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Collected Essays on Learning and Teaching

*Creative Teaching and Learning: Exploring, Shaping, Knowing.*

Volume IV

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Foreword

On behalf of the Editorial Board, I am pleased to present Volume IV 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). Nearly 40 submissions were peer-reviewed by an international network of faculty and educational developers. The fact that Volume IV includes 21 essays rather than the 32 which appeared in Volume III reflects the Board’s increasingly stringent requirements of peer review, revision, and editing.

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 four years by submitting manuscripts to the Windsor-based team. The first three 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, while the present Volume reflects the work of over twenty authors who presented in Toronto in 2010 at the STLHE conference hosted by Ryerson University and Ontario College of Art and Design. All four volumes of CELT can now be accessed on the Society website.

Instead of appearing in CD format, the current volume of CELT has been uploaded to an open journal system, improving both the scholarly and public quality of refereed research. 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, 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 2011 STLHE conference “From Here to the Horizon: Diversity and Inclusive Practice in Higher Education” in Volume V of CELT.

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

Margaret Wilson, NorQuest College,
Janet Wolstenholme, University of Guelph,
Mark Schofield, Edge Hill University, UK, &
Patsy Paxton, Nelson Mandela Metropolitan University, SA
Building passion and potential for creative learning in higher education involves deliberately seeking to understand, appreciate, and teach for creativity. Recognizing the urgent need for creativity and problem solving skills, and understanding that instructors must embrace creative learning for themselves first, is central. Creativity cannot be left to chance. Developments in the field of creativity, both with regard to defining aspects of creativity and providing frameworks for integrating creative learning into higher education practices are discussed.

Introduction

Experts in any field of study must keep pace with change. This requires the ability to scan large bodies of information, synthesize knowledge, continually acquire new skills, and capture the essence of what is most important. Leading a field requires expertise in combination with a strong sense of curiosity and original insights to generate new concepts, theories, skills, processes, and products. These thought leaders and creative problem solvers exemplify the creative learner. Mere mastery of a discipline does not satisfy their thirst for understanding. They continually question. They have a drive to uncover mysteries. They delve into areas of ambiguity, allow contradictory perspectives to emerge, and invite seemingly unsolvable problems to percolate. They are never satisfied with what is known. These individuals go beyond and display a passionate love of what they are doing, a rich future image, high energy, and a love of a challenge (Millar, 2010; Torrance, 1983).

The activities, skill, and knowledge development in higher education that mirror exceptional professional practices also engage students in creative learning. The accomplishment of the mastery of a body of knowledge, the wonder and excitement of discovery, and the satisfaction of the generation of new thought, reflect best practices in teaching and learning that demand learners be fully engaged, mindful, and creative.

The first step toward a more deliberate development of creative learning and teaching practices in higher education is to make explicit three aspects of creative growth. First, the recognition of
the urgent need for creativity and problem solving is necessary. To grasp this fully, a basic understanding of the dimensions of creativity is essential. Second, the importance of creative learning for self first and then for nurturing others is important to recognize. To fully bring creative teaching and learning to the classroom, one must first value and model creative learning. Third, a basic understanding of the diverse ways to deliberately develop creativity in higher education is necessary. Each is discussed in this article.

An Urgent Need for More Creativity and Problem Solving

The desire to harness future possibilities creates an urgent need for creativity in the world. It has been said many times that change is inevitable and growth is optional. Leading change, through creative thought and action, rather than reacting to change, provides the means to shape a productive future. Placing a creativity lens over teaching and learning practices provides a way to step back from content, from disciplinary expertise and current perspectives on pedagogy and ask specifically “What is creativity?” so to better understand the dimensions that make it urgently needed.

Twenty-first century skill advocates such as the Partnership for 21st Century Skills (2008) articulate skills necessary for the future as student outcome areas, including creativity and innovation skills, critical thinking and problem solving skills, communication and collaboration skills, life and career skills, and flexibility and adaptability skills. Revisions of Bloom’s taxonomy articulated creativity as a central aspect of the taxonomy (Anderson & Krathwohl, 2001). In the updated taxonomy, creative thinking and problem solving skills, communication and collaboration skills, life and career skills, and flexibility and adaptability skills. Current work in the field builds directly from these foundations and includes expanding studies of creativity at the university level (Murdock & Keller-Mathers, in press; Parnes, 1999). Simonton (1988, 2010) examined eminence, genius, and creativity and described eminence, genius, and a fifth “P” of creativity as “persuasion,” while Csikszentmihalyi (1990, 2003) described the concept of flow and optimal experiences. Amabile (1998; Amabile & Kramer, 2010) described an intrinsic motivation theory, aspects of the environment conducive to creativity, and the components leading to creative productivity including task motivation, domain relevant skills, and creativity relevant skills. Sternberg
Building Passion and Potential for Creative Learning in Higher Education

(1985) articulated the Triarchic Theory of Intelligence that expands intelligence to include analytical, creative, or synthetic and practical intelligence and re-conceptualized admissions to Tufts University to reflect wisdom and the expanded view of intelligence (Sternberg, Jarvin, & Grigorenko, 2009).

Creativity Starts With Self

Fully nurturing the creative potential of others requires personally modeling the behaviours, attitudes, and actions consistent with a creative learner. Development of one’s creative expression is therefore first. This can look very different in varied talent areas, cultures, and preferred ways of operating. Further, creative characteristics displayed as strengths by one person may be very different than that of another. Some classic characteristics of creativity articulated by early researchers such as Guilford and MacKinnon include fluency, flexibility, originality, elaboration, risk-taking, curiosity, complexity, imagination, independence, openness, tolerance of ambiguity, and capacity to make order from chaos. The excitable, original, outgoing way of someone who typically might be called an ‘idea person’ and another person’s calm, thoughtful, deliberate persistence to craft an elegant solution may each represent aspects of creativity and the potential to contribute to unique, useful, and well-crafted outcomes and products. Illuminating the creative strengths and capitalizing on the talents of the individual is central to understanding one’s creative self, realizing that “I am creative.”

Many factors impact one’s ability to develop creativity. Some constraints such as availability of resources and expertise can be outside of one’s immediate influence. Others, such as attitude, are clearly within a healthy individual’s control. Noller (Parnes, Noller, & Biondi, 1977) articulated the central nature of attitude in her classic definition of creativity as $C=fa(K, I, E)$. She explains that creativity is focused on the use of knowledge, imagination, and evaluation with a subscript “a” for attitude. Murdock described three affective thinking skills that are central to the development of creative problem solving skills (Puccio, Murdock, & Mance, 2007). These attitudes toward creativity included tolerance for ambiguity, tolerance for complexity, and openness to novelty. Without these skills, fully engaging in the messiness and multifaceted nature of newness where forward thinking flourishes is blocked by self-imposed constraints. Attitude counts when it comes to creativity.

Don’t Leave Creativity to Chance

If we want to do a better job at teaching skills such as those suggested by the Partnership for 21st Century Skills (2008), we must “engage in solving complex multidisciplinary open ended problems; developing creativity and entrepreneurial thinking, which is a skill set highly associated with job creation; and making innovative use of knowledge, information and opportunities to create new services processes and products” (p. 1). Educators must ask themselves, “To what degree do I deliberately promote creativity?”

Mel Rhodes’ (1961) classic framework for creativity provides a productive view to examine the aspects of creativity for teaching and learning. Bringing these elements to a more conscious level and articulating their dimensions enables educators to be more deliberate. Both the physical and psychological conditions necessary for creative thought must be considered. The appreciation and understanding of the diverse characteristics and ways people engage creative processes, both naturally and deliberately, can be improved. The specific dimensions of products and outcomes that lead to more novel, useful, and well-crafted products can be articulated and described both generally and within specific professions.

Articulating a model for integrating creativity into content and recent work utilizing Torrance’s (1979) framework provides one of the few deliberate creative teaching and learning models to incorporate creativity deliberately (Murdock & Keller-Mathers, 2008). Structurally, the Torrance Incubation Model of Creative Teaching and Learning (TIM) contains a specific content and an aspect of creativity articulated through goals, and deliberately integrated at each stage of (1) Heightening Anticipation; (2) Deepening Expectations; and (3) Extending the Learning (Murdock & Keller-Mathers, 2008).
The engagement process begins with heightening anticipation before and/or at the beginning of a learning episode. Using incompleteness, arousal, and creative tension provides a means to ‘warm up’ to the learning. Strategies such as getting attention and creating desire to know assist the teacher in more explicitly engaging the learner fully before and at the beginning of a learning episode.

To deepen expectations, additional strategies, described as metaphors include for example “digging deeper” to go beyond the surface and see what is initially hidden or searching for unanswered questions by “getting into deep water” (Torrance & Safter, 1990, 1999). It involves considering what is done during a learning episode to deepen student expectations for learning regarding the main content of the lesson and the creativity component integrated into this stage.

In Extending the Learning, strategies in the form of metaphors also assist with using the model and include, for example, giving the information personal meaning by “singing in one's own key” and enlarge one's view of the future by “shaking hands with tomorrow.” It involves deliberate consideration of what instructors do at the end and after the learning episode to extend the learning regarding the main content of the lesson and the creativity component integrated into this stage.

Implemented effectively, TIM provides the conditions for incubated thoughts beyond the timeframe of the learning episode. MacKinnon (1978) stated “The moment of insight and inspiration may be sudden and brief, but it comes usually only after prolonged searching” (p. 189). Deep thinking involves thinking well beyond when a concept is introduced, and occurs after one engages in some understanding of a concept that has complexities, involves ambiguity and novelty, and has unanswered questions that intrigue and perplex the learner. TIM is designed to provide the conditions for incubation to occur at the back end of the model.

When examining what aspect of creativity should be incorporated, it is important to deliberately select key aspects of creativity while continuing to keep the framework of the four P’s in mind. A productive framework from which to select skills includes, for example, the research-based creativity skills described by Torrance for use with the incubation model (Torrance & Safter, 1999). Those skills include: The Problem, Produce & Consider Many Alternatives, Be Flexible, Be Original, Highlight the Essence, Elaborate But Not Excessively, Keep Open, Be Aware of Emotion, Put Your Ideas Into Context, Combine & Synthesize, Visualize It Rich & Colourfully, Enjoy & Use Fantasy, Make It Swing Make It Ring, Look At It Another Way, Visualize the Inside, Breakthrough Extend the Boundaries, Let Humour Flow & Use It, and Get Glimpses of the Future.

Alternatively, to target thinking skills that are specifically aligned with a creative problem solving process, a set of cognitive and affective skills can be used to select skills essential to creative problem solving to integrate into a learning episode. Described as part of the Thinking Skills Model of Creative Problem Solving (Puccio et al., 2007; Puccio, Mance, & Murdock, 2011) and built from the seminal work of Osborn (1953) and Parnes (1966), the skills align with seven steps of the process. The steps (as well as the cognitive and affective skills for each) include: Assessing the Situation (Diagnostic Thinking & Mindfulness), Exploring the Vision (Visionary Thinking & Dreaming), Formulating Challenges (Strategic Thinking & Sensing Gaps), Exploring Ideas (Ideational Thinking & Playfulness), Formulating Solutions (Evaluative Thinking & Avoiding Premature Closure), Exploring Acceptance (Contextual Thinking & Sensitivity to Environment), and Formulating a Plan (Tactical Thinking & Tolerance for Risk). Further three affective skills that are described as essential in all steps of the process include: Openness to Novelty, Tolerance for Ambiguity, and Tolerance for Complexity.

These two research-based skills sets (or any other sound theoretical framework for creativity skills or concepts) can form the basis of strategically selected skills related to creativity to integrate as part of TIM.

**Conclusion**

Building passion and potential for creative teaching and learning involves an awareness and understanding
of the urgent need for creativity. It also involves one’s own creative growth first, as well as an eye toward improving practice to more deliberately nurture creative learning in others. One must be a creative teacher and a creative learner while understanding that teaching for creativity involves more than a new twist on an old way of presenting material (Keller-Mathers, 2009). To engage in creative teaching and learning, creativity is named, developed, supported, validated, and celebrated.

References


Parnes, S.J. (1999). Programs and courses in


Biography

Susan Keller-Mathers (Ph.D.) is an Associate Professor of Creative Studies at the International Center for Studies in Creativity at Buffalo State. She chairs the School of Profession's Curriculum Committee and focuses on the scholarship of creative teaching and learning in the schools, in higher education, and in training applications.
All in the Same Direction, All at the Same Time
An Approach to Enhancing Creativity

Annie Grove-White
Cardiff School of Art & Design, Wales, UK

This paper proposes that given today’s “wicked” problems (Malhotra, 1997), where there are complex issues with no clear answers, where boundaries are fuzzy and the outcome is usually never known and unexpected, creativity can be enhanced, at appropriate moments, by making modes of thinking explicit. Using a particular heuristic approach known as the Six Thinking Hats (de Bono, 1990), in group critiques and tutorials, students are empowered to suspend judgement at critical moments in a project, and thus, enhance their creativity. Furthermore this approach promotes confidence, openness, and trust such that students speak up more and participate fully, contributing to their peers as well as developing their own ability for self-reflection.

Introduction

You are in your seminar, group critique or discussion with students and you may be asking yourself: Are all the students contributing? Are they keeping to the point? How effective are these occasions in promoting creative thinking and openness?

The 2010 Society for Teaching and Learning in Higher Education conference, Creative Teaching and Learning: Exploring, Shaping, Knowing, provided an ideal opportunity to run a concurrent session about a particularly effective approach to structuring group discussions that I have used to encourage creative thinking, inclusivity, and confidence. Using Edward de Bono’s Six Thinking Hats (1990), I show how this heuristic method can encourage students to suspend judgement and maintain an openness about a project or problem for as long as possible, thus increasing their creative potential. At the same time, this approach is inclusive, in that it encourages and values everyone’s contribution. While my professional context is an art and design school and what is commonly called the ‘group critique or crit,’ I believe that this approach is pertinent to seminars, problem-based learning situations, and other group environments. As you read, please look for parallels with your own experiences in group discussions,
and consider whether this approach would make a difference for your students.

**The Group Critique**

This research around the effectiveness of structuring a group critique using de Bono’s *Six Thinking Hats* approach (1990) is based on qualitative feedback from a second-year group of BA Graphic Communication students at Cardiff School of Art & Design in Wales.

The group crit is one of the most prevalent methods of formative assessment in art and design education as an opportunity to promote students’ creative and critical abilities. As a formative moment, group crits take place at appropriate moments during a project. The typical form of the crit is one where students sit or stand together and listen to a student give a verbal explanation of their work while showing it. Other students and staff then interject with commentary, challenges, questions, or suggestions (Percy, 2004).

Effective formative assessment opportunities, such as the group crit, involve at least some elements of peer- and self-assessment, and it has been argued that self-assessment is more productive and freeing when qualitative peer feedback is part of the process (Boud, 2007). It can help to develop a student’s critical awareness and clarity of thought through evaluation and reflection in a supportive environment, where ideas can be tested with tutors and peers, without outside pressures. The sharing of information and critical approaches are also crucial to active participation and to the development of a deep learning approach toward their studio practice.

Barrett (2000), in obtaining lecturers’ views on what is a ‘good crit,’ identified cognitive and affective results as being important: “the student and teacher both learn about the student’s work, the student feels heard and empowered, the student is able to return to the work with benefit of a different point of view, the student begins to take the viewer into account in the conception of the work” (p. 8). The students that Barrett surveyed also stressed that a ‘good crit’ is emotionally positive and supportive, as well as an opportunity to get different points of view and learn something about each others’ projects.

This is supported by Danvers who argues “creativity thrives in an environment where the individual feels psychologically and physically comfortable, in an atmosphere of trust, security and openness” (Blythman, Orr, & Blair, 2008, p. 2).

However, while many lecturers consider the group crit as a central method for students to receive critical formative feedback on their work and become autonomous learners, the National Student Survey (UK) consistently reports that students feel they are not getting enough feedback (York, 2010). As Blythman et al. (2008) highlight, this suggests that the crit needs to be re-evaluated in terms of its effectiveness.

Similarly, Jackson (1995) notes that not only the quality of crits but the very practice of a crit can vary considerably, even within a single course. There is ample evidence to suggest that the group crit is not always a place of trust, security, and openness, and my own research supports this/her view. My students, for example, reported:

- Sometimes everyone else is talking – I don’t want to interrupt.
- Occasionally there’s a lack of wanting to upset.
- Sometimes I just can’t think of anything.
- The tutor or other students get there first.
- Sometimes it’s hard to get your opinion in unless specifically asked.
- Sometimes I don’t have the opportunity to speak.

Furthermore, Percy (2004) argues that the tacit acceptance by staff and students of their unequal relationship has more to do with the nature of the educator/student relationship than the actual design outcome. She suggests that “students who successfully engage in the performance of the crit become a member of the fraternity, but those who cannot find a way of participating become isolated from the discourse (p. 145). Barrett (2000) also gives examples where the power bestowed on the lecturer through this tacit agreement can even breach physical boundaries, such as when a member of staff erases or even tears up a piece of work.

While these are extreme examples, Austerlitz & Ararot (2007), in examining the emotional
responses of Architecture students during and after crits, cite anger at the lecturer and fear of negative responses as frequent emotions which dominate students’ attention. Blythman et al. (2008) also point out that lecturers and students hold the view that “some crits do not offer a constructive critique that is well argued. Sometimes feedback is vague or self-absorbed…These comments can leave the student feeling helpless” (p. 7).

Encouraging Convergent and Divergent Thinking

A major purpose of the crit is to encourage creative and critical thinking: divergent and convergent thinking. What is the relationship between these two types of thinking, which are integral to producing a creative outcome? Nickerson (2004) argues that if divergent and convergent thinking are seen as polar opposites, the enhancement of creativity would necessarily involve a decrease in critical thinking, suggesting that the crit cannot fully achieve both aims.

Rather, it is more productive to acknowledge that temporary mindsets may be adopted for specific purposes at different moments. Indeed, being creative requires the ability to think creatively and critically, and we can consider them as two sides of the same coin. Common to both types of thinking is the ability to be aware of the potential narrowness of making too early a judgement; while this may require adopting a perceptive rather than judgemental framework in the case of critical thinking, in creative thinking it has more to do with giving free rein to the imagination and of expressing ideas no matter how strange or off-the-wall they may seem.

McAra-McWilliam (2007) argues that art and design education strives to teach students to expand their ability to deal with ambiguity and complexity, as well as to experiment, take risks, and communicate without fear of failure or ridicule. Central to this is the concept of “negative capability,” which she argues is “to illuminate our surroundings through refreshed perception and provide a new context for action…to move from ‘probability’ into ‘possibility’” (p. 6).

In meeting this challenge, the potential for dialogic approaches and understanding is predicated on opportunities for collectivity, which the group crit provides; reciprocity, where staff and students listen to each other, acknowledge ideas, alternative viewpoints, and possibilities; and support, where students articulate ideas freely without fear or embarrassment (Wolfe & Alexander, 2008).

An Heuristic Approach: Six Thinking Hats

The belief that creative and critical thinking can be enhanced through training and heuristic tasks has many adherents and sceptics (Sternberg & Lubart, 2004). From my observations of learning, heuristic tasks can be a useful tool for eliminating mental blocks and stimulating and mobilizing resources towards the generation of ideas and new possibilities. They can encourage deferred judgement in which more “complex transformations can occur” (McAra-McWilliam, 2007, p.3).

The Six Thinking Hats approach is what de Bono (1990) terms “parallel thinking” as opposed to thinking based on analysis, judgement, and argument, which can be termed traditionally as Socratic thinking. He argues that, given the complexity of the world today, we require clear and simple thinking that avoids confusion. Often when we think, “We try to do too much at once. Emotions, information, logic, hope and creativity all crowd in on us” (p. 2). Add to this the emotions and possible tensions within a group, it is unlikely that ‘clear and simple thinking’ occurs naturally.

De Bono (1990) proposes a heuristic approach that allows individuals within a group to think and speak in one mode at a time, without judgement (hence parallel thinking), through role playing or adopting that perspective. Each mode of thinking is represented by a conceptual hat. He explains: “the broad thinking hat role is broken down into six different character roles, represented by six differently coloured thinking hats…You choose which of the six hats to put on at any one moment. You put that hat on and then play the role defined by that hat…When you change thinking hats you have to change roles” (p. 22).
The *Six Thinking Hats* are briefly summarised in Table 1, and represented in Figure 1, by modes of thinking or roles.

### Table 1

*Six Thinking Hats*

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<th>Hat</th>
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<tr>
<td>White Hat</td>
<td>pure facts, figures, and information</td>
</tr>
<tr>
<td>Red Hat</td>
<td>emotions and feelings; hunch and intuition</td>
</tr>
<tr>
<td>Black Hat</td>
<td>the devil's advocate; negative judgement</td>
</tr>
<tr>
<td>Yellow Hat</td>
<td>sunshine, brightness, and optimism; positive and constructive; opportunity</td>
</tr>
<tr>
<td>Green Hat</td>
<td>fertile and creative; movement, provocation, and possibilities</td>
</tr>
<tr>
<td>Blue Hat</td>
<td>cool and controlled; conductor of an orchestra; thinking about thinking</td>
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![Image of Six Thinking Hats](image_url)
An Approach to Enhancing Creativity

Thus, thinking begins to flow from the *acted parts* rather than from the individual or the self. The individual draws on specific modes of thinking at any one time. Whatever feedback is given is accepted and worthy of being heard and considered. All remains open, *not* judged, and the feedback is depersonalised.

**Application of the Six Thinking Hats in Group Critiques**

While de Bono (1990) asserts the *Six Thinking Hats* can be used at any stage when appropriate, I often choose to use them at an early stage of a project as it generates a lot of openings and alternatives. The *Six Thinking Hats* do not have to be used in any particular order, although I recommend when introducing the approach to students it is useful to start with the White Hat and to finish with the Blue Hat, which addresses the overview and identifies actions. However, as students become more familiar with the *Six Thinking Hats*, they will pick up a hat freely and speak from that Hat, or they will correct themselves and say, “Ah, what I’m saying is Green Hat, not Yellow.” In articulating mindfulness to themselves and others, these are moments that promote a student’s self-reflection and awareness.

Students become trained in and aware of separating emotion from logic and creativity from thinking positively, thus developing the skill of “operacy” in thinking (de Bono, 1990, p. 14). The purpose of the group crit can now be re-characterised as a way of focusing all the students’ attention, all in the same direction, and all at the same time.

A nominated scribe (staff or student) records all the points made under each Hat, and a copy is given to the student whose work is being discussed. After the session, the student evaluates the feedback and acts on it. Indeed, the student may even apply the *Six Thinking Hats* to the outcome of their evaluation – either independently or with a peer. It is a heuristic approach that can be used at any stage.

**What the Students Said**

**New ideas and new ways of looking**

Students reported back positively on their experience of using the *Six Thinking Hats*. For those whose work was the subject of the crit, they appreciated it as an opportunity to gain clear, detailed, and relevant feedback, and also to get other points of view they had not considered. This latter point, I think, is one of the main advantages of using the *Six Thinking Hats*. It provides a method for eliciting new perspectives and ideas and reducing prejudice. The method provided an opportunity for students to draw on modes of thinking other than their preferred mode of thinking, for example, positive, negative, or intuitive, which would normally narrow or ‘prejudice’ the possibilities available to them.

Students reported:

- *The Six Hats makes you focus on EVERY pro and con…therefore more feedback at the end.*
- *Another perspective/view always helps because there were points mentioned that hadn't crossed my mind.*
- *Really helpful to see so many focussed opinions of people.*

**Participation**

As all comments are worthy of being considered and no judgements are made in this process, students experienced a freedom and security in giving feedback. Students reported that they felt they had a valuable contribution to make without upsetting anyone or constraining anyone in whatever role they had taken on. They reported:

- *(It provided a) new way of doing it – lets us freely give our opinion.*
- *You find out comments from others they might not contribute in a normal session.*
- *It helped me a lot of the way. I appreciate people giving honest opinions especially when they are*
the Black Hat.

• The Hats remove the ‘Will I insult my friends?’ problem.

Outcome/Action
Participating in a heuristic task that deliberately promotes the suspension of judgement leaves students with many possibilities and avenues to pursue and evaluate. They reported:

• Good ideas generated as a result.
• I got a plan of what I was going to do and got useful suggestions to my work to make it better.
• It opened up my ideas.

Evaluation
I have found using the Six Thinking Hats an extremely useful approach to take at a particular moment in a project – in suspending judgement and for its inclusivity. Student feedback confirms this too. In particular, it provides a way for students to develop mindfulness – an awareness of how they are thinking, which is a valuable skill. There are, however, some considerations that need to be kept in mind: keep the groups small – a maximum four participants, otherwise it becomes a lengthy and overwhelming process; and I ask students to take turns scribing as it develops their listening skills. I do read through what they write and add anything that I consider may have been missed out.

Finally, using the Six Thinking Hats is just one approach out of many. Ultimately it is the context and intention of a group discussion that is decisive in the way we structure our teaching, such that the intention is fulfilled. Seminars, group tutorials, and group critiques all have very important parts to play in a student’s educational experience.

References

Barrett, T. (2000). Studio critiques of student art: As they are, as they could be with mentoring, Theory into Practice, 39(1), 29-35.


