to link communities and universities with their often-disparate points of view. Greeno and van de Sande (2007) developed an extension of the theory of conceptual understanding in interaction, emphasizing the importance of alignment between perspectives of participants. They consider the theory of perspectival understanding as a generalization of schema theory. A crucial factor in developing engagement may be acknowledging how various points of view or beliefs are not isolated, but rather fit within a larger scheme and can be aligned. Just as connecting bits of information to broader concepts can foster individual understanding, making associations among perspectives can cultivate understanding between communities and universities.

**Conclusion and Future Directions**

Whether trying to navigate the complexity of the classroom or attempting to develop valuable engagement between the community and the university, three core dimensions may ease the process: human connection, whole-body engagement, and linking content to context. Whereas there appears to be good evidence for instructional application, the difficulty may be to implement these useful ideas more fully in the increasingly important area of community-university engagement. Engaged scholars will have to overcome the conundrums of university reward structures (Nicotera, Cutforth, Fretz, & Thompson, 2011) and find creative approaches to pursue sustainable engagement (Shea, 2011). Successful navigation of these challenges will result in personally and professionally meaningful contributions from here to the horizon.

**References**


**Biography**

Billy Strean is Professor in the Faculty of Physical Education and Recreation at the University of Alberta and a 2011 recipient of the 3M National Teaching Fellowship.