**Biography**

Annie Grove-White is the Director of Student Development, and a Principal Lecturer of Graphic Communication at the Cardiff School of Art & Design in Wales, UK. She is passionate about helping students to be empowered and enabled in their creative endeavours. Her research interests are particularly in the area of formative assessment, the effectiveness of audio assessment as a formative tool.
Analyse des Pratiques d’Évaluation Formative de l’Enseignement à la Mi-Session

Claire Bélanger & Diane Raymond
Université de Montréal

Notre article présente une étude qualitative et exploratoire menée dans le but de comprendre et de conceptualiser le processus de l’évaluation formative de l’enseignement mis en œuvre par les enseignants à la mi-session. Cette étude a été menée dans le contexte de l’Université de Montréal, qui jouit déjà d’une longue expérience en matière d’évaluation des enseignements en fin de session. Notre analyse des pratiques de rétroaction illustre les enjeux de cette forme d’évaluation ainsi que les choix qu’elle implique. Elle met aussi en évidence les valeurs, croyances et attitudes implicites des enseignants à la base de cette démarche.

Introduction

L’évaluation formative de l’enseignement (EFE) consiste en l’ensemble des actions et des activités initiées par l’enseignant afin de recueillir des informations pour améliorer un cours (Smith, 2001). Pour ce faire, celui-ci interroge les étudiants sur les points forts et les points faibles de son enseignement (Bernard, 1992) à un moment donné de la session. Contrairement à l’évaluation en fin de session, une démarche entreprise à la mi-session permet des ajustements avant la fin du cours afin que les étudiants profitent immédiatement des retombées. Pour maximiser son impact, la démarche mise en place par l’enseignant se doit d’être réfléchie, volontaire et souple (Centra, 1993).

À l’Université de Montréal, où l’on dénombre plus de 5000 prestations d’enseignement par année, l’évaluation des enseignements en fin de session est bien établie. Quant à l’EFE en cours de session, elle est une pratique valorisée par les textes officiels et par l’offre d’ateliers de formation. Toutefois, considérant le caractère informel de cette démarche, il demeure difficile d’établir l’importance de son utilisation par le personnel enseignant et les modalités de sa mise en œuvre.

À titre de représentants des services de soutien pédagogique aux enseignants, nous nous sommes posé un certain nombre de questions sur l’EFE en cours de session afin de mieux en faire la promotion :
• Comment les enseignants mettent-ils en œuvre l’EFE en cours de session? Comment vivent-ils l’expérience et la traduisent-ils en leurs mots?
• Quels sont les avantages de l’EFE en cours de session pour les étudiants et les enseignants?
• Est-il possible de modéliser ce processus pour se doter d’un cadre de référence que l’on puisse partager avec d’autres enseignants?

Cadre Conceptuel d’Analyse et de Cueillette de Données

Pour cette étude exploratoire, nous avons voulu documenter des pratiques sur le terrain. Notre approche s’inscrit dans une démarche inductive (Thomas, 2006; Blais & Martineau, 2006). Celle-ci consiste à faire émerger, à partir des données recueillies, des concepts, des thèmes dominants, voire des modèles, en fonction des objectifs de la recherche. Pour ce faire, nous avons choisi de mener notre étude sous la forme d’entrevues semi-dirigées avec six professeurs familiers avec l’EFE et en ayant entamé une forme de réflexion sur le sujet. Nous avons aussi rencontré trois de leurs étudiants. Un questionnaire leur avait été transmis au préalable. Toutes les entrevues d’une durée moyenne de 40 minutes ont été enregistrées sur vidéo et retranscrites.

À partir des propos recueillis, nous avons procédé à des regroupements pour catégoriser les pratiques, préoccupations et effets, les mettant en parallèle avec des grilles d’analyse existantes. D’autres aspects de l’expérience ont émergé de l’analyse mettant en évidence des éléments fondamentaux à la mise en œuvre du processus et ignorés à ce jour dans la littérature.

Principaux Résultats

1e ÉTAPE : La cueillette de l’information
Nous avons constaté que les enseignants font appel à une variété d’instruments pour recueillir des avis des étudiants sur le cours. Ils peuvent avoir élaboré leur propre outil ou utiliser un formulaire développé par leur département. Ces questionnaires sont le plus souvent sous la forme de deux ou trois questions ouvertes sur les aspects les mieux réussis et les plus faibles du cours ainsi que les solutions à envisager pour améliorer l’efficacité de l’enseignement et de l’apprentissage. Certains vont ajouter des questions fermées, d’autres vont intégrer des questions s’adressant à l’étudiant et à ses stratégies d’apprentissage en lien avec le cours. Le questionnaire est distribué en classe ou rempli en ligne vers la quatrième ou cinquième semaine du trimestre. Dans tous les cas, l’anonymat est assuré.

2e ÉTAPE : L’analyse de l’information
Notre analyse met en relief un élément négligé et implicite dans le modèle, soit la façon dont les enseignants vont accueillir cette information. En effet, la réception de la rétroaction par les enseignants suscite des réactions contrastées. Si la plupart d’entre eux réagissent favorablement aux commentaires et suggestions des étudiants, certains se montrent déçus, peinés ou démunis devant des résultats inattendus. On peut supposer qu’une réaction négative relative à la rétroaction des étudiants influera sur le déroulement des étapes suivantes.

Pour ce qui est de l’analyse de l’information, la plupart des enseignants disent être en mesure de dégager les aspects réussis et les plus faibles. Tous admettent qu’il n’est pas nécessairement facile de traiter des commentaires négatifs, même constructifs. Certains font valoir l’importance de se pencher avant tout sur les commentaires les plus fréquents.

3e ÉTAPE : L’organisation de l’information
Les enseignants organisent habituellement l’information reçue sous forme de tableau pour le retour avec les étudiants : d’un côté, on retrouve les principaux aspects réussis, de l’autre, ce qui pourrait être changé. Une autre manière de présenter les données consiste à dresser une liste de tous les commentaires et à indiquer pour chacun leur occurrence. Enfin, un des enseignants présente un
tableau regroupant les informations recueillies sur une période de cinq ans, soit depuis le début de sa carrière. Il met ainsi en évidence non seulement la rétroaction reçue à la session en cours, mais aussi son traitement d’une session à l’autre et l’amélioration continue de sa pratique. Pour tous, l’importance est de donner aux étudiants un sens aux résultats.

4e ÉTAPE : Le partage de l’information
Les enseignants réservent une période de temps pour discuter des résultats avec les étudiants au cours suivant l’évaluation de l’enseignement. Si quelques-uns s’en tiennent à une description sommaire des changements qu’ils comptent apporter, la plupart voient dans ce moment l’occasion d’établir un véritable dialogue sur l’enseignement et l’apprentissage qui profite à tous les acteurs. Qui plus est, ces enseignants n’hésitent pas à souligner le sentiment de coresponsabilité envers l’expérience éducative qui habite les participants. La littérature aborde rarement cet aspect.

Ce retour sur les résultats peut prendre entre 20 et 40 minutes. Tous s’accordent à dire qu’il ne s’agit pas d’apporter l’ensemble des changements demandés par les étudiants. Ils doivent juger si ces suggestions sont pertinentes et réalisistes pour leur mise en œuvre à court terme. En ce sens, l’enseignant doit s’affirmer comme responsable du cours lors de cette conversation et le demeurer.

5e ÉTAPE : Les actions posées basées sur la rétroaction et le dialogue
Les changements apportés sont généralement mineurs, par exemple, ce peut être un soutien accru aux lectures, un rythme de cours plus lent, plus de discussions, la mise à disposition des présentations PowerPoint. Néanmoins, ces ajustements ne sont pas forcément évidents pour les enseignants et ces derniers reconnaissent que le dialogue avec les étudiants les aide à trouver des pistes d’amélioration envisageables. Quelques enseignants vont plus loin. Entre autres, ils utilisent cette information pour établir leur scénario de développement pédagogique. Ils peuvent décider de suivre une formation particulière, par exemple sur la manière de dynamiser leurs exposés ou sur l’animation d’un séminaire. Ils peuvent entamer des démarches pour rencontrer un conseiller pédagogique afin de discuter de leur enseignement. L’un d’eux a été amené à participer à un comité institutionnel sur l’évaluation des enseignements. Les niveaux d’impact de l’EFE sur la pratique enseignante que nous avons observés rejoignent ceux établis par Rege Colet & Durand (2005).

Quant aux bénéfices multiples que retirent les enseignants et les étudiants du processus, on constate qu’ils s’inscrivent dans le sens des recherches recensées. Comme il s’agit d’une démarche volontaire, les enseignants sont motivés à modifier leur pratique, et ils introduisent effectivement des changements suite aux résultats obtenus (Cook-Sathers, 2009) dans la mesure de leurs propres connaissances pédagogiques (Centra, 1993). Outre l’ajustement de leur enseignement, cette forme d’évaluation a un effet bénéfique sur la communication entre eux et leurs étudiants (Hunt, 2003; Aultman, 2006), car elle constitue une base de dialogue sur l’enseignement et l’apprentissage (Younes, 2009). De plus, les enseignants disent ressentir plus de confiance dans leur rôle d’enseignant à la suite de l’évaluation en cours de session (Diamond, 2004) et une responsabilité accrue face à l’expérience éducative (Tognazzi & al. 2008). Enfin, il semble qu’une bonne utilisation de la rétroaction en cours de trimestre augmente généralement la satisfaction des étudiants à l’égard du cours ainsi que les résultats au moment de l’évaluation de l’enseignement en fin de session (Overall et Marsh, 1979). On peut penser que c’est entre autres le cas lorsque des modifications ont été apportées à la suite de cette rétroaction.

Un élément inédit de notre analyse par rapport aux travaux antérieurs sur le sujet démontre que l’EFE en cours de session sous-tend une conception de l’enseignement, de l’enseignant et du rôle de l’étudiant dans l’expérience éducative. L’enseignement y est vu en tant que processus dynamique et évolutif et l’enseignant en tant que praticien réflexif, prêt à modifier et à ajuster sa pratique. Quant à l’étudiant, il est perçu comme un partenaire et collaborateur au processus de l’amélioration de l’enseignement. On le juge capable de porter un regard réflexif sur sa formation et de donner de la rétroaction pertinente sur celle-ci.
Modélisation

À partir des résultats de notre analyse, nous avons voulu construire un modèle pour représenter le processus de l’évaluation formative de l’enseignement à la mi-session. Notre but est de mieux comprendre le phénomène, d’en capter la dynamique particulière et de faciliter la planification des décisions et des interventions qu’il comporte.

Notre modèle tient compte des 5 étapes habituellement décrites dans la littérature et inhérentes au processus :

1. recueillir de la rétroaction auprès des étudiants;
2. analyser l’information;
3. organiser les résultats;
4. discuter des résultats avec les étudiants;
5. agir en conséquence.

À ces étapes, nous ajoutons une étape entre la première et la deuxième, soit la réception de l’information étant donné l’importance qu’elle revêt pour la suite du processus. Pour chacune de ces six étapes, nous présentons les possibilités d’orientation.

Notre analyse nous a amenées à la considération suivante : loin de figurer comme une simple technique, demander de la rétroaction aux étudiants sur l’enseignement renvoie à un ensemble de valeurs, de croyances et de conceptions au sujet du rôle de l’enseignant, de celui des étudiants et de la relation pédagogique. C’est une vision positive du processus d’évaluation. Dans la première partie du modèle, nous cherchons donc à mettre en évidence les valeurs, croyances et conceptions implicites qui sous-tendent le processus. C’est dire que l’enseignant, dans sa décision de déployer une activité d’EFE en cours de session, démontre un accueil favorable à l’égard de l’évaluation de son cours. Il reconnaît ainsi la pertinence de la rétroaction des étudiants pour l’améliorer et se montre ouvert au dialogue avec eux sur les choix pédagogiques à faire. Cet échange indique aussi sa volonté de partage de la responsabilité de l’expérience de formation avec ses étudiants. Toutefois, si une démarche d’EFE en cours de session prend appui sur ces valeurs, croyances et conceptions, elle n’ira pas de soi pour tous les enseignants. Se pose alors la question suivante pour les conseillers pédagogiques : De quelle façon devons-nous tenir compte de cette réalité dans nos ateliers et mesures d’accompagnement pour que nous puissions remplir de manière satisfaisante notre mission de faire évoluer la mise en place de l’EFE en cours de session?

La dernière partie du modèle présente les avantages pour les enseignants et les étudiants de l’EFE tels qu’ils sont décrits dans la littérature et rapportés par les participants à notre étude. Celle-ci démontre une cohérence des résultats autour de trois points : l’enseignement, l’apprentissage des étudiants et la relation pédagogique. De la part des étudiants, c’est l’expression d’une motivation accrue dans leur apprentissage du fait qu’on montre une préoccupation pour leur apprentissage, qu’on leur donne l’occasion d’exprimer leur point de vue sur les situations d’enseignement et d’apprentissage, qu’on prenne leur avis en considération et que leur rétroaction soit suivie d’actions. Les enseignants pour leur part se disent stimulés dans l’amélioration de leurs pratiques et plus confiants dans leur rôle suite au processus. C’est la création ou le renforcement d’un sentiment réciproque de coresponsabilité envers l’expérience de formation qui nous paraît un effet méritant d’être souligné et exploré dans le futur.

Et Après?

Bien qu’exploratoire, notre analyse enrichit notre propre cadre de référence pour établir le dialogue avec les enseignants qui désirent démarrer un tel processus. Toutefois, la dissémination de la pratique demeure pour nous un enjeu. Comment assurer la «socialisation de la connaissance entre acteurs, ce qui facilite son transfert entre ces différents acteurs» (MELS, 2008; Hammett & Collins, 2002)?

Dans un premier temps, à partir des entrevues réalisées, nous avons produit une vidéo, Comment va mon cours?, que nous avons mise en ligne : http://www.beepe.umontreal.ca/retroaction/Video-1.html. Dans cette vidéo, en deux parties, les enseignants et étudiants que nous avons rencontrés...
**Attitudes, perceptions, valeurs et croyances qui sous-tendent le processus et influent sur celui-ci**

- Je perçois l’enseignement comme quelque chose de dynamique, d’évolué.
- Je réfléchis à ma pratique. Je suis prêt à l’améliorer, à la modifier.
- Je suis prêt à m’exposer. J’ai suffisamment confiance en moi en tant qu’enseignant.
- Pour moi, l’évaluation de l’enseignement est quelque chose d’important.
- L’information que me donnent les étudiants a de la valeur. Je reconnais leur capacité à porter un regard réflexif sur leur formation, à me donner de la rétroaction, à me soutenir dans le processus.
- Je crois que l’enseignant et les étudiants sont partenaires dans l’expérience éducative. Je suis prêt à dialoguer avec eux sur le sujet.
- Je demeure celui en contrôle de la formation.

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**Figure 1**

*Modélisation du processus de l’évaluation formative de l’enseignement en cours de session*
témoignent de leur expérience à ce sujet. Des ateliers ciblés auprès d’acteurs en position décisionnelle dans leur unité sont prévus à l’automne 2010 pour faire connaître la vidéo et promouvoir l’EFE auprès de leur communauté respective. Du soutien sera offert aux unités et enseignants qui le souhaitent.

Références


Biographie

Claire Bélanger est conseillère en pédagogie universitaire à l’Université de Montréal. Ses intérêts de recherche et ses communications ont principalement pour objet l’accompagnement pédagogique ainsi que le développement de la pratique enseignante. Ses enseignements au 2e cycle portent sur l’évaluation des apprentissages et des compétences des étudiants.

Diane Raymond est directrice du Bureau d’évaluation de l’enseignement et des programmes d’études à l’Université de Montréal. Ses intérêts de recherche portent entre autres sur les enjeux relatifs à la mise en œuvre de changements et d’innovations dans les organisations.
A Learner-Centred Mock Conference Model for Undergraduate Teaching

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This essay describes a mock conference model of instruction suitable for use in undergraduate teaching, and which adheres to principles of learner-centred instruction and universal design for learning. A staged process of learner preparation for the conference is outlined, and student and instructor roles during preconference, conference, and post-conference periods are described. The model is not discipline-specific or course level-specific and may be utilized in a variety of teaching contexts. I have implemented this model in a first-year undergraduate course, where students presented conference-style oral presentations and virtual poster presentations, and I guided them along the staged preparation process. Potential benefits of this model include fostering the development of self-directed autonomous learners by prompting students to take responsibility for their own learning, and providing students with diverse learning preferences and needs with equal opportunities to succeed by imparting variety and flexibility into the way in which course material is presented.

Introduction

Learner-centred teaching approaches shift the emphasis from instructor teaching towards student learning, in contrast to teacher-centred approaches. The value of learner-centred teaching is supported by the literature on learning (Bransford, Brown, & Cocking, 1999; Candy, 1991; Weimer, 2002) and has been shown to be effective in higher education (Alsardary & Blumberg, 2009; Kramer et al., 2007; Salinas, Kane-Johnson, & Vasil-Miller, 2008; Schiller, 2009). Weimer (2002) describes five key changes that can be made to teacher-centred practices towards achieving learner-centred teaching. She suggests a shift in the balance of power, such that power is shared between instructor and student; dual function of content, such that instruction facilitates both learning of content and acquisition of learning skills; the instructor takes on the role of learning guide, and students play a dominant role in the class; students take enhanced responsibility for learning; and a shift in evaluation purpose and processes, such that evalu-
ation methods promote effective learning processes in addition to generating grades. Interwoven into learner-centred teaching practices is the importance of grooming students to become lifelong learners, by development of self-directed learning skills and active learning practices (Candy, 1991; Weimer, 2002).

Another challenge that we face as educators is to support student diversity in our classrooms (McGlynn, 2007; Orr & Hammig, 2009; Taylor & House, 2010; Zeff, 2007). To this end, the Universal Design for Learning (UDL) framework (Rose & Meyer, 2002), can be applied towards achieving inclusive teaching in higher education (Pliner & Johnson, 2004; Scott, McGuire, & Foley, 2003). UDL promotes flexible course design in order to circumvent the need for students to adapt to succeed in our course. The key principles of UDL, as described by Rose & Meyer (2002), are to incorporate multiple means of representation, expression, and motivation into teaching practices, in order to account for learner differences in receiving and analyzing information, expressing their understanding of concepts and differences in affective learning networks.

This essay describes a mock conference model, an instructional method that is aligned with principles of learner-centred teaching and UDL, and which is adaptable to various teaching contexts. The model is described by providing an overview of student and instructor activities that take place during pre-conference, conference, and post-conference periods. Outcomes of implementation of the model are also described and the relevance to learner-centred teaching and UDL is highlighted.

**The Mock Conference Model**

I developed the mock conference model for use in a first-year undergraduate course to serve both as an instructional method and a graded assessment, whereby students are evaluated on a conference presentation. Students follow a four stage process in order to prepare and deliver their presentation, as shown in Figure 1.

**Preconference activities**

I implemented this model in a class of nursing students, where I set the conference theme of “Mechanisms of Microbial Disease” to provide a forum for the students to culminate their knowledge of course concepts towards a topic that is relevant to nursing practice. Students complete stage one of conference preparation by forming presentation groups, and choosing their presentation format (an oral or a poster presentation), topic, and date. Providing students with these choices shifts the balance of power towards the students, which may increase motivation and learner engagement in a learner-centred classroom (Weimer, 2002). Additionally, providing multiple means of expression, namely the choice to present an oral or a poster presentation, is one step towards achieving UDL (Rose & Meyer, 2002), and allows

<table>
<thead>
<tr>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
<th>Stage 4</th>
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<tr>
<td>Students sign-up to a presentation group, format, topic, and date. The instructor posts a conference schedule.</td>
<td>Students view an introductory online lecturette, and complete assigned review questions prior to proceeding to ensure that they are prepared to begin research.</td>
<td>Students conduct research and prepare presentations. Prior to submission of completed presentation slides, students review grading rubrics and request formative feedback from the instructor.</td>
<td>The mock conference takes place during two class sessions.</td>
</tr>
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**Figure 1**

*Mock Conference Model: Four Stages*
students to set an appropriate and motivating level of challenge for themselves. Indeed, some student groups indicated that they chose the presentation format that they felt would be maximally challenging (e.g., students for whom English is their second language have opted to deliver an oral presentation for this reason), while others chose the presentation format that presents challenges that they were most comfortable with.

Once students formed presentation groups and chosen topics, I post a conference schedule in which student presentations are organized into symposia. Students then begin stage two of the preparation process, and become acquainted with the conference theme. I provide students with resources via the course webpage to assist them with this, including an introductory lecturette (a short introductory talk) that introduces the theme, review questions to assess understanding of the lecturette, and a discussion board forum devoted to discussion of the lecturette and review questions. I do not provide an answer key for the review questions, and instead monitor the discussion board forum and play a guiding role as needed to assist students during this stage. This approach is intended to help students to develop self-directed and active learning skills where the instructor acts as a learning guide, and is aligned with several key elements of Weimer's (2002) articulation of learner-centred teaching, including dual function of content and enhanced student responsibility for learning. Some of my students have expressed discomfort with this approach, perhaps due to more experience with traditional teacher-centred approaches (Candy, 1991; Felder & Brent, 1996; Weimer, 2002).

During stage three, students research their topic and prepare their presentations. Several resources are provided to assist students with this stage, including a document with presentation requirements and rubrics, sample oral and poster presentations (based on the same topic to highlight differences in presentation formats; the oral presentation is provided in video format while the poster presentation is a PowerPoint slide), and a video tutorial pertaining to technical aspects of presentation preparation. Providing students with a variety of types of resources to access during this stage is intended to achieve multiple means of representation, as emphasized in the UDL framework (Rose & Meyer, 2002).

Students are encouraged to review grading rubrics for the presentation slides as a final checkpoint prior to submitting completed slides, and to request formative feedback from the instructor during this stage. These activities may help to achieve a purpose and process of evaluation that is aligned with learner-centred teaching, in which the value of formative feedback and self-assessment is emphasized (Weimer, 2002). Final presentation slides are submitted 48 hours prior to the relevant conference class session. This allows me to preview the slides for content, post compilations of student presentation slides on the course webpage for the class to preview, and help shape closing remarks that I will deliver following student presentations by allowing me to identify potential gaps and/or inaccuracies in student presentations.

### Conference day activities

During conference class sessions, I act as keynote speaker (reminding students of key lecturette concepts), symposium chair, and deliver closing remarks. The students act as presenters, audience members during presentations by their classmates, and participants in small group and whole class discussions. During the presentations, students take notes in an ‘abstract book’ that I prepare which is intended to serve as a note-taking aid. Each page of the abstract book includes questions to seek answers to during each individual presentation, highlighting key concepts to take away from each topic. To commence poster presentation symposia, individual representatives from each poster presentation group address the audience in succession to introduce their poster. A virtual poster viewing session then proceeds where students view posters from the course webpage with their laptops or from a letter-sized printed copy that they have brought to the class, and additional interaction between presenters and audience members occurs via the online discussion board. Post-presentation discussion initiated by students has typically pertained to personal or work-related experiences with the topic, suggesting that students value and are motivated by a conference theme that
is relevant to real-life scenarios.

Following the presentations, students form small groups and are assigned questions to discuss, aimed at identifying key concepts from the presentations. Students are encouraged to compare notes in their abstract books as they discuss the questions. I then deliver closing remarks to reiterate key concepts, soliciting participation from the students to share thoughts arising from the small group discussions. This is also an opportunity for me to clarify concepts presented by students and/or to discuss important information that was omitted from student presentations.

Post-conference activities
Following the conference, students finish filling in their abstract books and answering review questions. They may use the online discussion board forum to compare notes and to continue poster presentation discussion. I monitor the discussion board, and join the conversation if I see that students are struggling.

Customization of the Model
This conference model is highly adaptable, and may be implemented across various disciplines and levels of an undergraduate program. In particular, the resources provided to students, conference day organization, presentation format, and instructor and student roles may be customized. For example, tasks assigned to the instructor including organizing conference symposia, chairing the symposia, and delivery of opening and closing remarks may be assigned to the students themselves, thus transferring more ‘ownership’ of the conference to the students. The specific mock conference described in this essay was implemented in a class of nursing students and the conference theme was chosen accordingly. Should this model be implemented in a course in which there may be a variety of student career goals and interests, the conference theme may be chosen in consultation with the students, to ensure that it is a theme that the class will be motivated to learn. The virtual poster presentation session described in this model was developed for use in a ‘laptop university’ where all students are provided with laptop computers and internet access is available in all classrooms. Should a virtual poster session not be possible in a particular classroom setting, this aspect of the conference may occur outside of class time or printed posters may be presented if possible.

Final Comments
Within this conference model, the instructor assumes the role of learning guide, while students play a more dominant role in presenting, discussing, and analyzing the content. A shift in the role of the instructor “from sage on the stage to guide on the side” (King, 1993) often requires instructors to carry out more design work and model effective learning practices (Weimer, 2002). In this conference model, there is considerable design work required in development of supplementary resources to guide students along a pathway towards self-directed learning of their presentation topic and preparation of their presentation. Additionally, students may initially resist an instructional method which requires active learning and self-directed learning, and in which the balance of power is shared by the students and instructor. However, empowering students to take control of their own learning and to take centre stage in the class may ultimately be a rewarding experience for the students (who learn not only the content, but also learning skills that will assist them in becoming lifelong learners) and instructor (who promotes learning, rather than focusing on teaching, in the classroom). Future work with this model will include additional evaluation of its effectiveness, by soliciting additional student feedback and suggestions based on their experiences as mock conference audience members and presenters.

References


**Biography**

Kari Kumar is a Lecturer at the University of Ontario Institute of Technology, where she teaches within the Faculty of Health Sciences.
Strategies for Evaluating Undergraduate Degree Programs

James P. Coyle
University of Windsor

Evaluating higher education degree programs is an arduous task. This paper suggests innovative strategies for addressing four types of challenges that commonly occur during program evaluation: identifying theoretical models for evaluation, balancing potentially conflicting standards, accommodating faculty differences, and aligning courses. Examples from an undergraduate social work program evaluation are presented to illustrate the strategies.

Introduction

Higher education degree programs must regularly evaluate and update their curriculum. Knowledge development in the program’s discipline, accreditation reviews, changing student learning needs, and evolving workplace expectations regarding employee educational achievements compel educators to assess curriculum content and outcomes. However, a number of significant challenges can make this a daunting task. This paper explores creative strategies for addressing four types of challenges that commonly occur during undergraduate degree program evaluations: 1) identifying and applying theoretical models to guide curriculum evaluation; 2) balancing potentially conflicting standards from educational institutions, provincial education ministries, professional accreditation bodies, and the marketplace; 3) accommodating faculty differences regarding course design, program goals, and concerns about academic freedom; and 4) effectively aligning courses with each other and with the overall program goals. Examples from an undergraduate social work program evaluation illustrate methods for implementing and refining these strategies.

Models for Curriculum Evaluation and Teaching

Degree program evaluations ultimately assess the achievement of learning goals. Instruction content, methods, and assessment should effectively accomplish goals based on the needs of the student,
community, and field of knowledge (Diamond, 2008). A more traditional model for identifying learning goals uses a developmental approach that surveys or convenes focus groups with students, graduates, employers, community stakeholders, and scholars in order to receive feedback about current program learning and desired learning outcomes. Field related literature may also propose educational needs.

A second, andragogical model expands this approach by considering teaching and learning concepts that describe effective course design and teaching methods for adults (Thoms, 2001). Effective adult learning occurs when teacher and student collaborate to create learning. Adults learn by integrating knowledge with their past experiences and applying it to skills building. Increased classroom interaction, experiential learning, and use of workplace examples support educational goals that are relevant to students’ future careers and challenge students to actively manage their current and lifelong learning (Council for Adult and Experiential Learning, 2000). Proponents of authentic assessment advocate instruction and student evaluation that “reflects or simulates a real-life situation that could confront students in their internship or future professional life” (Gulikers, Bastaens, & Kirschner, 2004, p. 69). Authenticity, or the alignment between education and workplace, prepares students for employment demands.

Learning is also enhanced when it defines measurable knowledge, attitudes, and skills following successful education experiences (Shipley, 1995). These learning outcomes portray student performance rather than the content of instruction, and they therefore provide indicators for assessing levels of student achievement, forming the basis for course assignments and grading. Action verbs associated with Bloom’s Taxonomy of Education indicate the level of learning: knowledge, comprehension, application, analysis, synthesis, or evaluation (Aviles, 2001). For example, “describe physical, cognitive, emotional, and social aspects of human development” indicates one level of learning. Analyzing or applying those elements indicates further levels of learning. Once outcomes are determined, course content and instructional methods are chosen because they best accomplish the learning outcomes (Shipley, 1994).

Program evaluation in the author’s undergraduate social work program initially used a developmental model in which focus groups with students, faculty, and representatives from local human service organizations suggested learning needs and outcomes. However, the need to organize ideas according to specific learning outcomes and teaching methods compelled combining developmental and andragogical models. The evaluation team adopted an incremental approach that initially focused on defining learning outcomes. Training sessions about learning outcomes were arranged in order to provide faculty with a common language for describing the desirable knowledge, attitudes, and skills that students should demonstrate following each course and at graduation. Then evaluation team members promoted learning outcomes by explaining benefits, sharing examples, and providing consultation for composing outcome statements for individual courses. This facilitated the creation of specific learning outcomes for the program and for each course. Composing a learning outcome for a course about working with families depicts this process. Input from community social workers and students demonstrated the need for coursework that helped students appreciate the impact of diverse family structures. The course professor proposed “describe diverse family structures and dynamics” as a course learning outcome. The evaluation team suggested the revision “analyze the impact of family structure and dynamics,” in order to better define the needed level of learning. This process successfully defined learning outcomes for each course. A similar method will be used to link instructional methods, assessment tools, and learning outcomes in the future.

Balancing Potentially Conflicting Standards

Another challenge for higher education course evaluators is assuring compliance with degree completion requirements and discipline-specific
standards from educational institutions, provincial educational ministries, professional accreditation bodies, and professional licensing or registration regulators. Course content and outcomes also reflect student learning needs and skills needed for successful job acquisition. Logic models offer a creative method for collecting and organizing these standards. Logic models depict and integrate key program inputs, actions, and outcomes (Cooksy, Gill, & Kelly, 2001). These models organize diverse influences by identifying discrete elements within each input, action, or outcome and combining them into a summary description. In the case of educational standards, itemizing distinct aspects and matching each source according to those aspects can produce a convergence that more clearly displays how curriculum content and outcomes correspond to standards.

The author’s evaluation team collected standards from their University, the Ontario Ministry of Education, and the Canadian Association of Social Work Education. The team then created a table with a column for each standard-setting source (e.g., university, educational ministry, professional body) and rows that matched standard components across sources. A column was added in order to compare social work program learning outcomes with each component. For example, a table row containing expectations related to critical thinking included “developed critical thinking and analytical skills” from the Ontario Qualifications Framework bachelor’s degree standards (Ontario Ministry of Training, Colleges, and Universities, 2009), “critical thinking and problem-solving skills” from the characteristics of a University of Windsor graduate (University of Windsor Program Development Committee, 2010), “critical analysis of Canadian social work” from the Canadian Association of Social Work Education (2008), and “use critical thinking...to integrate knowledge, values, and skills” from the social work program learning outcomes. This process streamlined the evaluation and effectively explained how social work courses met requirements from multiple sources. It will also provide clear documentation that will support future program evaluations, reviews, and accreditations.

Accommodating Faculty Differences

Educational design and evaluation inherently raises issues of academic freedom and differing ideas of education among faculty members. A helpful strategy for resolving member differences is a positive motivational model that considers the impact of individual needs, goals, and motivation on group action (Harris & Hartman, 2002). Although program evaluation may meet common needs of faculty by establishing professional competence and improving ability to attract students, individual faculty members are influenced by personal and professional goals, current work projects, areas of interest, and skills related to program evaluation or curriculum development. Organizational leaders can promote positive group action by identifying individuals with needed skills and interests, discussing costs and benefits of change, analyzing various individual priorities, and reviewing possible projected outcomes. Seeking input from all faculty members, acknowledging academic autonomy, and presenting proposals that include rationales for changes, encourage consensus that supports group approval and expedites implementation of curriculum changes.

The author’s evaluation team used this strategy by presenting the benefits of evaluating course learning outcomes, including improved clarity for students and various program reviewers, reduced duplication of learning tasks in multiple courses, increased clarity of the essential purpose and learning for each course, and increased consistency and course alignment. They asked professors to compose learning outcomes for their courses and provided consultation and standardized forms to assist this process. Ongoing feedback from faculty members showed the importance of presenting consultation and forms as tools to help professors rather than instructions for them. The evaluators maintained the professor’s content and words when advising modifications. They explained suggested revisions and asked the submitting professor for rebuttal prior to presenting all proposed changes for approval.
Faculty members indicated that this process valued their ideas about course design, and evaluation team suggestions were perceived as helpful. Consequently, course changes were approved by the faculty without significant debate.

**Course Alignment**

Evaluating individual courses overlooks the alignment or connections between courses within a program. Educational experiences are incremental and integrative, in which learning advances from basic to complex and by combining knowledge, attitudes, and skills from a variety of courses or sources within and outside the program. Vertical alignment is the incremental changes in learning over grades or time, and horizontal alignment is the complimentary learning across subjects or courses presented concurrently (Martineau, Paek, Keene, & Hirsch, 2007). A set of courses in an educational program should demonstrate how course content and outcomes build on the learning outcomes from previous courses and how courses from different disciplines or learning tracks complement each other to accomplish integrative learning defined by program outcomes. Additionally, program and course outcomes are synergistically related: program outcomes guide course outcomes which in turn combine to define the program outcomes. Effective course alignment assures that all program outcomes are accomplished by courses without unnecessary duplication.

Previous social work program evaluations had not systematically assessed alignment, so a new procedure was developed. Evaluators mapped program and course learning outcomes according to educational tracks/sequences: social policy, human behaviour theories, research, and social work practice including field placements. Outcomes were further categorized according to Bloom’s Taxonomy (Aviles, 2001) to reflect the learning domain (e.g., knowledge, attitude, or skills), and the level of learning (e.g., identifying, analyzing, applying, or evaluating). Individual course outcomes were revised to clearly demonstrate increasing complexity over time. For example, many courses expected students would apply social work values when working with vulnerable populations. The team suggested “identify social work values” for a beginning level course outcome, and “describe how social work values influence work with vulnerable populations” for a course focusing on vulnerable populations. Subsequent courses would specify values related to the course focus, such as “respecting family cultural norms” in a family social work course.

Connections between courses from different sequences were also highlighted, such as “applying research methods in practice” in both practice and research courses. In addition, reviewing course and program learning outcomes discovered that the program outcome “use critical thinking to compare multiple methods of intervention” was not clearly included in course outcomes. Practice course outcomes tended to focus on describing or applying methods of intervention. Adding “critically compare” to the course outcomes more clearly demonstrated how students accomplished the program outcome.

**Overall Evaluation Strategies**

There are three innovative features that underlie the strategies and models previously discussed. First, developmental and logic models are more effective for mapping needed changes than amalgamating proposals from multiple stakeholders or justifying decisions of a specific individual or faction. These models endorse a problem-solving approach that is interactive, incremental, and inclusive, since more accurate descriptions of diverse elements and perspectives strengthen a logic model and suggest ongoing development rather than a prescribed status quo.

Second, course evaluation that focuses on content does not adequately assess whether students are learning. Andragogical models are needed to assess whether students are effectively learning discipline specific knowledge and skills. Using models of adult learning, learning outcomes, and authentic assessment also potentially improve instructors’ teaching skills.

Third, consensus and positive motivation facilitate evaluation. Consensus between the
numerous constituencies within and outside of academic units may often be unrealistic. Yet, universal agreement is not necessary if evaluations acknowledge the various needs and priorities, include exceptions or divergent approaches, and explain the rationales for decision-making. Consensus builders look for common elements, actively seek alternative ideas, and compose reports that clearly include input from all constituencies. This increases overall acceptance.

In addition, course evaluation is a characteristic of program growth and improvement and is most often an incremental process. It is easy to lose energy for ongoing curriculum evaluation since faculty members and administrators have many responsibilities and projects. Energy is created by conversations about the benefits of well designed curriculum, readiness plans for future accreditation reviews, sharing curiosity about effective teaching methods, and research that evaluates effective learning. Instead of a dreaded task that has to be done every decade or so, program assessment can become meaningful and satisfying.

A combination of the strategies discussed here can revitalize educational units by promoting group ownership, modeling methods for curriculum design, and adapting to diverse needs. They provide an innovative framework for addressing the many challenges associated with undergraduate program evaluation.

References


the Centre for Curriculum & Professional Development, Richmond, BC, Canada.


**Biography**

James P. Coyle is an Assistant Professor in the School of Social Work at the University of Windsor in Windsor, Ontario. His research examines characteristics of family resilience and methods for designing curriculum that teaches career skills, particularly professional writing skills.
Do I Do This In My Own Time?
Using Induction Week to Maximize Student Engagement

Jane Williams
University of Wales, Newport

This study presents a project undertaken to address a potential problem in getting new students to engage with their academic life. In September 2009, a new course design was introduced into the BA (Hons) Education program at the University of Wales, Newport. The course team was keen to ensure this new development did not lead to a fragmentation of the new cohort, and wanted to develop an approach to aid the formation of a group identity early on. They decided to introduce a non-assessed group activity during induction week: the new cohort was given the task of creating a video guide to information literacy within the first four weeks of the course. The project resulted in the creation of video guides, and demonstrated that students engaged in a focused manner with a range of services and developed a level of awareness and familiarity to support them during their student life.

Introduction

There is a significant and growing body of research exploring the complex themes surrounding student engagement (Westlake, 2008). One of the areas identified as being fundamental to students’ success is their experiences during induction week. Our study addresses the extent to which an induction week task enhanced student engagement as described in Chickering and Gamson’s (1991) seven principles for good practice in undergraduate teaching. From here, two distinct approaches to the induction week experience emerged: 1) a ‘softly, softly’ style which aims to gently introduce students into their new lifestyle; and 2) a style which is much more direct about getting students to work in an academic environment as soon as possible (Fitzgibbon & Prior, 2006). At the University of Wales, Newport, September 2009 saw a new development to the
BA (Hons) Education program with the introduction of a new course. This development acted as a catalyst for the course team to re-examine the philosophy and design of the existing induction week approach.

With the new program, four degree programs were created (Education, Early Years, Inclusion, and Education Studies). These consist of a variety of shared and program specific modules. Prior to this, all education students studied the same modules, and the course team felt that there was potential for this new organization to result in the cohort becoming fragmented, with the students from the four different programs only interacting with those in their area. The team felt that the promotion of cross-course links would be a useful precursor to the collaborative skills that education practitioners need in the workplace and as such decided to develop an intervention to try to prevent this situation from arising. Within the course design there were a number of specific approaches to highlight the importance of collaboration, including a compulsory module examining the challenges and benefits of working collaboratively; so the induction week task would be built upon throughout the course.

Taking inspiration from Chickering and Gamson’s (1991) seven principles for good practice in undergraduate teaching and Brindley and Cuthbert’s (1996) findings that introducing tasks during the earliest stages of university life encourage student enthusiasm, the team decided that a non-assessed group activity would be introduced during induction week. The task was to create a video guide to information literacy which would give the group a meaningful reason to engage with University information services, link directly to their studies, and use a range of different skills.

Method

The study used an action research approach, which focused on “finding a solution to a local problem in a local setting” (Leedy & Ormrod, 2005, p.108), and entailed identifying the issue, undertaking and intervening, evaluating the outcome of the intervention, and subsequently identifying the next steps. While this method is useful to the local setting, it must be noted that this can limit its generalisability.

Procedures

As outlined above, the potential fragmentation of the new cohort of education students was identified as a concern so the course team decided an intervention that encouraged the group to work co-operatively could be a useful method to avoid this. However, it was also felt that giving the new group a ‘traditional’ academic task that would be assessed could be overwhelming so early in the course. Chickering and Gamson’s (1991) work suggested that tasks which promoted active learning and respected diverse talents were useful in promoting student engagement. This led the team to develop the idea of using a creative task which would provide a range of roles and require a variety of talents. The team decided that the task should not have a written outcome, and should be different from the ‘traditional’ academic work that students engage in but should result in something that all the students could share. This focus resulted in the idea of producing videos. The University’s Institute of Digital Learning was then approached, and worked collaboratively with the team to provide the technical input, hardware, and software needed to implement the task.

The task was introduced to the students during the welcome meeting on the first day of induction week. The whole of the new cohort, 44 in total, were asked to identify what they felt their strengths were. Prompts such as ‘creative,’ ‘methodical,’ and ‘multi-tasking’ were put up on the board to help them shape their responses. The students wrote their ideas onto Post-It notes. On the walls around the room posters were put up with titles of roles associated with film making (i.e., ‘producer,’ ‘editor,’ etc.) and the students were then asked to match their skills with these roles. This was followed by a discussion. At this point, the students were divided into groups of 10, each group consisting of students from different programs. The groups discussed what skills and roles were represented; each group had a representative spread
of skills. The groups then received the supporting information pack that the team devised, which clarified the rules that needed to be filled, outlined the timescale, suggested useful points of contact, and gave the schedule of taught sessions. This was devised according to Chickering and Gamson’s (1991) principles to promote meaningful contact between the students and the faculty and develop co-operation between the students within a clear timeframe. It was also highlighted to the students that while there were aspects of the task that various personnel could help with, they needed to be prepared for the fact that there might be issues around working as a team that they would have to sort out themselves. This mirrored the potential situation they may face in their future professional lives.

The students were given four weeks to complete the task. During that time, they attended two sessions where they learned how to use the available hardware and software, but there were no formal sessions regarding content or organization. In the final session, the videos were shown to the group and the students then completed a questionnaire about their experience (Appendix).

The questionnaire was comprised of a range of open and closed questions, with an option for students to add their own comments or observations. The students were also asked to indicate whether they would be willing to participate in a focus group about the process, but only one student agreed to this so that option was not viable; this could suggest a lack of engagement with the task or the associated process. The closed question responses from the questionnaires were analysed quantitatively, with qualitative data used to illustrate the responses wherever necessary. Following the completion of the task, the team held a meeting to discuss the intervention and its impact. The outcomes of these discussions and the questionnaire data are presented below.

Results

The results are presented in relation to Chickering and Gamson’s (1991) seven principles, which underpinned the study.

Encourages contact between students and faculty

The questionnaire data showed that the students contacted academic, technical, and library staff as a direct result of the task. They also spoke with student mentors and existing students. This was mirrored in the feedback from the course team, who felt that the fact that the task was not assessed made the act of getting in contact less ‘official’ and as such students had been in touch with them, both face to face and via email.

Develops reciprocity and co-operation between students

Eighty one percent of the group agreed that the task encouraged them to work with their fellow students, with 71% saying that they made connections more quickly than they would have if left to their own devices. Thirty five of the 44 students identified the ability to work together to solve problems as a strength of their group, and 17 said that they felt the chance to develop relationships with their peers was a strength. However, while recognizing that the task promoted the development of these connections, it was also apparent that some students did not necessarily enjoy this rapidity, as Student 39 writes, “it was awkward because no-one knew anyone.” The difficulties associated with the groups were identified as the main weakness of the task, with issues such as getting everyone to attend meetings and managing time highlighted as problematic.

Encourages active learning

All the students stated that they found information from a range of sources, including the internet, library leaflets, and other students, suggesting an active involvement with the process. The feedback from the team meeting also indicated that questions asked by year one students in lectures and tutorials demonstrated an understanding of the significance of reading and referencing that was higher than previous years, although this could not be directly attributed to the task.
Gives prompt feedback

The feedback about the videos was given directly following the viewing and students said this was clear and prompt. Most of the group (39 out of 44) felt that the videos were good, with comments such as “funny” and “helpful.” The main criticisms were the length of one of the videos and the lack of professional finish.

Emphasizes time on task

Ninety-five percent of the group found the information sheet provided in the initial session useful. The students felt that the time scale was clear and sufficient. Although the majority agreed that the timeframe outlined was suitable and useful, they felt that their ability to organize and manage the time was weak. This was illustrated at the end of the introductory session when one students asked “do we do this in our own time?” which suggested a lack of understanding about the independence needed for undergraduate study. Students’ feedback in the tutorial sessions indicated that doing the task highlighted the importance of time management skills. These aspects of independent learning that students had not fully comprehended before starting the course were an issue that the team had not considered when devising the task.

Communicates high expectations

The fact that the videos were to be made available to the whole cohort was stressed from the start, and the student feedback showed that this resulted in positive peer pressure to do the best they could.

Respects diverse talents and ways of learning

The vast majority of the cohort felt that they had a clear role and could evidence why they had been assigned it. Often this was directly linked to the strengths that they had identified in the initial session as shown by Student 32: “I felt my strength was creativity and organization so I was a set designer.” Forty of the 44 students identified this clarity and recognition of roles as a strength. A wide range of skills were identified, including information and communication technology (ICT) ability, communication, social skills and organisation and every student was able to identify at least one new skill they had learnt.

Conclusion

The results above show that the introduction of the task has had an impact on the cohort. Whilst there is no comparative data from other year groups it could be said that these initial indicators suggest the task has contributed to a clear and positive group identity within the cohort, and this is supported by the feedback from the team and by assessment, attendance and retention data. Whilst the catalyst for the intervention was the concern about student engagement the impact of the content of the videos on academic skills has been noticeable and this has helped students’ grades, which in turn has contributed to their positivity about their studies.

The evaluation of the study showed that while there were some evident benefits from introducing the task there were also some aspects that could have been done better. Most of these were organizational issues, for example, all of the students attended the sessions on using the hardware and software, though it may have been more efficient to deliver it to those members of the groups who were directly involved in these tasks. Also, more specific input about team working and time management would help to address the weaknesses identified. Overall this project has been successful in its aims and as such will be continued next year, with some of the students who were involved this year helping to deliver the input in order to try address the weaknesses identified in the evaluation.

References


**Biography**

Jane Williams (Ph.D.) is the programme leader for the BA (Hons) education programmes and has tutorial responsibility for first-year students at the University of Wales, Newport.
Appendix

BA (Hons) Education LNA
Information Literacy Video Task – Evaluation

Over the past four weeks you have been involved in the production of an information literacy video. This questionnaire aims to find out what the strengths and weaknesses of this task were. The results will be used to evaluate the process and inform the BA (Hons) Education LNA team about which aspects were particularly useful or difficult. The responses will be anonymous, however, there may focus groups held to further discuss key issues and if you would like to be involved in these you will need to give your name at the end of the questionnaire.

Name of Course:

1. One of the aims of the task was to encourage new students to make contact with University staff and services. Which of the following staff / services have you been in contact with as part of this task (contact can be electronic or face to face)
   Tick as appropriate.
   a. Tom Hadfield / IT support
   b. Madeleine Rogerson / Library and Information Services
   c. Kerry Bellamy / Student Advice Services
   d. Rebecca Tucker - Student Mentor
   e. Jane Williams / module leaders

2. List any other staff / services / people that you contacted

3. Where did you find out the information about referencing?

4. During the first session you were divided into groups and had to assign roles within the group. Was your role clear?      Yes/No

5. What was your role and why were you given it?

6. What was the main strength of your group?

7. What was the main weakness?

8. How clear and helpful was the information sheet that you were given in the first session?

9. Do you think the time given to complete the task was sufficient?     Yes/ No
   If no please say why
10. The task aimed to allow students to use their skills and talents to access new ways of learning. What skills and talents did you use?

11. What do you think of the finished videos?

12. Can you list 3 things that you found useful or interesting about the task, and 3 that you felt were challenging or problematic

1. 
2. 
3. 

1. 
2. 
3.

13. Which of the following statements do you agree with? Tick all that apply.
- The task allowed me to access University services in a more focused way.
- The task was a waste of time.
- The task encouraged me to work with my fellow students.
- Having a task set in the first session was a surprise.
- I enjoyed the task.
- I think I will use the video to remind me about referencing through the year.
- I learned some new skills.
- I didn’t know what I was doing.
- I didn’t enjoy the task.
- The task encouraged me to interact with the rest of the group more quickly than I would have if I had been left to my own devices.

14. Any other comments, observations or feedback

Thank you for your time and help.
Jane Williams
We believe that to think deeply, learners need connections. To foster students’ connection to each other and deepen their thinking we used online discussion forums incorporating “less case-studies, less structure, and more opinion-type work” (student post, 2010). As horticulture instructors we are interested in exploring ways we can design online discussion forums to bump up the energy and get students’ attention. We wanted our students to go beyond shallow, information-seeking exchanges. Our intent was to design learning tasks where students could genuinely and freely think and converse about matters of importance. We examined the ways students use these tools to create meaningful dialogical conversations so that the enigmatic exchanges, reconsideration, and testing of ideas needed in a landscape of continuous multiplicities could occur. The authors wanted to see how students facilitated transformative knowledge construction among their peers about the extant local and global policies and practices related to horticulture.

Introduction

Educators know that to engage learners in the enterprise of critical thinking, learner’s need to care enough to pay attention, and feel safe enough to take intellectual risks. When interacting asynchronously in online forums, it can become even more challenging to create a space that encourages reflective, integrative, and higher order thinking. In this paper, we present four strategies we found effective to connect university horticulture students to the course content and to each other in online forums. By building relationships to foster a social presence, making certain the topics for discussion are temporal and connected to students lives, have meaning both in content and course value, and by providing students some choice about what conservations they engage in, instructors can support students to create meaningful dialogical conversations that surpass the shallow fact finding exchanges that online learner’s habitually engage in.
Online Forums

The move to increase computer-mediated learning in universities, largely due to the administrative push and learner pull for distance learning, is backed by research that finds digital communication technologies can encourage conversations and connections, both formally as a structured online component of a course, and informally as a loosely-structured online space for conversation (Rovai & Barnum, 2003). In particular, asynchronous online discussion forums are purported to support the social construction of knowledge (Cheung, Hew, & Ng, 2008; Schrire, 2006).

Students learn and build knowledge when they can contribute and engage in meaningful ways. Literature searches regarding “asynchronous online forums” reveal students will often choose to provide insubstantial fragmented information-seeking posts and fact-providing responses (Weigel, 2005). Wise, Padmanabhan, and Duffy (2009) caution that an “information-only focus results in a situation where even though participants are ‘together’ in an online space, their attention or ‘learning focus’ is entirely centered on their external situation” (p. 17). Yet despite increasing demand for access to digitally delivered, ‘anywhere anytime’ programs, many higher learning institutions, more importantly their instructors and students, lack access to ‘high investment’ digital tools with dynamic creative capacity for getting the learners attention (Gee, 2003). It follows then, that the capacity that online learning environments have to support the construction of knowledge depends largely on how the technology is implemented and used in learning (Schrire, 2006). Learners are less likely to engage with each other in the sense of negotiating and building meaningful knowledge. Instead, the forum becomes simply another, albeit more multifaceted, information resource to be consumed. That is, even though students can use the forums well enough to get good grades and acceptably answer the questions, what are they really learning?

The learning management systems (LMS) used for delivery, Weigel (2005) cautions, must not be considered to be self-implementing technologies. He warns the structural constraints of low investment LMS potentially “canalizes our collective creativity by forcing e-learning technologies into the familiar classroom categories of lectures, discussions, and exams” (p. 55). Because learning forums can be quite restrictive in terms of user control or dynamic creativity, we knew we had to somehow up the ante to get students to engage beyond a transmission level and towards a transactional level (Mezirow, 2000). This meant having learners take risks and provide considered and collegial responses, as opposed to bureaucratic or pedantic replies. Our goal was to create a space where that could happen.

The forums, where students were assigned partially structured learning tasks where they were explicitly asked to provide opinions and reflections on current topical issues related to the course work (see Figure 1), could be seen to undertake a Vygotskian, peer-to-peer route of knowledge-building.

In the Botany course, students could self-select one or more of the three instructor-initiated forums. In the Horticulture Apprenticeship course, students were asked to create a thread with their

<table>
<thead>
<tr>
<th>Courses</th>
<th>Forum Topics</th>
<th>Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Botany</td>
<td>Genetically Modified Organisms-Franken Foods, Biodiversity, Global Warming</td>
<td>Choose any of the three forums, bounce around</td>
</tr>
<tr>
<td>Horticulture Apprenticeship</td>
<td>Local Municipal Tree Preservation Bylaws</td>
<td>Post summary report for one municipality, and reply (minimum) to any other two threads</td>
</tr>
</tbody>
</table>

**Figure 1**

*The Forums*
findings and personal observations or opinions from a paper they had written on a self-selected local municipal tree preservation bylaw. They were also required to reply and comment on no less than two other threaded discussions from another student.

Instructional Design

Transformative learning is dependent on a number of design principles, including that it needs to be sustained overtime. Transformative learning is a process whereby learners “elaborate, create, and transform their meaning schemes (beliefs, feelings, interpretations, decisions) through reflection on their content, the process by which they were learned, and their premises (social context, history, and consequences)” (Mezirow, 2000, p. 16).

Mezirow’s (2000) criteria for transformative learning, and similarly Garrison’s Practical Inquiry Model (Garrison & Archer, 2000) for online learning, provide a model for coding the data. Each describes a learning process of “becoming critically aware of one’s own tacit assumptions and expectations and those of others and assessing their relevance for making an interpretation” (Mezirow, 2000, p.4). Whereas Mezirow suggests the ability to elaborate, create, and transform knowledge into practice leads to transformative learning experiences, Garrison’s model of critical inquiry is represented by four cognitive phases of triggering, exploring, integrating, and resolving.

In each forum, the instructor’s participation was non-directive, providing initial welcoming, and acting as distant observer of the exchanges mostly to ensure collegial and expected contributions. The instructors were present to read and prompt the discussion. With their peers, students were expected to co-generate knowledge as it pertained to their studies in the courses. To avoid replicating the “uncritical acceptance of the traditional features of the classroom model,” we provided “students with the experience of creating knowledge assets that others will find useful.” This approach “provides a powerful impetus for study and research” by “encourag[ing] the development of important workplace skills (e.g., working collaboratively in virtual teams, providing critical yet tactful feedback, discerning the relevance of information)” (Weigel, 2005, p. 64).

This peer interaction helped students practice new vocabulary and horticultural discourse. The ability to write and (re)read their own and each other’s posts further allowed learners to grasp the meaning of new concepts and terminology and practice the art of persuasive argument (peripheral learning). An example of this social learning can be seen in the following conversation regarding genetically modified organisms (GMO’s) and cancer risk:

Student 1: This topic is very scary. What is worse is that labels are not required in Canada indicating whether or not the food you are purchasing has been modified. I think that consumers should have the right to know if what they are eating has been genetically manipulated even if it is a small portion of something like a certain type of grain in bread. In my opinion, genetic engineering has not been around long enough for people to know whether or not it is truly safe in the long term. I for one do not feel like being an unwilling participant in this experiment.

Student 2: I agree that GMO foods should be marked so I know what we’re eating, but at the same time, I don’t believe they are all dangerous, and production should be stopped…I decided to research the database on genetically modified vegetables, and I came across an interesting study.

While no detailed demographic data was collected, horticulture students tend to range in age from low 20s to late 30s, and almost split (60 M/40 F) in terms of sex. While most had used a computer before, many report using them for recreation and information communication. When asked, regardless of being
in the face-to-face or online section, most students found the Moodle forums easy to use (Figure 2).

Discussion

We found that partially structured forums with more opinion-type work fostered connections to each other and deepened their thinking. Horticulture students were most interested in participating in discussions when they felt a sense of community, where there were fewer tasks directed by the instructor, and where the forum topic provided an opportunity to post their questions and opinions to each other. One student commented:

It was really good to see what was happening in other municipalities. I wouldn’t have known about the trees in North Van if T. wasn’t so freaked about the lack of protection there.

Themes

Four themes regarding student engagement for transformative learning emerged from our experiences in these forums. If students are to explore, integrate, and test their knowledge, then building relationships, provocative topics, value to students, and providing student choice are supportive themes to be considered in the instructional design of online forums (Shrire, 2006).

Building relationships

It is best not to assume learners are ‘digital natives’ who will intuitively know how to use information communication technologies. Accordingly, our students were provided with basic information of netiquette and acceptable expectations for online communication in each course. As an online introduction to the learning community, students were asked to view the instructor’s profile and post a picture of themselves and something they would feel comfortable sharing with their peers. They

![Moodle Ease of Use](image)
were encouraged in class and through prompts by the instructor to examine each other’s profiles and, if relevant, link content about each person in their posts. This ‘relational capital’ plays an important role when the students are interacting with each other (Cheung et al., 2008). In some instances, it was the profile information that was the trigger for another’s entrance into the discussion. In a discussion on the effects of fertilizer in the ocean, after glancing at the profiles of her peers, one student was triggered to ask a question about a peer who had an image of themselves scuba diving: “Have you seen evidence of the decline of the coral reefs in your diving?”

This thread brought others into the discussion either because of their own personal interests. Whether in face-to-face or online classes, students felt a sense of community develop through their interactive discussion in the forums (Figure 3).

Interaction between the learners themselves appears to be an important element regarding the effectiveness of the learning task. We saw numerous examples of relationship building where one learner is asking for and receiving a considered reply. Instructors need to be present, at least in the beginning and not directive in the conversation. Initially, instructors may need to demonstrate engagement, and trigger the conversation by asking open-ended questions or by providing some relevant personal information.

With regards to the instructor’s referent power, learners will often wait for them to comment before replying. We found avoiding closed fact-based questions that one person can answer and rather asking open-ended questions that ask for opinions and ideas that do not have ‘right’ answers, was more likely to initiate a deeper conversation, promoting deep learning.

Hot topics
The second theme that emerged was that the topic needed to be sufficiently provocative to engage students. Being able to exchange their own ideas is essential to discourse in the field and in laboratory work. We found that the more contentious and current, or ‘hotter,’ the issue, the more likely students were to reflect and test their ideas with their peers.

“I developed a sense of community through the forums.”

![Figure 3](Sense of Community)
In addition to the forums being an integrated aspect of the curriculum and topical, in order to be able to explicitly reflect and consider ideas, learners need to have some prior knowledge about the topic. Cheung et al. (2008) found that “the lack of knowledge about a topic at hand is the most common reason cited by students (87%) not to contribute in an online discussion” (p. 40). Students said that being able to quickly surf the Internet when they were reading or writing on a forum topic allowed them to explore and test their ideas more rigorously before submitting a post. Social learning could be seen in ongoing conversations online and in the classroom regarding the validity of Internet sources of information.

Make it worth something
Thirdly, there has to be value to the work the students do in the forums, both in terms of grades and relevance. Given the competition for their attention, it makes sense that unless learners are being rewarded with a grade, they will apply less effort in learning a task. Each of the forums had course grades assigned from 5-10%. A grading scheme makes the expectations explicit and reduces learner anxiety.

In addition to being a hot topic, the students need to make a deeper, personal connection with the content. Cheung et al. (2008) found that students are more likely to contribute in forums “if they felt that the topics of ongoing discussion were interesting” beyond the curriculum (p. 40). Making connections between the course work and beyond provides a good opportunity for interdisciplinary thinking. This encourages students to make linkages to other courses, things they previously knew or heard about before. Some of the forum students asked that the forums stay open beyond the course end date so that they can continue the discussions. They also asked for more instructors across their discipline to be able to participate.

An example of the value of the forum beyond the classroom occurred when a group of students engaged in a discussion regarding a province wide pesticide ban. After some of the students went to a turf conference where there was a panel with West Coast Turf Association and the Suzuki Foundation, students made 147 posts over a weekend. When the instructor checked the forums he was amazed to see this learner-initiated and voluntary thread generated so much discussion about the horticultural, recreational, social, and political manifestations of British Columbia implementing a cosmetic pesticide ban.

Give students a choice
Finally, the eagerness for students to contribute to the forums appears linked to their ability to make a choice regarding the threads and content of the posts they write and read. Students need to feel they can make choices as to when and where they join in, and the content of their comment. By increasing their options a few benefits arose. First, students generally reviewed more forums than they posted to. In the Botany course students looked at as many as five times more forums than they participated in. This extra reading gave students exposure to many more ideas than would occur in a conversation in the classroom. Additionally, asking students to provide their opinions, rather than a closed or prescribed answer, prompted them to reflect on their beliefs and consider how these beliefs informed their practices.

Lessons Learned
Transformative learning requires reflection that leads to a change in practice (Mezirow, 2000). As horticulture instructors, we want to grow our scholarship of teaching for higher learning in our domains of creating and managing plant ecologies in indoor and outdoor spaces. Upon reflection of our online forums, we saw great value in some of the approaches used that initially our students and us took for granted. Changes we intend to implement include:

- Provide students with early formative feedback.
- Increase the grade value of the forums.
- Ask students to reflect on instances and provide evidence from their posts where their contributions contributed to the growth of their own or their peers’ knowledge.
• Bring more of the forum discussion back into the classroom (in face-to-face classes).
• Celebrate learning communities.

Conclusions

Shallow exchanges of information do not engage members into discussion and dialogue with others in an online forum. Our analysis supports the idea that people are more engaged in conversation when they know something about one another, when the discussion occurs at a level that relates to their personal context, has broader use and exchange value, and when participants are given a choice to participate. Online forums may well be a part of an instructional approach to supporting our students to think in ways that they might be able to find solutions to today’s ‘wicked problems’ (Conklin, 2005).

The significant variety among online course designs makes it difficult to characterize a typically successful online forum. One might just as well try to characterize a typical bug or plant. What works in one location or situation might not work in another. We examined the structure and process of the online forums and tasks, as well as the students’ use and comments, to gain insight into the kinds and types of discussions students will choose to engage in along with four strategies that we identified to bump up the energy to engage students in transformative learning.

We invite you to join in this conversation and try things out: http://onlinelearning.kwantlen.ca/course/view.php?id=541. The enrolment key: blueberry.

References


Biographies

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A Team Approach to Supporting Pedagogical Change in University eLearning Environments

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In response to recent social, economic, and pedagogical challenges to tertiary-level teaching and learning, universities are increasingly investigating and adopting eLearning as a way to engage and motivate students. This paper reports on the first of a two-year (2009-2010) qualitative case study research project in New Zealand. A snapshot of each of the four 2009 cases and some focused findings are provided, followed by a discussion of implications for researchers investigating technology implementation in tertiary settings.

Introduction and Background to the Research

This paper reports on the first-year findings from a two-year government-funded research project based at the University of Waikato, Hamilton, New Zealand, and which has the overall goal of documenting, developing, and disseminating effective and innovative eLearning practice. A key outcome from the research is to leverage pedagogical change, close participatory gaps for students and lecturers, and contribute to cross-university scholarship in teaching and learning. Four case studies, based in different faculties and subject-areas, were undertaken to investigate pedagogical practices within blended and virtual (fully online) learning environments. What follows is an overall snapshot of each case followed by brief findings and a discussion of implications.

Research Method and Analytical Framework

The project was guided by one overall research question: “How are different lecturers/groups exploiting the potential of Information Communications Technology (ICT)/eLearning to support tertiary-level student learning?” Lecturer reflections were obtained through key informant interviews, while both student and tutor feedback
were gathered through facilitated focus group discussions. In addition, student reflections about their ICT practices related to their own learning (as opposed to social networking) were gathered through a common online survey designed by the research team. This project received formal university-level human research ethics approval, and all people participated on a strictly voluntary basis.

Consistent with qualitative research, a constant comparison approach to data analysis was followed (Lincoln & Guba, 1985), but there were some key differences. Although some cases studies did occur simultaneously, not all ran during the same teaching term. However, regardless of who was researching, the entire team met regularly to discuss progress in their case and to share findings and insights. In addition, as interview and focus group data were collected, the team leaders and research assistant (separately) read and re-read the transcripts. Through a process of inductive reasoning, emergent themes were identified (Braun & Clarke, 2006) and then reported, discussed, and debated at the regular project team meetings. At the end of the first year, the team held a retreat day to consolidate findings and interpretations.

**Overview of the Four Case Studies**

The four case studies were as follows:

- *Earth and Ocean Sciences*, first year, 160 students, blended learning
- *Professional Education*, postgraduate, 7 students, virtual classroom, fully online
- *Screen and Media Studies*, first year, 220 students, blended learning
- *Academic Literacy Skills*, pre-degree, 2 classes (40 and 120 students), blended learning

The *Earth and Ocean Sciences* case study investigated a pedagogical approach in which physical and virtual activities were combined so as to develop students’ geo-scientific thinking and practical skills. In particular, this included students’ ability to think spatially (Black, 2005), develop a geoscientist’s understanding of time, view the earth as a complex and inter-related system, and develop the necessary skills to conduct fieldwork. Google Earth was used by students during lab time and in conjunction with maps and aerial photos to examine landforms and other physical objects around campus and at nearby locations. This lab work helped students develop their skills with Google Earth so that they could visit (virtually) the geographical places referenced in lectures and labs prior to their fieldtrip to a West Coast ocean beach. As part of the fieldtrip activity, students were expected to compare expectations, determined from the virtual pre-visit, to the physical reality of the site, but moreover, students could then revisit the site (using Google Earth) after they returned to the classroom. The lecturer believed that having an ability to enhance physical activities through pre-planning, to compare measurements of spaces obtained in Google Earth with the reality of outdoor places, and to review fieldwork could supplement the pedagogical richness of students’ experience.

The *Professional Education* case study investigated the efficacy of using a real time, web-based virtual classroom environment in the teaching of a fully online postgraduate course...
in the professional practice of eTeaching. Adobe Connect, a web-based synchronous communication application, supports various facilities often found in traditional (physical) meeting rooms and allows users to share, collaborate on, and present work to other participants in real time. The lecturer wanted to determine if participants perceived added value from the shared online experience and developed a sense of belonging to the class group (Moore, 1997). The students’ task was to develop, implement, and evaluate an eLearning initiative of their choice, based on a personal or institutional need or opportunity. During the students’ first virtual classroom session they presented their initial project ideas and received peer and lecturer feedback about their goals and implementation approach. The second virtual classroom session required students to outline their approach to implementing and evaluating their eLearning initiative, based at least in part on feedback from the first virtual classroom experience. The lecturer hoped that a stronger cohort would develop, which could alleviate feelings of distance or alienation within the fully online instructional environment.

The Screen and Media Studies case involved the adaptation of an existing curriculum from one based on the use of proprietary graphics software, Adobe Photoshop, to one in which an open source software (OSS) graphics package, the GNU Image Manipulation Program (GIMP) was used within Moodle, the University’s learning management system (LMS). GIMP offered students freedom of access to a graphics tool so that they could either download the software to their own computers or use it within a university computer lab. Previously, all students had been restricted to use of the proprietary Adobe tool in the labs, which, given the large class size, placed intense scheduling demands on the instructor; there was also no flexibility in the pace at which students had to complete assessed tasks. In the new OSS environment, teaching resources were redesigned so that more confident or experienced computer-using students could work through the revised curriculum materials at their own pace in the Moodle environment. Meanwhile face-to-face instructional time in the computer labs could then be devoted to helping less-experienced students develop the requisite image processing skills needed to complete assignments. The increased flexibility of the learning environment was further supplemented by the removal of the due date for the compulsory GIMP layering assignment so that students could assume control over the pacing of their own work.

The final case study was based in a one-semester, pre-degree academic literacy skills certificate program designed to assist people who had just missed achieving university entrance or people who had been away from formal study for some time and felt unsure about their academic preparedness. Students met their teachers five days a week for classroom-based instruction, and teaching resources were predominantly paper-based. Although students in the program were familiar with the use of computers and hand-held mobile technology for social networking, they had weak information literacy competence and often struggled to master skills like paraphrasing, researching, referencing, and the structuring of information into cohesive prose. In order to provide supplementary resources to the in-class teaching, students were introduced to a variety of interactive online workshops, based Moodle and developed at the University for general student learning support. The workshops targeted areas like the essay writing process, paraphrasing, and time management. The instructor believed that students could use these resources, in their own time, to extend and reinforce skills being taught in the classroom, and in addition, to foster a sense of independence and autonomy – skills that students would need in formal university degree study.

Discussion and Implications

A number of key themes have emerged from the project. For example, ICT/eLearning

• provides effective means for dealing with diverse and changing tertiary cohorts, but needs careful curriculum design and monitoring;
• helps expand and transform students’ preconceived notions of legitimate subject-area con-
content and its representation;

- contributes to and supports students’ developing sense of professional identities within their particular fields of study; and
- helps bridge students’ conceptual, visual, and spatial thinking from the virtual to the real world.

However, some findings were not as positive as these. For example, not all students enjoyed using technology as it challenged them to conceptualize new and different ways of learning. Moreover, across all case studies technology failed to stimulate the development of learner autonomy in the ways we had anticipated. It is this last finding that will be discussed in more detail here as it links particularly well into the first key theme, which emphasizes the importance of pedagogy.

Because Google Earth is freeware and readily available, the lecturer assumed that learning to use it would be easy and that students could master it on their own. In fact, this was not the case and students reported the need for much more structured guidance from lab tutors in how to use Google Earth to complete the assigned tasks. In Screen and Media Studies, the lecturer’s decision to permit students to submit a compulsory assessment at their leisure was not successful. Although the task was given at the beginning of the course, the majority of the assignments were submitted in the last three days of the semester. In fact, students complained about the lack of a deadline and recommended that the lecturer reintroduce one in the following year.

In the pre-degree case study, in spite of frequent researcher and teacher requests to students to use the online interactive workshops, almost no-one did. In this case, the student survey data proved illuminating in that the pre-degree students were far more negative than the other research cohorts in their perception of the value of technology for learning. Upon reflection we concluded that this group, which faced a number of challenges related to learning and self-confidence to learn, were possibly not ready for the self-paced independent work required in the online workshops. Rather, students valued and needed a much more traditional, face-to-face relationship with their teacher. In the postgraduate Professional Education case, learners had different feedback regarding learner autonomy. Although these students did report an enhanced sense of connectedness from the virtual classroom experience, they also felt a diminished sense of learner autonomy since they all had to be online at the same time. Synchronous communication can run counter to many students’ preferences for asynchronous online learning in their own time, at their own pace. This finding can have important implications for the design of similar fully online programs.

Conclusion

As stated earlier, the findings from this research are consistent with those reported elsewhere (Blin & Munro, 2008; Garrison & Akyol, 2009), and are centered on issues of pedagogy. What was particularly valuable in this project, however, was how the ‘team environment’ afforded the researchers multiple opportunities to discuss and ‘re-think’ their pedagogy and technological assumptions. In particular, team members realized the importance of contextualizing software tools within the learning expectations of the specific cohort (from pre-degree to postgraduate) and students’ competencies and literacies. In addition, although all of the researchers were experienced computer-users, the degree of up-skilling involved in preparing for teaching and using new software within their cases was non-trivial. Each researcher needed to test their software, adapt it to their teaching context, and in most cases, prepare documentation to accompany software use – making the initial setup time considerable. We would conjecture that for many academics, for which eLearning is not a top priority, such demands could present an insurmountable hurdle. On several occasions in project meetings, team members remarked that it was their determination to make the eLearning approaches succeed that helped maintain their motivation, but they also stated that it was the presence and encouragement of the larger group that
inspired and encouraged them to persevere.

A challenge then for tertiary institutions will be to create teaching and learning environments that encourage, support (with appropriate levels of resourcing), and reward research that focuses on enhancing pedagogical change and improved learning outcomes regardless of the discipline. In addition, there must be support for innovative ICT/ eLearning pedagogy so that it is not considered a time-consuming ‘add-on’ to lecturers’ work, but is a valued component of tertiary pedagogy. Although tertiary institutions expect staff to be active researchers within their particular subject-area contexts, there often appears to be less encouragement or value assigned to research that explicitly relates to deeper knowledge of pedagogy in its own right. Developing institutional structures within which cross-disciplinary conversations can flourish will extend and deepen tertiary pedagogy and contribute to the scholarship of teaching and learning (Shulman, 1999; Whitworth, 2006) so that meaningful learning can occur – arguably the intended objective of all pedagogical undertakings.

Acknowledgements

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References


Biography

E. Marcia Johnson has a Ph.D. in Educational Technology from the University of Toronto. She is currently Director, Student Learning, Faculty of Education, University of Waikato, Hamilton, New Zealand.
Communities of practice are becoming more widespread within higher education, yet little research has explored how these social learning networks can enhance faculty development. The focus of this paper is to describe the first-year experience of a community of practice initiative at McMaster University that was designed to engage groups of faculty, staff, and students to share ideas and foster learning. Four communities were initiated: Teaching with Technology, Teaching Professors, Pedagogy, and First Year Instructors, all of which provided a forum of safety and support, encouraging new ideas and risk taking that in turn contributed to individual and collective learning. Though in its early days, we consider communities of practice an innovative way to regenerate current learning and surface teaching practices that can build dynamic academic communities to foster faculty and staff development. Communities of practice have enabled us to reach beyond formal structures (e.g., classrooms) to create connections amongst people from different disciplinary boundaries that generate learning and foster development.

Introduction

Communities of practice are becoming more widespread within higher education. According to Wenger (2006) their success depends upon the intersecting goals and interests of individuals and institutions. While the models of learning that support communities of practice have been shown to facilitate social engagement and collaborative approaches to learning, there is little research that specifically explores how these social learning networks enhance faculty development. The focus of this paper is to describe the communities of practice initiative at McMaster University that was designed to engage groups of faculty, staff, and students to share ideas and foster learning through professional development (i.e., activities that improve and increase knowledge).
Using Communities of Practice to Foster Faculty Development in Higher Education

begin with a description of the model of communities of practice, integrating an introduction to concepts related to situated learning theory that has guided the McMaster University experience, and then provide supporting evidence for how our community of practice model supports faculty development. We conclude with a discussion of our goal of evolving a sustainable set of communities of practice for individuals who have a passion for teaching and learning in higher education.

Using a Community of Practice Lens

Communities of practice, also referred to as ‘learning networks,’ are formed by groups of people who share a concern, set of problems, or a passion about a topic and strive to engage in a process of collective learning (Wenger, 2006; Wenger, McDermott, & Snyder, 2002). Essentially communities of practice are groups of people who share a passion and want to improve their practice by interacting regularly with others. A central aspect of a community of practice is that learning can be the reason for the community or an incidental outcome of the interactions of the members within the community (Wenger, 2006). The term community of practice has its roots in a model of learning based on apprenticeship, whereby members learn through a process of acculturation into a community, gradually assuming increased roles and responsibilities within the socio-cultural practices of a community (Chapman, 2008). The basis of communities of practice within this model of learning serves to distinguish them from simply being a group with a common interest.

Communities of practice can exist in numerous settings, ranging from educational institutions to corporations. Regardless of the setting, they are based on three structural characteristics: (1) The domain is the common ground, which provides a sense of identity and purpose. Membership in the community implies a commitment to the domain and inspires members to contribute and participate; (2) The community is the engagement by members in activities and discussions that are aimed at helping each other and sharing information, thereby fostering a social learning environment. This interaction between members and shared learning is essential; and (3) The practice is a shared body of knowledge and repertoire of resources which include experiences, stories, tools, ways of addressing problems – in short, best practices. The combination of these three elements constitutes a community of practice, and the development of them in parallel cultivates such communities (Wenger et al., 2002).

The aspect of identity-construction that is common to the domain and community structures of the community of practice model should not be understated. Situated learning theory, on which the community of practice model is based, argues that the cognitivist approach to learning fails to recognize that learning is not simply about accumulating and developing abstract knowledge (Lave & Wenger, 1991). Context and learning should be embedded within particular social and physical environments. In this way learning is thought of as emergent and involves opportunities to develop an identity within a community, which in turn fosters a sense of belonging and commitment (Handley, Sturdy, Fincham, & Clark, 2006). Such identity formation may continue to evolve and can be gradually shaped by the broader social relations of the multi-disciplinary communities.

Communities of practice are sustained and evolved through structured engagement in a variety of activities across disciplinary boundaries. These include, but are not limited to, problem solving, seeking experience, reusing assets, discussing developments, documenting projects, and mapping knowledge (Wenger, 2006). Most importantly, communities of practice are focused on asking questions about what works and what is possible, in line with a strategic intent (e.g., helping, knowledge stewarding, innovation). Within the university education system, there are challenges with knowledge production, retention, and distribution. Thus, there is a recognizable need and understandable interest in developing a community of practice system to focus on such challenges. It has been suggested that communities of practice affect educational practices along three dimensions: (1) Internally organizing educational experiences that ground learning in
practice; (2) Externally connecting experience within the school to actual practice beyond the walls of the school; and (3) Over the lifetime of individuals continuing their interest in topics experienced during schooling beyond the schooling period (Wenger, 2006). As such, the benefit of students, faculty members, and administrators engaging in a community of practice model to enhance knowledge acquisition and identity-construction is clear.

The McMaster University Experience

At McMaster University in Hamilton, Ontario, Canada, a core group of individuals involved with the campus teaching and learning support unit, the Centre for Leadership in Learning, recognized the value of initiating a set of communities of practice on campus. Wenger et al. (2002) suggested that the most successful communities of practice thrive when the strategic goals and needs of the parent organization intersect with the passion and interests of the community’s members. This was certainly the case at McMaster University, as evidenced within two key documents, Refining Directions: Inspiring Innovation and Discovery (McMaster University, 2003) and the Task Force on Teaching and Learning's Initial Observations and Recommendations (McMaster University, TOTAL, 2008). A key objective within these documents involved the creation of an inclusive community, and re-establishment of a commitment to scholarly teaching and learning at the University and beyond. With this in mind four communities of practice were initiated at McMaster: Teaching with Technology, Teaching Professors, Pedagogy, and First Year Instructors.

Each of the communities of practice at McMaster provide a forum of safety and support that encourages the generation of new ideas and risk taking, in turn contributing to the learning experience of members. The communities provide an opportunity for faculty to engage in cross-disciplinary scholarly discussion of their pedagogical practices. For example, the Teaching with Technology community, which is geared towards technological innovation, provides a community for individuals who use technology or classroom technologies to improve the quality of student learning. At community meetings, members share specific successes, enabling other community members to not only discover new applications, but also learn how to apply the technology ideas into their own teaching practice. The use of artifacts has been a central ingredient to the development of our communities of practice. It is also evident within the Teaching Professors and First Year Instructors communities whose strategic intent is knowledge stewarding. In these communities, members focus on networking opportunities, exploration of issues related to their teaching and learning, and sharing of specific teaching strategies. Again, this allows community members to gain teaching tips and concrete approaches to implementing them into their classrooms. Complementing these communities is the Pedagogy community, which is aimed at examining good practices within university teaching through scientific study. This group has afforded individuals the opportunity to present research to a group of people who share a similar interest and can provide meaningful feedback, thereby inspiring future directions and collaborative efforts.

As is evident, the domains of the communities at McMaster differ. In some cases the domain is more role based (e.g., Teaching Professors), while sometimes it is more topic based (e.g., Teaching with Technology). As a result of these differences we encourage people to become members of multiple communities. This allows for greater knowledge sharing and promotion of good practices, which are both clearly aligned with achieving the goals of the University. Sharing good practices in teaching and learning, a domain common to the McMaster University communities of practice, is one of the fundamental principles of the Scholarship of Teaching and Learning (SoTL; see Boyer, 1990; Kreber, 2002).

The communities of practice at McMaster are approaching their first anniversary and as such are in the early stage of their life cycle. It should be noted that at this stage, a significant amount of focus is given to cultivating and nurturing the communities toward developing a membership and addressing the current problems and needs of those members. At
Using Communities of Practice to Foster Faculty Development in Higher Education

McMaster, this has lead to the development of both public and private community spaces for members. Events, formal presentations, and resources are made available to members at face-to-face meetings and through the community’s virtual space within the campus learning management system. Creating a blended environment with balance between these public and private spaces is integral to strengthening individual relationships between community members and in turn strengthening the community as a whole.

Fostering Development Within Higher Education

Those who have participated in the communities of practice initiative at McMaster University describe how the experience was vital for connecting with different individuals across campus. The communities fostered individual and group development by providing a ‘safe place’ for members to inquire into topics and reflect upon practice with individuals who shared similar goals and interests – factors that are considered integral to a communities of practice approach to professional development (Blanton & Stylianou, 2009). Many members believed the measure of success was having a metaphorical space to share ideas with colleagues and reflect upon how these ideas could be applied in their own classrooms.

The multi-disciplinary composition of the communities facilitates varied perspectives on teaching, learning, and research that provided richer relationships and innovative ways of experimenting with classroom strategies. More experienced members provide seeds for enculturating novice members into the socio-cultural practices of the community, which promotes an atmosphere of learning and change. Newcomers gain access to the community’s professional knowledge in authentic contexts through encounters with people, tools, tasks, and social norms. For example, the Pedagogy community of practice invited a well known researcher to discuss his research on the use of multiple-choice testing in higher education. Following the discussion, one graduate student in attendance worked with and encouraged the instructor for whom she was a teaching-assistant to assess (and improve) his multiple-choice test questions. The resulting adjustments made to his test questions have provided an improved, more reliable assessment of his students’ learning. This interaction has encouraged the instructor to attend the regular meetings of the Pedagogy community of practice, which has certainly provided numerous other evidence-based examples for improving his teaching practices. As our communities continue to evolve, we learn more about the ways in which they organically emerge and how particular structures and processes enhance faculty development. For example, a registrant attending the first Centre for Leadership in Learning writing retreat, identified the need for ongoing peer support and writing skills development and later formed a writing community. The newly formed writing community is structured using a writing exchange and critique process, whereby members are paired up to review and provide constructive feedback on each other’s writing. Examples such as these illustrate how our communities provide the ground on which new ideas germinate, new methods and tools are developed, and new communities are rooted. Through informal mentoring and participation, scholarly conversations can begin that examine existing views and assumptions related to teaching and learning.

Conclusions and Future Directions

Though in its early days, we believe communities of practice are an innovative means of regenerating current learning and teaching practices and a particularly appropriate way of building dynamic academic communities that can foster faculty and staff development. As we write this paper, new communities have sprung up at McMaster, each with its own particular purpose and role: Writing, Post-Doctoral Fellows, Instructional Assistants, and Accessibility. Each new community provides space for enabling faculty members, staff, and students to become scholars of teaching. Regardless of the form each of these communities of practice
take, they will enable members to collectively take responsibility for managing knowledge they need, creating a link between teaching and learning, as well as addressing aspects of knowledge creation and sharing. Communities of practice have enabled us to reach beyond formal structures (e.g., classrooms) to create connections amongst people from different disciplinary boundaries. Our experience thus far has shown that engagement in these practices generates learning and fosters faculty development.

References


Biographies

Christopher Teeter is a Ph.D. Candidate in Psychology, Neuroscience, and Behaviour at McMaster University. Interests include multimedia (slideware) design, multiple-choice testing, and the role of body-based in spatial memory.

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Utilizing Science Outreach to Foster Professional Skills Development in University Students

Edward Eng & Catherine Febria
University of Toronto Scarborough

Students seek unique experiences to obtain and enhance professional development skills and to prepare for future careers. Through the Let’s Talk Science Partnership Program (LTSPP), a voluntary science outreach program at University of Toronto Scarborough, students are given the opportunity to continually improve on skills which include: the “3 Cs” (creativity, communication, cooperation), and leadership and organization skills through hands-on activities in classrooms and community centres across the city and in isolated rural communities. Volunteers serve as mentors, and frequently transfer knowledge related to their research and coursework to youth. Here, we present results from surveys on current and past volunteers (2004-2010). Volunteers were asked to evaluate the value of the skills they obtained through science outreach, and the relevance of those skills to obtaining current work and achieving long-term career goals. Respondents commented on the effectiveness of the skills they obtained and ranked the transferable skills. We show that volunteer work through LTSPP largely improves their communication and confidence skills. As well, students identified clear links between science outreach and professional goals, and highly recommended LTSPP to others.

Introduction

Science outreach is one way for university students to develop transferable skills that are necessary for any future career. Students are encouraged to participate in extra-curricular activities to enhance their academic experience and activities such as science outreach and communication can also improve learning and comprehension. Universities, like the University of Toronto Scarborough (UTSC), have also recognized the importance of providing students with a sense of responsibility to their community and have committed to enhancing the student experience to include more than just academics, but also service, leadership, and communication (Dolan, 2009). At the UTSC, few outlets existed
for students to enhance their student experience or
develop other skills outside of their research and
academic programs. The UTSC’s Let’s Talk Science
Partnership Program (LTSPPP) represents one of the
few opportunities for students to learn, develop
skills, and grow outside of their required studies. In
this work, we sought to understand the impacts of
volunteer science outreach experiences on past and
current volunteers of the program.

Let’s Talk Science Partnership
Program (LTSPPP)

Let’s Talk Science is a national charitable organization
that seeks to develop and deliver engaging science,
engineering, and technology education to children and
youth through hands-on, interactive programming.
The Let’s Talk Science Partnership Program is based
out of Canadian universities. Coordinators partner
university students with educators and students in
the community to do hands-on science activities
with children and youth in schools, libraries, and
public community events. Incoming volunteers to
the program receive Science with Impact™ training
before conducting activities. The UTSC site was
initiated in 2004, and began with one coordinator
and five volunteers. Due to ongoing support from
the community and University administrators, the
program has now expanded to three coordinators and
over 100 volunteers. Volunteers in the program at
UTSC range from first-year undergraduates to senior
graduate students, and come from various academic
disciplines (science and non-science related). This
provides a unique platform that enables the sharing
of knowledge and expertise across disciplines, as well
as interactions between junior and senior volunteers
of the program. Currently, on average, volunteers
participate in about 3-4 science events, reaching over
2000 students, per year.

Data Collection and Analyses

To assess the opinions of LTSPPP volunteers, three
different surveys were distributed to volunteers at
different stages of volunteering: students who were
beginning volunteer training; students who had
completed at least one year of volunteer activities
with LTSPPP; and experienced undergraduate and
graduate students who volunteered with LTSPPP
between 2004 and 2009. A sample of the survey
can be found in the Appendix. A total of 34 surveys
were collected and analyzed. Overall, respondents
ranked their perceptions of the skills they obtained
through volunteering and commented on the quality
of their volunteer experiences. The skill categories
examined in the study can be found in the Appendix.
The ranking on how much each skill category was
enhanced was based on the following Improvement
Score scale: 1 - not at all; 2 - very little; 3 - somewhat;
4 - quite significantly; and 5 - very significantly. All
responses were tallied and analyzed using Microsoft
Excel software. A statistical t-test was used for
analyses of the data for each skill category when
comparing between undergraduate and graduate
volunteers, active and non-active volunteers, and
novice and experienced volunteers.

Results

Distribution of skill enhancement of Let’s
Talk Science Partnership Program volunteers
at UTSC

Of the survey respondents, 14 were graduate students
and 20 were undergraduate students. Ten respondents
were alumni members and 24 were current active
volunteers. The respondents conducted an average of
five events per year. Taking all of the volunteers into
consideration, of the 14 skill categories studied, the
volunteers found their communication, presentation,
interaction/engagement, and mentorship skills were
most enhanced, whereas their reading/writing skills
were least enhanced (Figure 1).

Comparison of skill enhancement between
undergraduate and graduate volunteers, and
active and non-active (alumni) volunteers

It is of interest to investigate whether particular
groups of volunteers would find similar or different
skill sets being enhanced when comparing volunteers at different education or career levels. When comparing undergraduate and graduate students for each skill category, no significant difference was found. However, when looking at the general trend based on the improvement scores, graduate students ranked having enhanced mentorship and presentation skills through LTSPP. On the other hand, undergraduate students enhanced mainly their communication, presentation, and interaction skills through volunteering (Figure 2A). When comparing between alumni and active volunteers, creativity skills was found to be significantly more enhanced in alumni compared to active volunteers (p < 0.05). Also, with respect to the improvement scores, alumni found that they benefitted most from improved mentorship, presentation, and organizational skills for their careers, and active volunteers benefitted most from improved communication and presentation skills (Figure 2B). The skills that were least enhanced by LTSPP included reading/writing, problem solving and critical thinking skills (Figures 2A and 2B).

Comparison of skill enhancement between experienced and novice volunteers

In addition to differentiating the impact of skill enhancement of the volunteers based on their education/career level, the amount of participation (which includes number of years and number of events) in the LTSPP program should be examined as well. This would determine which specific skill sets are enhanced at various stages within the program. When comparing volunteers that have been in the LTSPP program for more years to volunteers that were in the first year of the program, those with more years of experience found mentorship skills to be significantly enhanced compared to those with less than one year of experience (p < 0.05) (Figure 3A). On the other hand, no significant difference was observed for each
Utilizing Science Outreach to Foster Professional Skills Development

**Figure 2A**
*Comparison of Skill Enhancement Between Undergraduate and Graduate Volunteers in LTSPP*

**Figure 2B**
*Comparison of Skill Enhancement Between Active and Non-Active (Alumni) Volunteers in LTSPP*
Figure 3A
Comparison of Skill Enhancement Between Experienced and Novice LTSPP Volunteers

Figure 3B
Comparison of Skill Enhancement Based on Number of Events Conducted by LTSPP Volunteers
skill category when comparing between volunteers that have done more or fewer activities (Figure 3B). When looking at the trend of the improvement scores, more experienced volunteers felt that LTSPP improved their presentation and mentorship skills, whereas more novice volunteers felt an improvement in communication and interaction skills (Figures 3A and 3B).

**Discussion and Conclusion**

Volunteers attributed improvements to several transferable skills to their involvement with LTSPP. The overwhelmingly positive remarks by respondents can be accredited to several possible reasons. LTSPP provides an opportunity to learn without risk of failing or competing for grades. In this process, volunteers are encouraged to learn varying activities and the science behind them. Through communicating with students at elementary and high school levels, volunteers are regarded as experts or knowledgeable in a given topic, and encourage volunteers to see themselves as being qualified, smart scientists. Additionally, volunteers communicated an appreciation for being affiliated with a national science organization and university. As a result, confidence and interest in science is supported through LTSPP.

Enhancement of the four main skills volunteers identified (i.e., communication, presentation, interaction and mentorship) can be potentially attributed to the nature and mode of delivery of the various science outreach activities and demonstrations. LTSPP activities tend to involve volunteers working together in pairs or groups who present in front of a group of students on a basic science topic. Successful delivery of the activity often requires active interaction and communication between the participating volunteers, with more experienced volunteers leading less experienced ones, as well as intensive preparation of how the material will be presented to the students. Consequently, the volunteers are frequently encountering and developing these four main skills in each activity they take part in. Reading and writing skills were found to be least enhanced since the bulk of the activities required only some basic science background knowledge to carry out, in particular for the lower grade levels. Since most of the participating volunteers tended to have some knowledge of basic science, there was not a huge necessity to neither extensively read up on the literature or take down lengthy notes from the literature review on the science topic they were presenting; although some brief review was generally required for mastery of the topic.

When comparing the specific groupings of volunteers, both undergraduate and graduate students thought to have improved on their presentation skills, but graduate students found mentorship skills also improved, compared to communication/interaction skills for undergraduates. Undergraduate education at large universities usually have large classes with multiple choice exams as the main mode of assessment in the lower years, while gradually moving to smaller classes with labs, assignments, and presentations in the upper years. In doing so, this has limited the opportunities for undergraduates to build on their communication and interaction skills until they are closer to their year of graduation. Hence, LTSPP provides an outlet that enables the undergraduates to improve on these skills. On the other hand, graduate students would have already undertaken the undergraduate curriculum and would then be seen more as the ‘mentors,’ as they would be able to provide guidance and the sharing of knowledge and skills with undergraduates. It is interesting to note that when comparing active volunteers with alumni, in which the bulk of the alumni were now currently employed in a career, creativity was significantly enhanced for alumni. This could be resulting from the numerous experiences they had encountered during their tenure as LTSPP volunteers, as well as the skills they developed through the program, that has now enabled them to intricately transfer those skills and experiences and apply them in their own workplace. Finally, when comparing novice and experienced volunteers, experienced volunteers mimicked the trend seen for graduate students and novice volunteers mimicked the trend seen for undergraduates in terms of skills enhancement. In particular, the significant difference in experienced volunteers having more enhanced mentorship skills compared to novice volunteers further strengthens
the notion that volunteers that have been in the program longer or have a higher education level tend to take on the mentorship role to support and guide other volunteers in their outreach activities.

It is also interesting that in most cases, volunteers did not strongly associate problem solving and critical thinking skills with volunteering through LTSPP. Although these skills are often exercised throughout a given activity (e.g., time management, adapting activities for a specific class, trouble-shooting protocols, or equipment), it appears that volunteers felt that the communication and presentation skills were more important. Respondents also commented on how the program did not directly lead to career options but did improve their confidence and skill set when seeking new jobs either during university or upon graduating. All respondents felt that the LTSPP program was a superior program for science outreach and career skills and professional development.

The following are quotes from volunteers of the LTSPP program at UTSC that help exemplify the success of the science outreach program in enhancing their professional skills:

“It has allowed me to present material in a fun way with clarity and confidence, and reduce my level of anxiety when speaking in front of an audience.” [third-year undergraduate student in Human Biology]

“It has enhanced my connection to my community.” [fourth-year undergraduate student in Cell and Molecular Biology]

“It has made a huge difference in my life, as I obtained and enhanced many skills and developed a new passion for science and teaching.” [fifth-year doctoral student in Biology]

“The program is very diverse and is a great way to gain communication skills.” [first-year undergraduate student in Integrative Biology]

“I enjoyed working as a team with other teammates and improved my organizational skills.” [first-year masters’ student in Environmental Sciences]

Overall, LTSPP at UTSC was largely successful in improving the communication, presentation, mentorship, and interaction skills of volunteers, regardless of their program (i.e., graduate or undergraduate), their experience in the program, or their status (alumnus versus active). In particular, the enhancement of mentorship skills was shown to be significantly different between novice and experienced volunteers, with greater enhancement in experienced volunteers, and alumni of the LTSPP program believed their creativity skills were significantly enhanced. Confidence and interest in science as a discipline was also a positive benefit for volunteers. This study demonstrates how experiences in university that occur outside of the classroom are viewed as being beneficial to university students. Future work could address whether student experiences are enhanced due to these opportunities, if it improves their academic performance, and also whether administrators perceive this program as being beneficial to the university student experience.

Acknowledgements

Funding for this research was provided through the Let’s Talk Science Partnership Program and the Office of the Vice Principal (Research) at University of Toronto Scarborough. We would like to thank the volunteers and coordinators of the Let’s Talk Science Partnership Program at University of Toronto Scarborough, the Let’s Talk Science National Office, and the educators for their time and efforts.

References

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Biographies

Edward Eng and Catherine Febria are both former Let's Talk Science Partnership Program coordinators, Teaching Assistant Training Program trainers, as well as Ph.D. candidates in the Department of Biological Sciences at University of Toronto Scarborough. Edward is also a lecturer for a science engagement course at University of Toronto Scarborough.
Appendix

Sample LTSPP Survey Used in Data Collection

Let’s Talk Science Partnership Program: Post-Survey

1. Current occupation and description of work (if applicable):

2. Program(s) of study and number of years at UTSC:

3. Volunteer experience in Let’s Talk Science at UTSC:
   ____ year(s) and ____ month(s)

4. Approximately how many LTS events did you do per year? ______
   and approximately how many LTS events did you do in total? ______

5. Prior volunteer experience (not including LTS and current volunteer work).

6. Prior work experience (not including graduate school and current occupation)

7. What were your impressions of LTS before you started?

8. What are your impressions of LTS now after your participation in the program?

9. What key skills did you obtain or build through volunteering with LTS?

For the following skills/attributes listed, please indicate how much the LTS program had affected or enhanced you in.

1 – not at all, 2 – very little, 3 – somewhat, 4 – quite significantly, 5 – very significantly

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<th>Skill</th>
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Utilizing Science Outreach to Foster Professional Skills Development

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<td>Reading/Writing</td>
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10. Did volunteering with LTS help or influence your current career/career goals or your long-term career plans? If so, how?

11. Do you still volunteer in general now? If so, please describe (If also still volunteering for LTS, please state).

12. Would you recommend LTS to others for career-building and professional development skills?

13. Additional comments.

I understand that the results of this survey will never be connected to my name, I AM willing to have them included in the data for a research study

Although I understand that the results of this survey will never be connected to my name, I do NOT wish to have them included in the data for a research study
Peer Review: Structured, Informal, Confidential, Helpful!

Alice Cassidy
In View Education and Professional Development

Jack Lee
University of Toronto

This paper describes an introductory workshop, Preparing to be a Peer Reviewer, presented at the University of British Columbia (UBC) to give hands-on practice to faculty members and others in order to provide formative peer review upon request. This workshop, which was designed at the request of a faculty member, is complemented by an Advanced Workshop for peer reviewers. We show the ways in which we actively involved Society for Teaching and Learning in Higher Education (STLHE) conference participants in a session to learn about the introductory workshop, and talk about peer review more generally. We briefly describe the Peer Teaching Network, created in the Faculty of Science, as an adaptation of the initial introductory workshop.

Introduction

Peer review of teaching is a form of evaluation designed to provide feedback to instructors about their teaching. This process is an important component of developing one’s teaching practice and being self-reflective. Related terms include peer evaluation (used at Ryerson University, the University of Saskatchewan, and the University of Western Ontario), peer observation (Bell, 2002; Gosling, 2002), reciprocal observation (Pressick-Kilborn & te Riele, 2008), and observational feedback (MacKinnon, 2001).

In recent times, there has been much written about peer review and models developed both

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1 This paper is based on work done by Alice Cassidy, when Associate Director, Centre for Teaching and Academic Growth (TAG) and Jack Lee, when Research Assistant, Science Centre for Learning and Teaching (Skylight), both at the University of British Columbia, Vancouver, British Columbia.
within disciplines, within a faculty, across disciplines, in campus-wide programs. Iqbal (2010) has explored aspects of departmental culture(s) that can hinder and/or support faculty members’ engagement in the peer review of teaching.

The Center for Excellence in Learning and Teaching at Iowa State University (n.d.) conducted a literature review of peer evaluation of teaching, with links to best practices. Peer review has gained prominence internationally and for online teaching as well, such as through the Australian Learning and Teaching Council (n.d.). Johnson (n.d.) provides many more peer review resources and links on a blog at the University of British Columbia.

Here, we describe a campus-wide program, consisting of a four-hour introductory workshop entitled, Preparing to be a Peer Reviewer, and a four-hour Advanced Workshop. We also show an example of a model adapted for use within the Faculty of Science called the Peer Teaching Network.

Background

Our campus-wide program grew from a request, in 2006, to help a colleague with a project funded for one year by the Teaching and Learning Enhancement Fund (TLEF) within the Faculty of Dentistry. Janice Johnson and Alice Cassidy designed an introductory workshop to prepare faculty members within that Faculty to conduct peer review. Planning for the future, we also designed an advanced workshop as one form of ongoing professional development for peer reviewers.

Over the next two years, other colleagues joined us, with further TLEF funding. Hence we expanded to offering Preparing to be a Peer Reviewer workshops to colleagues in the Faculties of Medicine and Applied Sciences. This also allowed for greater discipline diversity within the Advanced Workshop. In 2009 and 2010, we also led workshops specially requested by the Faculties of Science and Pharmaceutical Science. In 2010, we moved peer review workshops to our campus-wide teaching-support centre, then called the Centre for Teaching and Academic Growth (TAG) and now the Centre for Teaching, Learning and Technology (CTLT), where we also started a community of practice to encourage colleagues from across campus to become involved. To date, we have led approximately 12 introductory workshops and three advanced workshops.

Jack Lee, when working at Skylight (n.d.), a teaching support centre within the Faculty of Science, took the introductory workshop through TAG, adapting aspects of it for application to a new Peer Teaching Network within his Faculty.

Campus-Wide Workshops

Preparing to be a Peer Reviewer is four hours and accepts up to 12 participants. It is experiential, based on practicing skills used in an actual peer review. These include three key components: pre-class meeting, in-class observation, and post-class meeting. Summaries of materials co-created during the workshop are shared with participants for their use when conducting peer reviews. The workshop includes the following sections:

- Who are you? Your experience?
- Your questions
- Goals and process overview
- Pre-class meeting: active listening
- Post-class meeting: use of phrases
- Helping trios: scenarios role play and observations
- In-class observation: 10-minute lesson, then pairs role-play being reviewer and reviewee
- Top ten list: summarize workshop
- Your feedback

Jack Johnson and Alice Cassidy first designed question sheets for each of the three key components for use during a peer review, then built the workshop around these. A fourth component of our model, the Report, is the written version of the three components. All forms, as well as other details about the workshop are available through the Peer Review Teaching Process webpage at UBC (n.d.).

As Instructional Skills Workshop (n.d.) facilitators and trainers, Janice and Alice know the
value of people having control over what they might otherwise see as the very high-risk activity of having a peer sit in on their teaching. Hence, we designed the question sheets such that it is the reviewee who decides what and how they wish feedback. We see this as a key principle of effective peer review.

Our peer review model is voluntary and expected to be used for formative assessment. As members of the teaching community hear about the program, through web advertising and other promotion, they contact the program to request a peer review. We ask that reviewees choose one reviewer, who has taken our workshop, from within their own faculty (if one exists) and a second reviewer from another faculty. They may wish to have both reviewers attend the same class of their choosing, or have each reviewer attend a different class.

The reviewee is the only person who receives the materials from a peer review. They are confidential to them, and they are free to do with them what they wish, including destroying them if that is their wish. More often, reviewees choose to include the materials in a teaching portfolio or application for a teaching position, promotion or tenure.

The Advanced Workshop, also four hours long, is designed as ongoing professional development for peer reviewers, focusing on challenges supplied by workshop participants and based on their actual experiences in conducting peer review. Role-play, and small and whole group discussions focus on successes. All material is summarized and distributed to participants for use in their peer review work. We ask that participants have conducted at least two peer reviews as a prerequisite for participation.

The STLHE Conference Session: How We Involved Participants

During the conference session, Alice first facilitated discussion about the three key components of Preparing to be a Peer Reviewer by handing out cards on which each of the components were printed. She asked people to form small groups and talk briefly about what that component meant to them, from the perspective of either being reviewed or conducting a review. She also asked them to talk briefly about the value of the component. Here is a summary of each key component and the shared contributions about each (and, in brackets, Alice’s responses to particular contributions):

Pre-class meeting: What would you like feedback on? To establish collegiality; To determine expectations.

In-class observation: Observe the students as part of your feedback to presenter; Observe the class, both what the students and the instructor are doing; What happens between student and their environment and teacher and their environment; Get feedback from students? (We talked about this, though it is not part of this peer review model, there is great value in doing this. At UBC, we offer Small Group Instructional Feedback (SGIF) that serves this purpose.)

Post-class meeting: Does it take place? (Yes, in our model, it is an integral part of the peer review); Ask instructor what they did in the class that they thought went well, or maybe did not.

Alice then modeled an exercise from the workshop that also serves to focus on the pre-class meeting. She presented a definition of active listening: “To hear accurately what is being said and to understand the intended meaning without judging” [Adapted from Centre for Curriculum and Professional Development (1993), used with permission]. During the exercise, participants formed pairs, with the person closest to a wall being first ‘speaker’ and the other person being ‘listener.’

The speaker talks about the following topic for three minutes: “What would you like to have happen in the pre-class meeting (from the reviewer or reviewee perspective)?” The listener’s job is to listen attentively (taking a few notes if they wish,
but not as a focus). They then have two minutes to paraphrase, check with the speaker for accuracy, and be ready to contribute to a list. Below is the list that was generated:

- Ask questions
- Establish rapport
- Get information on background of course, class, or teacher
- Talk about expectations
- Balance between what the reviewee wants the reviewer to focus on, and not narrowing it too much
- Provide context of course – what will happen in the class reviewer will visit

This list overlaps with the kinds of ideas that are generated in the actual workshop. In the workshop, we also keep the pair the same, but switch the roles, so that each participant has a chance to be both speaker and listener. After creating the list from every listener (hence, a much longer list), we ask the speakers to show, with a simple ‘thumbs up, neutral, or thumbs down’, how well they thought their listening partner listened actively. We report the findings to the group (commonly all or mostly thumbs up).

The exercise in the conference session mirrored that done in the actual workshop. And, as in the workshop, very practical ideas and examples are generated. Participants leave the workshop with practice in all three areas of the peer review process that they will soon be conducting. They also leave with many examples of things they can do and say to have the peer review experience be as helpful to the reviewee and as positive as possible for both reviewee and reviewer.

An Adaptation Within One Faculty: The Peer Teaching Network (PTN)

There are concerns about some traditional models of peer review used at the departmental or faculty level, often where the person being reviewed has no say in which class, or who comes, and usually when there has not been a meeting before-hand for the reviewee to talk about the context, learning objectives, philosophy, or other pertinent details of their class or course. Examples of concerns have been power imbalance (MacKinnon, 2001), that it is a one-way or mandated process that is often mysterious, that criticisms inhibit learning (Gosling, 2002), that it is tied to human resources decisions (Bell, 2002) usually as a summative assessment, and that the person being reviewed lacks control of the process (McMahon, Barrett, & O’Neill, 2007).

Jack Lee and colleagues at Skylight envisioned an alternative, after taking TAG’s workshop. The wish list included that the process be reciprocal, informal, collaborative, collegial, cross-disciplinary, confidential, formative, and not time consuming (no reports). In this model, two members of the teaching community pair up and visit each other’s class. Further details and a description of the process are provided through Skylight.

Preliminary feedback from 14 participants in the pilot program include the following positive attributes: working with a non-expert, opportunity to observe student dynamics, networking across disciplines, and more rewarding than previous peer review of teaching in my department. Curiously, two attributes were described by some participants as positive and other participants as negative or challenging: giving and receiving constructive feedback, and mentoring a peer. Continued work with a larger sample size could shed light on how to proceed with this adapted program.

Concluding Remarks

We have provided an overview of a campus-wide introductory peer review workshop that started from a request for assistance from a colleague in one faculty. The increase in interest in this workshop, shown by the number of faculties involved and the number of workshops requested is a sign that the workshop design seems to be a success. We feel this is so because of our model of peer review emphasizing the importance of it being voluntary, aimed at
formative assessment, and based on what the person who has requested the review wishes in terms of feedback. The workshop is hands-on and practical, providing skills that peer reviewers will use right away. The advanced workshop, though offered fewer times, is worth continuing, as an important form of continuing professional development for peer reviewers. Our example of an adapted model within one faculty, involving reciprocal peer review shows potential, based on the feedback from the pilot year.

Acknowledgements

All peer review workshop materials were co-created and co-designed by Alice Cassidy and Janice Johnson, Centre for Teaching, Learning and Technology, formerly Centre for Teaching and Academic Growth (TAG), University of British Columbia. Thanks to Isabeau Iqbal, Luisa Canuto and Judy Chan, who co-facilitated some workshops with us. We also thank Karen Gardner, Clinical Assistant Professor, Oral Health Sciences, Faculty of Dentistry, who first invited Jan and Alice to be part of the initial project, and Darlene Redenbach, Senior Instructor, Physical Therapy and Susan Nesbit, Senior Instructor, Civil Engineering for their involvement in the subsequent years of the project. This work was funded by the Teaching and Learning Enhancement Fund (TLEF) at UBC, we are grateful to all students at UBC, whose contributions make the fund possible. Thanks to Leah Macfadyen, Research Associate, Skylight, for her contributions to the references. Gary Poole, when as Director, TAG, supported and valued our work; we are grateful to him for this and so much more. Many thanks to all colleagues who attended and took part in the conference session, Peer Review: Structured, Informal, Confidential, Helpful!, at Ryerson University on June 2010. The feedback provided by three anonymous reviewers greatly enhanced this paper; many thanks to these colleagues.

References


Iqbal, I. (2010). Faculty engagement in educational development: The influence of departmental culture(s). Presentation at the annual conference of the Educational Developers Caucus (EDC), Thompson Rivers University, Kamloops, BC.


Biographies

Alice Cassidy is Principal of In View Education and Professional Development based in Vancouver, BC. For 15 years she held leadership roles at the campus-wide teaching support centre at the University of British Columbia (UBC). She co-created the campus-wide Peer Review Program at UBC.

Jack Lee is a doctoral student at the Ontario Institute for Studies in Education (OISE; Higher Education) at the University of Toronto. He co-initiated the Peer Teaching Network in the Faculty of Science at UBC.
Engaging Students in the Community as Part of Classroom Learning and for Future Benefits

Angela M. Thompson
St. Francis Xavier University

This paper shares the survey results of students’ perceptions of the benefits of their experiences with service learning. The service learning experiences were related to children and their physical growth and development and/or to children and their health education. An open-ended questionnaire was sent to 376 graduated students (representing 11 courses over six years) to gather their thoughts regarding the benefits of their service learning experiences several years after completion. Responses were overwhelmingly positive with the most prevalent themes relevant to educational and career goals: “confirmation of future goals,” “practical skill development,” and “enhance my resume and/or application to a particular field of study/occupation.” Given these findings, service learning should be included in post-secondary education not only for the practical experiences that link theory with reality, but also for the potential benefits to students’ future career and education.

Introduction

In this paper, service learning is defined as volunteer work in response to community need combined with a reflective assignment. In this regard, service learning provides students with an opportunity to test “theory” against “reality” (Barrow, Hofrenning, & Parkhurst, 2005; Bishop & Driver, 2007; Dicklitch, 2003). Students’ service learning catalyzes their academic and self-development and promotes social responsibility through links between town and gown (Joseph, Stone, Grantham, Harmancioglu, & Ibrahim, 2007). Another potential benefit of service learning is enhanced short- and long-term academic performance (Strage, 2004). Empirical evidence on short-term academic performance impact is mixed (Matthews-Gardner, Fitzgerald, & Gitelson, 2005) and inconclusive (Eyler, 2002). It may not be realistic to expect a one-term experience – even with 15-20 hours of service and a reflective course-based
Engaging Students in the Community

assignment – to lead to dramatic changes in a student’s approach to learning with a resultant impact on academic achievement, or to his/her attitudes and values towards others or the community (Matthews-Gardner et al., 2005).

Self-efficacy, interpersonal, communication, and professional skills, and reduced stereotyping and enhanced social responsibility are often considered benefits of service learning (Hunt, 2007; Reising, Allen, & Hall, 2006). Another factor is the exploration of potential careers (Blieszner & Artale, 2001). Following their service learning, nursing students saw their profession differently, developed empathy for individuals they worked with, and re-examined their assumptions, perceptions, and stereotypes. This experience and reaction to it reflects the need for service learning to prepare students for the ‘real world.’ Students in fields that do not lead to a particular career also benefit in that it attunes them to the community’s needs (Kronick, 2007) and puts a face on the individuals who live within.

Although some research indicates graduates who participated in service learning were more likely to continue to provide service to their communities (Fenzel & Peyrot, 2005), little research exists on the long-term benefits (Strage, 2004), and in particular in regard to career development. Thus, the purpose of this study was to explore the influences of students’ service learning experiences several years after completion. The service learning the students experienced was with children and was part of their classes pertaining to the physical growth and development of children and/or their health education.

Method

Design and participants

Data were obtained from a self-report questionnaire mailed to the graduates’ last known address. Invitations to participate along with a questionnaire regarding their service learning experiences were sent with stamped return envelopes to all 376 graduates who took either or both Health Education or Child Growth and Development from six academic years representing 11 course offerings. Research ethics approval was received and return of the questionnaire implied consent.

Measures

Graduates were asked demographic information (sex, age, graduation year) and open-ended questions (Table 1) about their service learning experiences regarding the main benefit, the role in preparation for other academic programs and career selection, and advice for future students.

Table 1

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<th>Open-ended Questions</th>
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<tr>
<td>1. Why did you choose to participate in service learning?</td>
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<td>2. What were the main benefits from participating in service learning?</td>
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<td>3. (If applicable) In what ways did your service learning experience(s) help you to further your education?</td>
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<tr>
<td>4. (If applicable) In what ways did your service learning experience(s) help you in fulfilling your career choice?</td>
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<td>5. What would you say to a current student who was offered the option of participating in service learning?</td>
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Data analysis

Descriptive statistics were calculated using SPSS 15.0 (Chicago, IL). Thematic analyses were used for the open-ended responses with key words and phrases identified. Similar to Anderson (2003), the results were additive, rather than reductive with layers accumulating for the interpretation.

Results

The data presented in Table 2 describes the participants in this study. Each open-ended question was analyzed separately with themes presented hierarchically. For the question, Why did you choose to participate in service learning?, six themes were given: 1) to give back to the community; 2) to experience
working with children; 3) “beef up” my resume/application; 4) it was required; 5) to have fun/be physically active; and 6) to develop communication and/or leadership skills. The majority of graduates commented on “giving back” or getting involved with the community. The second most prevalent comment was “working with children” with fewer graduates reporting; “helped to prepare me for education/teaching” and “discovering that teaching/working with children was not for me.”

For What were the main benefits from participating in service learning?, six themes were noted: 1) skill and/or confidence development; 2) experience working with children; 3) community building; 4) putting theory into practice/better understanding of course content; 5) working with classmates/peers; and 6) confirmed/refuted/assisted with career selection and/or built resume. The first three themes were relatively equally reported. Graduates noted several skills that were enhanced including: collaboration, communication, problem solving, time management, organization, and leadership. The theme working with children included interacting, speaking, playing, and becoming comfortable with children. Community building included giving back to the community, feeling a part of the local community, helping a child learn, and promoting physical activity.

For In what ways did your service learning experience(s) help you to further your education?, four themes emerged: 1) directly on my application, in the interview, and in the program; 2) directed my career choice; 3) facilitated learning of class material; and 4) skill development. Most graduates commented on their experience as directly related to their future education (i.e., getting into program of choice) in the application process (because it enhanced their resume), during their interview (because of practical examples) and while in the program (ideas and skills to

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Further academic pursuits = 53 (82.8%)

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teach). The second most frequent response indicated that the service learning experiences directed their career or education choices – either confirming or refuting what they wanted to do. Fewer graduates responded about the experiences helping them to learn or “putting theory into practice” and/or increased knowledge of children. The least frequent response was personal skill development.

Three themes were found for the question, In what ways did your service learning experience(s) help you in fulfilling your career choice? The most prevalent comment made was that the interest in a particular occupation (i.e., teaching) and/or thoughts to not work directly with children were confirmed. The second most frequent responses related to skill development that graduates noted was “so that I can be better at what I do” or “use the skills learned and put them into practice in my current work.” The least frequently reported theme related to assistance with acceptance to the students’ program of choice. Finally, approximately 10-15% did not provide a reply or indicated “no, not really.”

For the last question, What would you say to a current student offered the option of participating in service learning?, six themes were noted: 1) do it!; 2) an excellent experience – feels good to be involved, to give back, to make a difference; 3) an opportunity to learn more about yourself and/or to develop personal and professional skills; 4) an opportunity to find out if your career is for you, to find a career; 5) a unique offering that should not be missed!; and 6) a fun experience, a stress reliever, something different than hitting the books! All graduates that responded to this survey recommended the service learning experience. “Do it” was used several times with or without further explanation. The reason most frequently listed to “do it” related to community building – giving back to the community/being involved in the community/helping children/promoting physical activity. Several graduates advised current students to learn as much as they can from the experience – personally and professionally; that again, it was a career enhancer or deciding factor. Service learning was also frequently described as a valuable experience, a unique opportunity, and a stress reliever that added fun to their class responsibilities. It is interesting to note that of all the open-ended questions, this one generated the greatest variety in responses.

Discussion

Several years after completion of their service learning experiences, graduates were overall overwhelmingly positive in their feedback regarding working with children related to their physical growth and development and/or to their health education. However, perhaps only those with positive experiences completed the questionnaire and the questions asked were biased towards obtaining perceptions of the benefits of service learning experiences and did not ask about potential negative aspects.

The most common thread identified by the graduates was a desire to give back to the community and to do something meaningful as noted below.

The experience is very valuable – feels good to volunteer in the community and at the same time get experience in your field.

This finding is similar to others. Specifically, service learning (also 1-6 years after completion) positively influenced students’ “attitudes towards social and personal responsibility, the importance of political participation, and continued service involvement” (Fenzel & Peyrot, 2005, p. 29). Graduates in this study described the main benefits of their experiences as developing skills to work with children, with this theme found in the responses to each question. Graduates specifically identified improved ability to communicate with children, more effective working relationships with their peers, and enhanced leadership skills. This collection of skills was believed to assist in furthering their education and fulfilling their career aspirations. Other researchers also noted that students recognize the general skills developed (Gandy, Pierce, & Brooke-Smith, 2009; Madsen & Turnbull, 2006) and the importance of becoming sensitive to differences in cultures – something that could not be learned from a textbook or lecture (Meaney, Bohler, Kopf, Hernandez, & Scott, 2008).

In regards to furthering their education and/
or fulfilling their career, students mostly perceived a direct benefit. In fact, similar to research by McClam, Diambra, Burton, Fuss, & Fudge (2008), the graduates indicated their experiences confirmed or refuted their anticipated career paths.

*Service learning reinforced how much I wanted to work with children and teach. Fit for Life [physical activity program] was an amazing experience and made me want to be a P.E. teacher even more.*

Further, the graduates developed skills that helped to prepare them to become teachers. This supports the work of Joseph et al. (2007) where the students indicated that they believed their experience “prepar[ed] them for the job market” (p. 331). Interestingly, each response set had a theme related to career development, and whether it was enhancing application or confirming desired career choice, it was viewed as a reason for choosing to participate in service learning, as a main benefit from participating, as an experience that helped to further education and fulfilling career choice, and as part of the reasons why future students should participate in service learning.

The advice to future students given the opportunity to participate in service learning was overwhelmingly positive. Future students were strongly encouraged to take the opportunity and run with it. It was clear how much these graduates valued and benefitted from their personal service learning experience(s):

*I would encourage them 100%. It is a once in a lifetime opportunity where you not only learn about children and their development patterns and behaviours, but you learn a lot about yourself as an individual and the experience allows you to grow and develop as an individual.*

Many students also perceived an academic benefit from their participation in service learning in that they said it helped to learn and remember the materials. This is similar to the findings of McClam et al. (2008) where “one student wrote [in his/her journal], I learned more…by emersion into the field than I could have learned sitting in a classroom for four years” (p. 242). Academic benefits are most often viewed as short-term benefits, i.e., for the particular class the experience was in and in the rest of the participants’ program.

*It helped me to see first hand what I learned in the classroom, it helped me to relate the information to real life situations.*

In conclusion, similar to Village (2006) who noted “the inclusion of service learning opportunities in physical therapist education is one way in which to engage students in these professional activities and to better prepare them to meet the expanding expectations of the communities that they serve” (p. 16), the results of this study indicate that students perceived they were better prepared for their careers as a result of their service learning. Given the overwhelmingly positive benefits students’ perceived from their experiences, service learning should be offered to enhance the students’ academic experience and to provide practical opportunities that assist with career choice and develop future leaders. As one respondent noted:

*Take this opportunity and run with it! Not every university offers such a program that allows students to volunteer in many different places. No matter where you pick to be placed, you are able to learn so much by other volunteers, the workers, or by the clients. Take every situation as an opportunity to learn and grow as a student and person. You may even be given the chance to choose a placement that may be a career choice, find out if it is right for you. Service learning is one of the best things at [university name] because it helps the community and the students.*
References


**Acknowledgements**

Thank you to the students in Human Kinetics who participated in service learning and willingly shared their perspectives. Thank you also to the St. Francis Xavier University staff dedicated to service learning and in particular Marla Gaudet, for creating and facilitating community connections. This research was financially supported by the StFX Service Learning Faculty Development and Research Support Fund.

**Biography**

Angela M. Thompson is 3M Teaching Fellow (2010) and an Associate Professor in the Department of Human Kinetics at St. Francis Xavier University. She is an advocate for service learning, incorporating it in her *Child Growth and Development* and *Health Education* classes, and actively conducts research in the field.
Linking Academic Integrity and Classroom Civility: Student Attitudes and Institutional Response

Troy Brooks, Zopito Marini, & Jon Radue
Brock University

This paper explores the notion that student behaviour regarding academic integrity and classroom civility are linked, and that intervention methods used to resolve classroom incivility may be used as a response to academic dishonesty. We advance the view that academic integrity and classroom civility refer to a student’s willingness to respect the rules and regulations of the institution; and that, acts of academic dishonesty and incivility refer to student behaviour in breach of institutional policy and/or not consistent with the social norms of the institutional culture (e.g., inappropriate human interactions). The perceptions and attitudes of first-year students toward academic integrity as they transition from high school to university are examined. Two hundred and thirty-nine first-year students volunteered to participate in this study. The preliminary findings of the open ended response regarding their observations and experiences with cheating and plagiarism in high school and in university are reported with a view to offer suggestions regarding institutional intervention strategies.

Introduction

The general purpose of this paper is to broaden our understanding of the nature of student academic dishonesty and academic in/civility by investigating the potential usefulness of the idea that academic integrity can be conceptualized as part of the academic civility environment. The specific objectives of our study were: 1) to extend previous literature by developing a questionnaire designed to assess students’ beliefs and perceptions of academic integrity and in/civility; and 2) how this can be useful in the development of prevention programs that support student academic success.

In this paper we would like to advance the notion that issues of academic integrity (e.g., cheat-
ing and plagiarism) share common underlying roots with classroom incivility (e.g., behaviours that are not consistent with the social norms of the institution). That is to say, academic integrity can be considered part of the general umbrella of civility suggesting that acts of academic dishonesty are related and spring from the same cognitive and emotional source as classroom incivility.

More specifically, we highlight two unique commonalities based on the issues of similar continuum and motivation. For instance, acts of incivility can range from minor incidences, such as when classes and seminars are disrupted by loud conversations, to more serious ones, such as when discussions turn into verbal or physical confrontations. By comparison, acts of academic dishonesty can manifest themselves in many ways: from incorrect citation to inappropriate collaboration to more egregious occurrences involving the deliberate copying of test or exam answers where serious breaches of academic policy are undeniable.

In addition to similarities in the continuum between academic integrity and civility, it can be further argued that, much like behaviours of incivility, some instances of academic dishonesty can occur as a result of thoughtlessness and unintentional acts, while other academically dishonest behaviours can be premeditated and intentional.

In recent years there has been increased recognition in classroom in/civility as evidenced by the research from a number of perspectives (see Carter, 1998; Forni, 2005; Hirschy & Braxton, 2004; Marini, 2009). This awareness has led to better understanding of this phenomenon and greater efforts in improving teaching and classroom environments.

The reality is that investigations into academic integrity and academic in/civility are becoming increasingly complex and there is a need to explore these phenomena from a broader perspective, which must include students’ own beliefs and attitudes.

Methodology

Our instrument, the Academic Integrity & Civility Questionnaire (Brooks, Marini & Radue, 2009), was designed to assess student perceptions and attitudes towards academic integrity and classroom civility. It is a 73-item Likert scale questionnaire, with an additional item requiring an open-end response regarding cheating/plagiarism.

The questionnaire was administered to first-year students during their first-term of post-secondary education. This is often a critical time as students make their transition from high school to university. Students from two first-year university classes (one from the Faculty of Social Sciences, with an enrolment of 579; the other from the Faculty of Mathematics and Science, with an enrolment of 171) participated in the study. Of the 239 questionnaires completed, 179 came from students in the Social Sciences and 60 from students in Mathematics and Science; representing a response rate of 30.9% and 35.8% respectively.

A theoretical content analysis of the responses to the open ended statement was completed, and themes were extracted based on the frequency of similar responses (see Weber, 1990).

This present study, reports results from the open-ended response: “We would appreciate having your comments on cheating/plagiarism referring to your university and/or high school experience.”

These themes serve to 1) identify what students know about academic integrity and in/civility; 2) highlight the challenges that transitioning from high school to university present; and 3) capture the perceptions and attitudes students hold regarding academic integrity and in/civility.

Results

The analysis generated four themes, presented below, which reflect the perceptions and attitudes of students’ related to their experience with cheating/plagiarism. We include actual comments taken from the questionnaire to illustrate how students relate to the issue of academic integrity.

Perceptions and attitudes (19.9%)

Student attitudes on academic integrity were mixed. Many students stated that academic dishonesty is...
disrespectful and unfair to those who act honestly. There was also a strong sense that cheaters and plagiarizers, particularly those who act intentionally, should be punished:

“I just think that it disrespects other people; for the work that they put into faking it is just an act of incivility.”

“Plagiarism is a form of breaking the law, it’s an illegal act that should be punished.”

Some students were able to draw distinctions between intentional and unintentional plagiarism and advocate differential consequences. In other words, students feel that those who intentionally plagiarize should be punished while those who plagiarize unintentionally should not be punished, or not with the same severity:

“Those who plagiarise[ sic] on purpose should be punished. However, unintentional plagiarism should have smaller consequences.”

“It is not acceptable, but people who don’t realize they are plagiarizing should not get into trouble.”

High school experience (17.9%)
Students are of the opinion that high schools should do a better job at preparing students for the expectations of university, particularly when it comes to issues of academic integrity:

“Cheating is wrong, but high school does not always teach students how to cite properly.”

“… If teachers in high school began educating students from the get-go, students would be used to it and more familiar with by the time they reached university…”

Transition: Hierarchy of understanding (17.4%)
The transition from high school to university seemed of high importance to students, and also appears to provoke a great deal of anxiety. Many students indicated that there is not a great deal of emphasis placed on academic integrity in high school in comparison to university; with some students stating that the increased emphasis has made them scared to make a mistake:

“I was not prepared for the seriousness of cheating/plagiarizing that is presented in university.”

“Submitting assignments to Turnitin makes me extremely nervous, because I would never intentionally plagiarize…”

Is the institution doing a good job of informing students (17.2%)?
Students indicated that they are being informed, but feel that a clear and consistent message should also be given on the importance of proper citation; and instructors and teaching assistants should be doing more to help educate them on proper citation.

“I noticed that the university makes students aware of cheating plagiarism more than anywhere else I’ve been.”

“I feel I have been well educated on what plagiarism is, what the consequences are & where to go for extra help.”

“Professors should post examples or instruct TA’s to spend a seminar going over it.”

The remaining responses identified related issues such as peer behaviour, the stress of balancing priorities and academic work load, which are consistent with concerns expressed by students at our own
institutions (see Christensen Hughes & McCabe, 2006b; McCabe & Treviño, 1997).

“Sometimes the pressure of 5 courses combined with poor time management skills and the too many distractions we have as students plagiarizing, even just a little makes everything seem just a little easier.”

“Personally if I’m crunched for time it seems better to plagiarize & hand it in rather than getting a zero esp. [sic] if you know that with more time you could complete it properly.”

Other responses identified primarily that academic dishonesty was bad, but did not offer further elaboration.

“Plagiarism is wrong plus you’ll usually get caught.”

“Don’t cheat.”

These miscellaneous statements (27.6%) will be further analyzed as the study progresses, and located into appropriate themes.

### Discussion

The present findings indicate that students understand the importance of academic honesty; they comment that by comparison to their high school experience, there is more emphasis placed on academic integrity in university. However, students tended to focus on a mechanistic and much narrower behavioural interpretation, such as equating plagiarism solely as a failure to cite properly without taking into consideration the broader ethical and moral aspects of their academic (dis)honesty. In other words, students seem to put more importance on the ‘technical’ aspects of plagiarism rather than the psychological roots of the underlying behaviour.

In general, students agree that academic dishonesty is disrespectful and unfair to those who act honestly, but fail to see the serious and pervasive impact these behaviours have on the learning environment. Students who are witness to, or victim of classroom incivility may experience discomfort or animosity towards the perpetrator of the uncivil act. This may express itself by students not wanting to work with the offending student(s) on group assignments or in a seminar setting. Conversely, students who engage in academically dishonest behaviour who are found out by their peers may experience similar types of mistrust and derision from their peers.

The similarities between acts of academic dishonesty and acts of classroom incivility can become of great interest and potentially useful in planning interventions. For example, addressing the behaviour of two students exchanging answers during an in-class test could have a similar disruptive impact on the learning environment as addressing the behaviour of two students challenging a professor’s marking scheme in an open classroom. Another parallel can be seen in situations where a student’s behaviour becomes a serious breach of university policy, such as a physical altercation between students in a seminar, or the discovery of a group of students cheating on a test or exam.

The argument is that these academically dishonest behaviours are acts of incivility, because of the impact they have on the learning environment, which is often overlooked. These situations have an effect on others (instructors and students) who must re-engage with the learning process.

In some cases, acts of academic dishonesty can be very complex and occur in conjunction with behaviours considered to be uncivil, morally questionable and illegal (i.e., situations where a student might steal a test or exam and sell it to classmates). While these acts may occur in the isolation of a classroom, or other academic environment, their impact can be felt directly and indirectly across the university community (victims, witnesses, administrators, faculty members, teaching assistants, and peers), often requiring the institution to employ similar or reciprocal intervention approaches as a response to the behaviour.
Post-secondary institutions seem to be doing a good job at identifying academic integrity as an important issue. However, there seems to be inconsistency in how institutions respond to the various academically dishonest behaviours as well as the level of commitment demonstrated by instructors and teaching assistants (see Christensen Hughes & McCabe, 2006a; McCabe & Treviño, 1997). This suggests that the institutions have an important role in the socialization of student behaviour.

**Implications**

Academically dishonest behaviours are acts of 'academic incivility' and can be viewed belonging to a subtype of classroom incivility. Much like incivility, academically dishonest behaviour can be influenced by one's own personal philosophy, that is, how an individual personally feels about ethical behaviour. Other factors such as the attitudes and actions of one’s peers or the response of the institution or persons in authority to a student’s behaviour send a powerful message: identifying acceptable and unacceptable modes of conduct. Research supports the notion that individual and environmental factors, such as the desire to succeed, difficulty managing multiple priorities, and peer behaviour are related to student academic dishonest behaviour (see Ashworth, Bannister, & Thorne, 1997; Christensen Hughes & McCabe, 2006b; Crown & Spiller, 1998; McCabe & Treviño, 1997; Whitley and Keith-Spiegel, 2002).

This implies that methods of interventions for classroom incivility (see Lochman et al., 2009; Marini, Polihronis, & Blackwell, 2010) may also be used to educate students as a means to prevent future academically dishonest behaviour. As an example Dee and Jacob (2010) suggest that intervention by way of increasing student knowledge regarding academic integrity rather than by increasing the perceived probabilities of detection and punishment can reduce the incidence of plagiarism.

Post-secondary institutions have been working hard in recent years on their response to academic (misconduct behaviours) and non-academic (incivility behaviours) discipline. This is evidenced by the increased use of restorative justice models, such as developing seminars for academic integrity and uncivil offenders that include a reflective assignment designed to create awareness of the impact of their actions while “holding the offender accountable for their actions in a more meaningful way than simply imposing further penalty” (Latimer & Kleinknecht, 2000, p. 4), as a part of or as an option to discipline.

We may be able to draw from literature on interventions for classroom antisocial behaviour and incivility and consider ways that may used to reinterpret current strategies employed to promote academic integrity, educate students on academic honesty, and manage the administrative processes relating to the discipline of academic dishonesty. In particular, we suggest the following initiatives:

1. Provide appropriate and substantive consequences for academic dishonest behaviour, by making academic honesty and civility part of the curriculum and evaluation. For example, essay assignments could include a component requiring students to reflect and explain how the topics of integrity and civility have relevance to them.
2. Model academically honest behaviour and include regular discussions on ethical behaviour and acting with integrity throughout the term.
3. Provide a consistent institutional response to breaches of academic integrity policy.
4. Share the institutional meaning of academic integrity and civility and providing a consistent message across the university community.
5. Place the focus on prevention by providing and promoting programs designed to help students achieve academic success, such as time-management, essay writing labs, and
student counseling.

References


Authors’ Note

The present paper is largely based on material presented at the 2010 STLHE Conference in Toronto, and the CACUSS 2010 Conference in Edmonton, and is part of our on-going research program on academic integrity and in/civility.

Biographies

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We see learning as a journey rather than an episodic event, as a “reflective process that brings to consciousness knowledge one may have acted on but not fully realized or elaborated, making possible future, purposeful action” (Lyons, 2002, p. 96). Framing learning this way recognizes the need to build on pre-established but often buried ideas in an ongoing process of uncovering what the students already know and helping them create new meanings as additional concepts are integrated. It necessitates moving away from rote recall towards a holistic understanding, for both instructor and students, of choice and flexibility, challenge and risk, and critical reflection about the learning process. In this paper, we discuss our perceptions of each of these areas and conclude with some recom-

In the Fall 2009 term, we participated as students and instructor in a graduate education course modeled after participatory pedagogy. Siemens (2008) defines this approach as “one that does not fully define all curricular needs in advance of interacting with learners...Multiple perspectives, opinions, and active creation on the part of learners all contribute to the final context of the learner experience.” Since completing this course, we have continued our collaborative travel reflecting on our course experiences and how this learning has affected us beyond the course boundaries. In this synthesis of our journey we invite readers to join us in understanding the impact of this pedagogical approach and its transformative possibilities.

Road Map

We see learning as a journey rather than an episodic event, as a “reflective process that brings to consciousness knowledge one may have acted on but not fully realized or elaborated, making possible future, purposeful action” (Lyons, 2002, p. 96). Framing learning this way recognizes the need to build on pre-established but often buried ideas in an ongoing process of uncovering what the students already know and helping them create new meanings as additional concepts are integrated. It necessitates moving away from rote recall towards a holistic understanding, for both instructor and students, of choice and flexibility, challenge and risk, and critical reflection about the learning process. In this paper, we discuss our perceptions of each of these areas and conclude with some recom-

1 With our warmest thanks to our student co-investigators Kristen Armstrong, Kim Henrie, Christine McGeachy, Nancy Stewart, and Sandra VanderKaay.
mendations for others interested in travelling this journey.

Planning the Travel

The application of participatory pedagogy as a guiding framework for this course, which grew from the instructor's philosophy of education, meant that students were invited to contribute course content through student-led seminars, activities, readings, course topics, and learning outcomes. This was outlined in the syllabus:

You will be actively involved in shaping the course. Topics will reflect areas participants wish to explore; readings will be chosen by participants as well as the instructor.

This is not to say that there was no guide for the overall intent of the course. Students were told,

You will be asked to consider various perspectives including but not limited to appreciative inquiry, study groups, personal narrative, formal education, and alternatives to formal education. In each instance, you will be challenged to consider their usefulness as professional development for educators and learning organizations, and ultimately, their impact on educational reform. In addition, you will be asked to consider how these approaches relate to your own ontology: who are you as teacher and learner.

However, this description and the entire syllabus served only as a starting point for discussions about the course topics and process.

Mode of Transportation

About halfway through the course, the instructor asked if any students were interested in developing a conference presentation that would capture the essence of their learning. Seven of the 21 students chose to participate as co-researchers, two taking a leadership role for additional academic credit. This co-leadership role included identifying relevant literature, creating questions, collecting the reflections, developing themes, preparing the conference presentation (given in co-authorship with peer researchers), and contributing to writing this article.

The instructor and co-leaders discussed the questions and process for the study. We emailed questions to the student co-investigators to guide reflection. After examining the responses, the co-leaders defined themes and categories, which they checked with all co-investigators, including the instructor. In the next section, we present the findings under these themes, providing illustrative quotes for each.

Scenic Views

Three key elements arose for successful participatory pedagogy: 1) providing ample choice and flexibility in assignments and course activities; 2) navigating the balance between challenge and risk; and 3) creating contexts for critical reflection. In this section we discuss each in turn and argue that they created a context for potential transformative learning (Kegan, 2009; Mezirow, 2000).

Choice and flexibility

Too often the curriculum becomes a prescriptive trap that presupposes equal readiness to learn and like starting points. We believe meaningful learning happens when instructors provide “genuine choices for learners and use various methodological approaches to appeal to different learning styles” (Verner & Lay, 2010, p. 68) to invite students on a personal and intellectual path of inquiry. Engagement increases as “exciting learning experiences generate further motivation” (Fullan, Hill, & Crévola, 2006, p. 16).

Students noted that the “new ways of delivering materials” they encountered in this course are often “untouched…not usually defined in a course
setting” and that “the flexibility regarding topic and style of assignments…reinforced that I am the main beneficiary of learning…as opposed to completing assignments…in order to receive a grade.”

In this course, by contrast, students were encouraged to delve deeply into areas of personal interest. One noted,

Learners were allowed to identify, seek, and master knowledge that was personally relevant instead of simply having to receive pre-determined curricular information…As a result new learning was practically applicable.

Another contrasted this with her school experiences, in which she

Listened and took notes, and then memorized my notes and regurgitated the information on an exam. There was little in the way of exploratory discussion, reflection, internalizing the concepts. I…was never called upon to reflect and apply any new concepts or ideas to my actual world.

One referred to the value of the final assignment, which “demonstrated to me all the unique formats through which learning and reflection can take place and the outstanding benefits of drawing upon individual creativity and interests.” Another drew attention to the overall process of the class, noting “the fluidity of the outline was respectful of adult learners and their ability to be self-directed.” Another noted “students actually did more work…because the desire to learn was coming from an internal desire rather than external pressure.” This does not mean that all received this flexibility as positive from the start. One said,

I remember the experience of building the course syllabus. My original assumption was that I was dealing with a very unorganized instructor…Then the instructor taught us what she was doing with the support of research and an article. The process was a little slow and painful at times, but we ended up with a course syllabus that I knew inside out and that I could buy into because I had been involved in its creation.

Challenge and risk

Creating contexts for students to develop requires inviting them beyond comfortable boundaries. Decyk, Murphy, Currier, and Long (2002) note “students and educators alike may harbour anxiety and even fear about changing the dynamics” (p. 54). These challenges, however, may create conditions for deeper learning. Siemens (2008) defines the required continual restructuring as “the dance of change between catalyst and counter pressures, leading ultimately to new affordances that can be difficult” (p. 8).

Students reflected their concern with risk-taking. As one said, “the freedom of learning is new and does promote a sense of anxiety.” Another noted

Intellectually I understand that it is not the purpose of any course to give all the relevant information, however I am a product of many years of schooling where the professor was considered the expert and the participants were students not learners. The approach used required a mental shift.

Another noted that the challenges led to her biggest growth.

Activities were out of my comfort zone and there were times that I struggled with the unknown…I was able to see the value once I moved beyond the frozen fear of uncertainty to ask myself “What did I want to gain from this course? How did I
learn when pushed out of my comfort zone?” I had to be transformed into a student who was open to this new concept and new territory for learning…[where] mistakes…would not be judged but instead used as stepping stones toward learning.

Critical reflection

We agree with Kreber (2004) that “reflection…begins with identifying the assumptions and beliefs we take for granted…and involves engaging…learning processes…that will either lead to a validation or rejections of our assumptions” (p. 43). The course supported students in developing skills of critical reflection by providing “an opportunity to deliberately stop tumbling and seek direction…[which] could help us to know more about ourselves by enabling us to ‘name’ and re-examine our ideas/experiences and on-going practices” (Hunt, 2001, p. 279).

One student, referring to the final projects, noted “the level of critical reflection that was evident in these projects was amazing…[It] has created a reflection of not only my experiences but also my reflection on these experiences.” Another elaborated,

The instructor threw down the gauntlet and challenged me to do something different and out of my comfort zone for the final project…The thought behind and creation of my project was a wonderful process, and a gift…It took me on a reflective journey, both personal and professional, for which I will always be grateful.

Compass for Transformative Learning?

Kegan (2009) distinguishes between informative learning (changes in what we know) and transformative learning (changes in how we know). Mezirow (2000) offers that transformative learning involves “becoming critically aware of one’s own tacit assumptions and expectations and those of others and assessing their relevance for making an interpretation” (p. 4), or transforming one’s frames of reference. While the student accounts indicate not all transformation is immediate, they illustrate journeys along new paths towards transformative learning. As one commented,

This course allowed me the freedom to grow and stretch my brain, to encompass new approaches and ways of thinking, and to enjoy a three-way mutual and collaborative learning experience – which included the instructor as well as my peers.

Another elaborated her process of coming to understand:

Sometimes in this course, I would be in the middle of an activity and think, “this is stupid – what is the point”…Inevitably, I would “get it” by the end of the activity…I was more affected by the format and setup of the course then the course content itself. I will not soon forget the activities and methods used…This course has opened a whole new world to me.

One student summed up our experiences with the course.

I remember thinking at the time that the final project was the most difficult task that I had encountered…I really had to ponder…how my journey through the course could be effectively captured and conveyed…It continues to personify my journey through work/life, the choices we make when we meet resistance or the paths we take…how we travel the road is for our choosing.
The Destination

In Figure 1 we illustrate the interactive relationship of participatory pedagogy. The teacher and students are on a shared path towards new knowledge. As a result of this interaction the path of inner reflection is initiated, leading to possible immediate transformative learning and/or transformative learning occurring at a future time.

Travel Guide

Participatory pedagogy supports include: 1) providing ample choice and flexibility in assignments and course activities; 2) navigating the balance between challenge and risk; and 3) creating contexts for critical reflection. We, the students, advise that an instructor considering this approach:

- be open to the interaction thereby enabling the students to have a voice.
- be willing to commit to the style and be an active participant yourself.
- have courage and be willing to go outside of your teaching safety zone into new unexplored domains.
- be frank, up front with the format, and provide encouragement to the students so they feel supported during this new learning format.
- plan learning based on student interests and choice, and do so by collaborating with and guiding learners as opposed to informing them.
- create an atmosphere of learning where expectation of learner action is high and modify the activities/plans to meet their needs.
- be open, willing, and supportive to students if you are trying creative adventures because it can be a risky thing for adult learners to engage in.
- be very comfortable with awkward pauses and strange looks, and be willing to walk students through their discomfort.
- be humble but have a good depth of experience, both human and professional.

Figure 1
Transformative Learning Through Participatory Pedagogy
Participatory Pedagogy

• embrace a truly collaborative culture and stay open to new thoughts, critical reflections, and inquiries – as well as a willingness and joy in learning from students. This sense of mutual respect and shared commitment to lifelong learning built the atmosphere of trust in our class.

New Roads to Travel: Future Implications

The journey of learning must be understood as a relational process (Wenger, 2009) that happens over a period of time. As Drummond and Owens (2010) offer, “if we thought learning to teach was a fluid and tentative wandering, if we understood pedagogy as a group process nurtured by the conjectures and responsiveness of others, we could design opportunities...to create meaning together...to co-construct an evolving understanding” (p. 182). As one participant noted,

I told my colleagues the story of this course and they were moved to consider new ways of doing culminating projects. Why isn’t there more choice? Why do we tell students what they must produce to demonstrate their own learning? Why don’t we add the additional layer of asking students to find the best way to demonstrate their learning?

On a broader scale, we need to gently nudge to shift educational culture, create sustainable change, and develop new perspectives that enhance learning. We need to pack our luggage with creativity, motivation for learning, and courage to reflect and begin a journey accompanied by our students on the road to transformed understandings.

References


do Minho, Encontro sobre Web 2.0, Braga, Portugal, October 10. Available online at http://elearnspace.org/Articles/systemic_impact.htm


Biographies

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Interviewing skills play an integral role within the field of social work (Petracchi & Collins, 2006; Rogers & Welch, 2009). They are often considered the most essential skills used within all levels of practice (Petracchi & Collins, 2006). Furthermore, interviewing skills are seen as the catalysts by which micro, mezzo, and macro levels of practice are implemented (Petracchi & Collins, 2006). In order to effectively communicate, helping professionals are encouraged to listen, empathize, and develop therapeutic relationships with clients (Rogers & Welch, 2009); thus, creating a need for educational initiatives which promote and refine the development of these skills.

Social work students must familiarize themselves with a variety of counselling skills prior to practicing within the community. In order to increase clinical skills amongst students, simulated exercises are often required (Lane, Slavin, & Ziv, 2001). Current social work curriculums often foster communication and assessment skills through

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**Considering the Use of Standardized Clients in Professional Social Work Education**

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Counselling professionals seek to preserve their success by demonstrating excellent communication skills. Prior to contact with clients, students become familiar with counselling skills that reflect the needs of vulnerable populations. This involves creating a therapeutic relationship with the client using counselling skills. One way to promote student confidence in counselling education is to consider the use of standardized clients. The authors discuss the effectiveness of using standardized clients in teaching counselling skills in social work education. The discussion considers the benefits and challenges of using standardized clients in social work education as well as other professions and the need for scholarly research on the effectiveness of this teaching tool.

Introduction

Interviewing skills play an integral role within the field of social work (Petracchi & Collins, 2006; Rogers & Welch, 2009). They are often considered the most essential skills used within all levels of practice (Petracchi & Collins, 2006). Furthermore, interviewing skills are seen as the catalysts by which micro, mezzo, and macro levels of practice are implemented (Petracchi & Collins, 2006). In order to effectively communicate, helping professionals are encouraged to listen, empathize, and develop therapeutic relationships with clients (Rogers & Welch, 2009); thus, creating a need for educational initiatives which promote and refine the development of these skills.

Social work students must familiarize themselves with a variety of counselling skills prior to practicing within the community. In order to increase clinical skills amongst students, simulated exercises are often required (Lane, Slavin, & Ziv, 2001). Current social work curriculums often foster communication and assessment skills through
the use of standardized clients or peer facilitated role plays (Badger & MacNeil, 2002; Petracchi & Collins, 2006; Rogers & Welch, 2009; Todd, 2011). Standardized clients are trained individuals who portray various characteristics within simulated counseling sessions (Badger & MacNeil, 2002; Petracchi & Collins, 2006; Todd, 2011). Badger and MacNeil (2002) define standardized clients as “nonprofessionals who are trained to take on the full spectrum of characteristics of an assigned client case” (p. 365). Furthermore, Todd (2011) reports that “standardized clients are traditionally lay persons who are trained to realistically simulate physical signs, emotions and affect, symptoms, and behaviors while working from a character sketch or script” (p. 2). The following sections will examine the evolution and effectiveness of standardized clients in social work, as well as other disciplines.

Background on Social Work Education

Social work practice has evolved from two key historical movements, which consisted of settlement houses and charitable organizations (Greene, 2005; Holosko, 2003; Stuart, 1999). In promoting and establishing social justice, the profession helped individuals, as well as society, through these pathways (Holosko, 2003). Social work focused on individuals experiencing substandard living conditions (Greene, 2005), targeting individual and social reforms to promote the wellbeing of those living in poverty (Holosko, 2003; Stuart, 1999). Settlement houses focused on immigration and macro level changes, while charitable organizations targeted individuals as well as families (Greene, 2005). Ultimately, the profession’s goal was to help individuals better themselves in an attempt to effectively function within society (Holosko, 2003).

Social work gathered most of its strength through its close relationship with the people it serves and by gaining a thorough understanding of the environmental factors affecting these individuals (Stuart, 1999). Instead of solely specializing in a specific area of practice, social work developed a generalist practice model that has remained consistent since its inception (Hall, 2008). In social work, a generalist is “a practitioner whose knowledge and skills encompass a broad spectrum and who assesses problems and their solutions comprehensively” (Barker, 2003, p. 176-177). Rather than specializing in any one area, generalist social workers possess knowledge and skills in a wide range of client needs which they can apply to social services delivery. Dimensions in the definition of generalist practice include theoretical and problem solving approaches, using ethical principles, social work values, as well as a wide range of roles and skills (Kirst-Ashman, & Grafton, 2010).

Although the field of social work has maintained a generalist approach which utilizes a knowledge base formulated from a wide spectrum of disciplines (Greene, 2005), the profession has continued to evolve. For instance, Hall (2008) reports that social work’s eclectic methodology allows practitioners to easily transition from one methodology to another. Furthermore, in the interest of increasing and enhancing professional credibility, social workers participated in evidenced-based practice, helping the profession identify proven tools and methods to establish desired outcomes (Hall, 2008). The use of standardized clients has been implemented and promoted as one such effective educational strategy; thus, establishing itself as one of the many educational tools utilized within the social work profession.

Standardized Clients in Social Work

The use of standardized clients provides a pathway to transfer theoretical and practical knowledge to simulated practice settings. Although the term often refers to an educational strategy used within social work curriculums, it is not solely restricted to the social work profession. Standardized patients have been used in medical education for over three decades (Wallace, Rao, & Haslam, 2002). In addition, nursing education programs have used standardized patients to help teach interviewing and physical assessment
Considering the Use of Standardized Clients in Professional Social Work Education

skills (Konkle-Parker, Cramer, & Hamill, 2002). Similar to standardized clients, standardized patients are “nonprofessionals who are trained to take on the full spectrum of characteristics of an assigned case” (Badger & MacNeil, 1998, p. 207). As educational tools, standardized clients and standardized patients have played an integral role in transferring knowledge to practice.

Standardized clients are conceptually similar to standardized patients and aim to promote strong interviewing skills within educational settings (Rogers & Welch, 2009). Miller (2004) identifies the use of standardized clients as a strategy which allows students to learn and enhance various practice skills in a safe and ideal learning environment. However, it has been well documented that establishing safe and realistic practice environments can be quite challenging (Rogers & Welch, 2009). Furthermore, transferring course content to a practice setting has often been difficult to achieve. For instance, Rogers and Welch (2009) report that teaching abstract concepts and interviewing skills can be quite challenging in educational settings, especially with regards to creating a realistic practice environment as well as transferring learned material to actual practice settings.

Social work students must learn how to empathize, effectively listen and communicate, as well as develop a professional relationship with clients (Rogers & Welch, 2009). Thus, standardized clients can provide a safe opportunity for students to practice and apply these skills within a simulated practice setting. Students need to be able to apply theoretical skills in university as well as agency settings (Crisp, Anderson, Orme, & Lister, 2004). Using standardized clients creates a professional environment whereby students can practice interviewing skills, learn from their experiences, and receive feedback on how to enhance their skills (Rogers & Welch, 2009). Mooradian (2008) identifies simulated client sessions as a means to enhancing the overall learning process within social work curriculums.

Comparing role plays and standardized clients

Traditionally, social work curriculums encouraged students to read course material, engage in classroom discussions, and transfer applicable skills while engaging in role plays with classmates (Rogers & Welch, 2009). As an educational strategy, role plays have also promoted critical thinking amongst its students (Ertmer et al., 2010). However, Rogers and Welch (2009) identify several concerns associated with the use of role plays in social work curriculums, such as, student feedback and role plays that are often not taken seriously, student inability to understand the meaning behind taught concepts and skills, as well as the lack of realism associated with a role play. As an evolved and more advanced form of role plays (Badger & MacNeil, 1998, 2002), standardized clients have been introduced into social work curriculums in order to create a more effective and realistic learning experience.

Role plays are an inexpensive frequently used tool in social work curriculums which aim to enhance the interviewing skills of students. They are often completed in dyads or triads consisting of an interviewer, a client, and an observer (Moss, 2000; Petracchi & Collins, 2006). Moss (2000) states that role plays can also consist of large groups of students; however these groups should not exceed 25 students in order to include everyone in the role play. Similar to standardized clients, instructors can often determine the level of complexity associated with a particular role play (Petracchi & Collins, 2006). Unfortunately, Badger and MacNeil (1998) report that role plays lack both internal validity and authenticity. Ultimately, limited information exists on how to properly incorporate role plays within academic curriculums (Petracchi & Collins, 2006).

Miller (2002) states that although both role plays and standardized clients offer great learning opportunities, the use of standardized clients provides a higher degree of realism. Furthermore, Miller (2002) identifies several advantages associated with utilizing standardized clients in both undergraduate and graduate level courses. First, standardized clients create a more realistic encounter in which trained actors accurately and consistently portray the characteristics and affect of a particular client and do not divulge pertinent details unless asked. Second, standardized clients often utilize a checklist to evaluate the student’s performance and provide quality feedback. Third, the
use of standardized clients can help enhance a student’s clinical skills across a wide spectrum of settings. Lastly, this educational tool also presents students with various ethical dilemmas which they could possibly face in a real practice setting which they might otherwise not be exposed to in their educational experience as students.

When examining the implementation of standardized clients, Badger and MacNeil (2002) identify several educational advantages. Using standardized clients presents an opportunity to expose students to a wide spectrum of clients and issues which may not be encountered during field placements. Faculty can determine which characteristics standardized clients will portray. Standardized clients can be utilized as both a training and evaluation tool which allows students to think critically about themselves as well as the client. Lastly, Badger and MacNeil (2002) state that students and instructors perceive the use of standardized clients as an effective educational tool. Moreover, the authors report the cost of standardized clients as being relatively low for an educational tool that can enhance an individual’s assessment and practice skills.

In examining the effectiveness and feasibility of standardized clients, Badger and MacNeil (2002) report that students who were exposed to standardized clients as an educational strategy did better than those who solely engaged in role plays. The study used a three year approach consisting of three separate Masters of Social Work cohorts. The first cohort were not exposed to standardized clients and served as the control group. The second and third cohorts were both exposed to standardized clients; however, the later also had access to videotaped interviews. Badger and MacNeil (2002) did not find significant improvements between the second and third cohorts; however, the authors indicate that standardized clients are an effective educational strategy.

**Costs in using standardized clients**

The cost of using standardized clients is often viewed as prohibitive as the cost is greater than role plays or standard instruction (Badger & MacNeil, 1998; Petracchi & Collins, 2006). In many circumstances social work programs may not have the means to pay for the use of standardized clients. Fortunately, Petracchi and Collins (2006) utilize a particular process which can help mitigate the costs of standardized clients. For instance, the authors recruit acting students to play the role of the standardized clients. This practical approach offers a relatively cost free way to utilizing this learning tool. In the end, Badger and MacNeil (2002) state that the costs of utilizing standardized clients averages anywhere from $25 to $40 an hour, an amount many consider minimal (Badger & MacNeil, 1998; Miller, 2002, 2004).

### Standardized Clients and Patients in Other Disciplines

As previously stated, standardized clients and standardized patients are currently being used within numerous academic disciplines. In fact, when compared to other academic disciplines, the research on the effectiveness of standardized clients within the field of social work is relatively limited. Standardized clients and patients have often been used in the following post secondary programs: law, medical, pharmaceutical, substance abuse counseling, and nursing (Austin, Gregory, & Tabak, 2006; Fussel, Lewy, & McFarland, 2009; Grosberg, 2001; Lourdes & Nelson, 2008; McWilliam & Botwinski, 2010; Stimmel, Cohen, Fallar, & Smith, 2006; Vessey & Huss, 2002). Thus, the information acquired by these disciplines can assist the social work profession in effectively implementing this educational strategy.

Shawler (2008) examines the use of standardized patients as a learning instrument for psychiatric nurse practitioner students. Coinciding with its use in social work, the learning strategy was being utilized as both an evaluation and training exercise. Shawler (2008) reports that the students were given content pertaining to a specific mental disorder prior to the interview. Then, the students conducted a 30-minute interview with a standardized patient, followed by a review. The initial review included feedback from the standardized patient for approximately 15 minutes based on a checklist the standardized patient had to complete. Next, the students reviewed their performance utilizing...
a videotaped copy of their interview with a faculty member. Upon completing the previous steps, Shawler (2008) mentions that the students completed a final interview with a standardized patient as well as a final paper for the course, which was followed by faculty evaluations. Ultimately, students who participated in this study reported feeling more prepared and confident with their refined skill set by displaying advanced interviewing and assessment skills, effectively utilizing screening and diagnostic tools, and accurately diagnosing standardized patients (Shawler, 2008).

Bennett, Arnold, and Welge (2006) also report promising results with the implementation of standard patients in a psychiatry clerkship. Fourth-year medical students who received a standardized patient examination during their third year psychiatry clerkship performed better than fourth-year students who did not receive this examination. Both groups of students were examined using a clinical competency examination. Bennett et al. (2006) suggest that the use of standardized patients throughout a psychiatry clerkship may enhance interviewing and interpersonal skills amongst medical students. The authors recommend that additional studies need to be completed in order to accurately identify the advantages associated with this learning strategy.

Despite the increased attention given to the use of standardized patients as an evaluative tool within the field of nursing, little research has evaluated its effectiveness. As seen in the social work literature, standardized patients in nursing can also adjust the complexity of their character depending on the assigned situation (Vessey & Huss, 2002). Moreover, standardized patients also can provide nursing students with feedback based on their performance (McWilliam & Botwinski, 2010; Vessey & Huss, 2002). However, Vessey and Huss (2002) note a disadvantage to using standardized patients. They identify that nursing students can only be evaluated on a limited range of skills, as standardized patients can only portray a limited number of clinical conditions. They also note that standardized patients are considered expensive and that accurate evaluations utilizing this method can be quite difficult to achieve.

Pharmaceutical curriculums are also seeking to implement educational strategies which promote positive communication skills (Boesen, Herrier, Apgar, & Jackowski, 2009). In a unique design, Westberg, Adams, Thiede, Stratton, and Bumgardner (2006) introduce an interprofessional approach to using standardized patients. The study intends to enhance pharmaceutical students’ collaboration with students from other health based disciplines as well as increase their communication skills. As a team, pharmacy, medical, and nursing students worked together to assess a standardized patient and formulate a comprehensive service plan. The authors conclude that the pharmacy students enhanced their understanding of how nurses, physicians, and pharmacists can collaborate in order to provide a more holistic approach to service delivery. This particular interprofessional learning strategy is very promising, however, Westberg et al. (2006) describe it as difficult to establish, coordinate, and maintain.

Conclusion and Future Direction

Standardized clients offer a viable and practical learning opportunity to prospective social workers attempting to refine and enhance their skill sets. Within educational settings, standardized clients provide students with a safe and secure environment towards attaining pathways which facilitate the transferring of classroom and theoretical knowledge to practice (Miller, 2004). Standardized clients present prospective helping professionals with an opportunity to acquire or enhance a technique prior to encountering actual practice situations (Miller, 2002, 2004).

Although current studies have reported positive trends pertaining to the overall effectiveness of both standardized clients and standardized patients as educational learning strategies (Badger & MacNeil, 2002; Miller, 2002; Wallace, Rao, & Haslam, 2002), limited information exists on their use and effectiveness within social work curriculums. Badger and MacNeil (2002) state that only a few articles conducted by social work researchers have examined the impact of standardized clients. Despite the need for additional research, standardized clients may serve
a dual purpose within social work curriculums. For instance, they provide an opportunity for students to further refine their skill sets and allow faculty or standardized clients to evaluate a student's ability to properly utilize a learned skill or concept (Badger & MacNeil, 2002). However, due to their costs (Crisp et al., 2004), significant advantages must be sought out in order to further implement them within social work curriculums. Indeed, further research is required to examine the use of standardized clients within social work curriculums. Additional research should also be directed towards enhancing this learning tool. Therefore, upcoming studies should identify guidelines and strategies directed towards proper utilization of standardized clients within classrooms.

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References


Considering the Use of Standardized Clients in Professional Social Work Education


**Biographies**

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Judy Bornais is an experiential learning specialist in the Faculty of Nursing, University of Windsor. Judy’s research focuses on nursing pedagogy, including the use of standardized patients to improve students’ health assessment skills, the use of peer mentors, the use of simulation technology to reinforce and foster caring in nursing students.

Daniel Bilodeau is a social worker employed with the Conseil scolaire de district des écoles catholiques du Sud-Ouest. Daniel has research interests in professional development, mental health, and self-care.
Engaging students while providing them with the necessary linguistic and critical skills as a foundation for further exploration are the principle challenges for those of us who teach disciplinary introductory courses. My own response to this challenge has been to develop and implement what I refer to as the ‘pedagogy of play.’ Informed by the work of bell hooks, G.H. Mead, and J. Huizinga, the pedagogy of play is grounded in the notion that an orientation toward ‘play’ and ‘playfulness’ provides the framework for developing curricula and teaching practices that emphasize learning as process rather than outcome. This paper outlines the principles of a pedagogy of play and describes one of the quintessential examples of this approach: “Lego Day(s),” a strategy I developed to provide students with a concrete context in which the abstract concepts ‘culture’ and ‘society’ could come to life.

Let my play be my learning, and my learning be my playing.

- Johann Huizinga [orig.], 1938

Pedagogy of Play

A pedagogy of play is more than a classroom strategy – more than a repertoire of exercises or interaction strategies for engaging students. It is a form of critical pedagogy, an approach to the practices and processes of teaching that inform all aspects of the courses that I teach: course design, curriculum development, assessment strategies, and classroom practices. In this context, I use the term ‘play’ to refer not to some specific activity or type of activity, but rather to denote a quality of mind that shapes how I approach all aspects of teaching and learning.

To understand the ethos of play as a pedagogy we must first understand the distinctions between ‘play’ and ‘game’ as interactive forms, since these two terms can be used interchangeably in other contexts. Play is relatively unstructured – the interactions in play need not be constrained in any way by expectations that emerge from outside the
context of the play itself. The roles that the actors take up in play need not be stable from one instance to the next. For example, when kids play ‘house,’ the terms of the interaction are determined largely by the players themselves so that when little Rachel takes up the role of ‘mommy’ that character interacts with other characters very differently than when Karla or Rob plays ‘mommy.’ The fact that in everyday reality the role of ‘mommy’ is attached to female primary caregivers neither constrains nor defines the actor who takes up that role in playing ‘house.’ While play can have a specific beginning and a clear ending, the focus of play is on the process rather than on a particular outcome.

Games also have a particular beginning and a specific ending point, but are much more clearly structured than play. In a game, the players each have particular roles that they take up and a set of rules for how to interact with one another within the context of the game. These roles are stable from one instance of the game to another. In game, the focus is on the structure of the interactions and/or the outcome. Games have a defined space: a playing board, a baseball diamond, a football field. Players’ interactions with each other as well as their movements in the space are determined by the structure of the game. For example, players may roll dice to establish where on the board their piece can move or have assigned ‘territories’ and/or duties in the space determined by their role: pitcher, quarterback, etc. In game, at least part of the point of the endeavour is to win, most often within a particular time-frame established by the terms of the game itself. Play, on the other hand, opens the possibility for players to shift among multiple roles in any given interaction. In play, the rules may change at any point, if the players so choose; the focus is on the players’ interactions, and the point of the adventure is the doing and not the outcome. Since play has no particular outcome or goal it can be based on cooperation rather than competition, and, although it can have a clearly defined ending-point, it need not be constrained within a particular time or place. Play can be suspended at any point (paused for supper, or at the end of a given class time) and then resumed later.

My incentive to develop a pedagogy based on the principles of play came from teaching introductory sociology courses. In any introductory class, most of the students are in their first year of university and in many departments, the introductory course is designed to provide students with the basic linguistic and intellectual tools that they will need in order to successfully complete the upper level courses that the department has to offer. In many instances this includes providing students the wherewithal to develop and hone critical thinking skills.

For most first-year students, university classes are an almost surreal combination of the mundane and familiar liberally sprinkled with the completely unfamiliar and/or strange. They have just spent the better part of the last 12 or 13 years of their lives learning how to ‘do’ schooling. School is a game that they feel that they have mastered; here, they are in familiar surroundings (a classroom), in a familiar role (as student), with someone at the front of the room in an equally familiar role (as teacher), but expected to interact with the material and the other participants in new and different ways. I realized that one of the biggest barriers that my first-year students faced was the fact that I was requiring that they learn a whole new set of rules and expectations of and for schooling, and that they resisted my efforts to do this by finding some resonance with what they knew, and used the rules that they knew for interacting in that context as their default position. In other words, they subverted my attempts to teach them new rules, roles, and expectations by simply refusing to acknowledge that the ‘game’ was different.

In some respects, the first year of university is a lot like grade primary (aka kindergarten). In both contexts the students’ experience a completely new learning forum, and both contexts involve a separation from home and a process in and through which they are being introduced to a new stage in their lives. In order to successfully disrupt the expectation that schooling is a familiar game, I subvert the game itself by building a classroom space and a curriculum grounded in the principles of play. My rationale is that if I take them back to play as part of their orientation to my course, I have a better shot at successfully disrupting my students’ expectations of what schooling is about and thus a better shot at
teaching them new approaches to thinking, teaching, and learning.

For example, I disrupt students’ expectations about how to interact with the person at the front of the room by refusing to answer to the term “Miss.” However, even though I am clear that I prefer to be addressed by my first name or as Professor Krug if they need an honorific, many of my first-year students persist in referring to me as “Miss,” which is how they have been taught to address all female teachers. I did have one student a couple of years ago who could not remember my name, but did remember that I don’t like to be called “Miss” – so she called me Bob. That class was an epiphany for me; it was in that moment that I realized that ‘play’ could work but only if I was willing to commit to all of the principles – especially the notion that players themselves can and do alter the rules as they go along. In order to be consistent with the spirit of ‘play’ I had to accept the designation produced in and through this interaction (i.e., answer to “Bob”).

I started developing the principles of a pedagogy of play after reading bell hooks’ (1994) Teaching to Transgress. [H]ooks argues that teaching is a performative and thus must take the audience into account in order to be engaging and successful: “to embrace the performative aspect of teaching we are compelled to engage audiences, to consider issues of reciprocity” (p. 11) and that is what called me to answer to “Bob.” [H]ooks (1994) also contends that the processes of teaching and learning must be fluid and open wherever possible. If the classroom is to be a truly interactive space, I must inhabit that place in such a way that it anticipates the possibility for our conversation to go in a direction other than the trajectory outlined by the day’s agenda. The pedagogy of play models the principles outlined in Teaching to Transgress, disrupting the practices of power in the familiar game of schooling by transforming teaching and learning into a process of empowerment and a shared journey of discovery. The pedagogy of play is an orientation to the ‘processes’ of teaching and learning which opens the space for new and different elements to emerge in any aspect of curriculum development or classroom practice. This pedagogy is a transgressive critical approach to teaching and learning. What this all means in practical terms is that when I am designing a course I endeavour to ensure that the readings, the classes, and the assessment strategies are all grounded in the principles outlined above.

Lego Day: The Quintessential Strategy in a Pedagogy of Play

Lego blocks are an ideal medium for classroom exercises developed in and through this pedagogic strategy. Lego blocks are familiar to almost all of my students – most of them already know how to play with them. Also, they know that it is play. Lego blocks can be put together in any number of configurations, so that the players’ own imaginations supply the form the end product will take. This medium can be used as an individual project or as a collective effort. How that collective effort is accomplished is also quite flexible; the strategies for accomplishing the task at hand may differ from one group to the next. Lego constructions can be easily dismantled and the same blocks re-used to build something entirely different. There are few limits on the possibilities contained in a single bag of Lego blocks. Indeed, the building process itself can look very different from one group to another and how the group goes about making something is as relevant to the learning opportunity as the construction they produce.

Lego Day was originally designed as a single classroom exercise to introduce my students to the ways that sociologists and anthropologists understand the concept culture. However, it was such a success that I have now expanded it to at least two classes so that we can also use this exercise to talk about cultural diversity, cultural drift, society, social institutions, and social structure. The original Lego Day was an experiment to see if all the groups of students in each introductory class would produce similar structures if their material conditions were the same. I tried to ensure that each group was starting from approximately the same place in terms of both the instructions and the materials that they had to work with: each group had a bag of Lego blocks with approximately the same numbers of blocks, sizes of
blocks and approximately the same distribution of colours. All groups were given the same instructions: work together, make something, use all the blocks. Once each group had finished constructing whatever they choose to make, we took a look around the room to see what kinds of things they had made. The variety of constructions was quite wonderful. The constructions themselves operated as a metaphor for culture and the conversation shifted from culture as an abstract idea to an exploration of the ways in which culture is a product of human interactive processes. This exercise provided an opportunity to model the operations of metaphor at the same time that it brought the concept of culture as a human accomplishment into focus.

The original Lego Day was such a success that I added Lego Day 2: a small group exercise in which the different colours each represent a different social institution (i.e., red = economy, white = religion, yellow = family, blue = education, black = politics) and each group was instructed to work together, build a representation of society that indicated how these institutions fit together in Canadian society, and to use all the blocks. Lego Day 2 opened the space to talk about theory (and is now also included in my 300-level theory course) and demonstrated the ways different theoretical perspectives produce different representations of society. I have colleagues who use Lego exercises as ‘team-building’ strategies, or to talk about the dynamics of group processes. I am currently designing an online introductory course that will include virtual play with Lego as a component.

There is almost no limit to the possibilities for using Lego in the classroom. The distinction that I am making here is that as Lego Day becomes a transgressive critical pedagogy in a pedagogy of play and not as a pedagogy of play. When the principles of play become the foundation for pedagogy the spirit and practice of teaching and learning become process oriented rather than outcome oriented and take place in a context structured by an ethos of reciprocity and intersubjectivity rather than a subject-object or knower-novice dynamic. From inside a pedagogy of play, Lego Day becomes an adventure in thinking outside the “blocks.”

References


Biography

Kate Krug is an Assistant Professor in the Department of Anthropology and Sociology at Cape Breton University. She teaches courses in the sociologies of gender, education, and family as well as classical and contemporary sociological theory. Her research interests are in gender, identity and sexuality; critical pedagogy is one of her passionate interests.
Science Education and Education for Citizenship and Sustainable Development

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In the United Kingdom (UK) and Europe, the need for education for sustainable development and global citizenship has recently been emphasised. This emphasis has arguably found its major home in the social studies in higher education. Concurrently, there has been a decline in interest in ‘the sciences’ as evidenced by a reduction in the number of students undertaking science degrees. It is proposed that basic scientific literacy is essential for effective education and participation in society’s decision making processes associated with many socio-scientific issues. This paper considers the challenges facing science teaching as an essential component of education for sustainable development and global citizenship. The results of a survey of students in Wales where this is compulsory and in France where it is optional are referred to as indicators of the effectiveness and challenges and the role of science teaching in this context.

Introduction

There is an essential and specific role for science teaching and learning within education for sustainable development and global citizenship at all levels of education – secondary, vocational, post-compulsory, and beyond. While on first examination this may seem obvious, issues of sustainability and citizenship appear to find their fora most commonly in other disciplines. Over the past decade, in the United Kingdom (UK) and Europe, this state of affairs has been exacerbated by a noticeable decline in student uptake of science as a degree choice and career pathway. There has been a similar decline in the public understanding of science and those issues associated with many scientific and technological developments. This may be viewed as a reduced scientific literacy which has the potential to exclude considerable sections of society from the decision making processes associated with many controversial applications of science and technology. This also
raises serious concerns about the long term social consequences of a scientifically illiterate society. It is not my intention here to separate the sciences from other disciplines, but rather to identify ways in which a basic understanding of science may complement educational initiatives addressing major issues of sustainability and citizenship. In this undertaking it is useful to compare the Welsh and French approaches to education for sustainable development and global citizenship. In Wales, education for sustainable development and global citizenship embedded within subjects is compulsory whereas in France such educational initiatives are optional dependent on the interest of the teacher/lecturer.

At all educational levels in Wales, The Revised Curriculum for Wales (Welsh Assembly Government, 2008) closely associates issues of sustainability with those of global citizenship addressing these as Education for Sustainable Development and Global Citizenship – thus, linking local, regional, and national issues within a global perspective. England, Scotland, and Northern Ireland each have similar themes in their curricula, identified as Education for Sustainable Development within which global citizenship is also addressed to a greater or lesser degree. In Canada these issues are addressed under the banner of science-technology-society-environment. Clearly the dual aspects of sustainability and citizenship are intimately linked in the international consciousness by design or perhaps parallel evolution. However, it is the effectiveness of education for sustainable development and global citizenship and the role of science education in the context of citizenship and global citizenship that forms the central interest of this paper.

Goals and Challenges

The professional standards developed for teachers embedding education for sustainable development and global citizenship in Wales advises that the goals of the teacher should be to, “enable action via informed discussion and recognise the responsibility to present balanced information from a range of sources in order to enable critical thinking and informed debate” (Lifelong Learning UK, 2009, p. 8). These goals aim to support the development of informed opinions and decision making processes required by the complex decisions associated with issues of sustainability and the ethical decisions that society has to make. With reference to science education this necessarily entails consideration of socio-scientific issues – being those issues which “have a basis in science and which have a potentially large impact on society” (Ratcliffe & Grace, 2003). Since citizenship implies participation in decisions made by society, scientific literacy is essential to enable the effective participation in a heavily scientifically dependent society. Waghid (2005) identifies the important role citizenship education plays in preparing students for informed participation in public dialogue about questions of justice and morality. It follows then that the greater the understanding of socio-scientific issues that an individual or group has, the better equipped they will be to make such decisions or adopt/oppose policies relating to these issues. It would appear then from the foregoing that science education should be an excellent vehicle for citizenship issues and that all should welcome the role it has to play. Nevertheless, embedding citizenship education into science teaching and vice versa is not without problems.

One of the key findings of the UNICEF 2000 survey of Citizenship in UK Schools (Mackenzie, 2000) was that Religious Education, History, Geography, and Personal Social and Health Education are the most likely areas for teaching citizenship issues – perhaps because the terminology of the subject is familiar. An unintentional effect of this can be the development of a polarised understanding of the natural world (and perhaps society), where science and global citizenship and other social studies are viewed as belonging to separate conceptual frameworks (Johnston, 2002). Surprisingly, currently science would appear not to be the ‘natural home’ for the teaching of citizenship-related issues – and surprisingly, because a basic understanding of science would appear to be essential in order to appreciate the complexities of the social and political impacts of socio-scientific issues of the type referred to above. In the absence of such an understanding, many learners and the public in general are frequently mis- or ill-informed and
effectively excluded from or become a liability in the decision making process (Hodson, 2003).

For most people, the association between science and sustainable development is clear in terms of efficient food production, resource utilisation, and environmental management. This may result from the fact that education for sustainable development has grown out of a blend of environmental science and development studies curricula (Ratcliffe & Grace, 2003). However, it is not always so clear how science teaching may underpin citizenship issues. While this may have clear associations for academics and educators, there may not be such a clear association in the minds of non-specialists, students, and pupils. In fact, science may often be perceived as being the root cause of many non-sustainable and antisocial developments — especially when its findings conflict with opinion, faith, or are simply unpleasant truths. One problem is that scientific information is communicated by means of a complex technical language. This in itself has the capacity to disenfranchise people from a democratic role in socio-scientific decision making processes. In comparison with most humanities or social studies subjects there is a commonly understood initial vocabulary whereas, science requires a complex technical language which must be learned first before personal understanding and effective communication of ideas can take place. This is often outside the comfort zone of many learners — particularly true of mature students returning to study who may find it difficult to know where to start learning this ‘obscure’ language. Consequently, many people are resigned to holding views informed by popular, generalist media sources which also often suffer themselves from incomplete understanding and misinterpretation of facts.

An example of this is the controversy surrounding the proposed link between autism and the measles mumps and rubella vaccine in the UK where public reaction in the first instance was in response to alarmist and misinformed reporting and publication of jargon-heavy discussion. The issues here are of course far from clear (Deer, 2010) but what is clear is that the science underpinning this particular socio-scientific issue was greatly misunderstood and muddied by alarmist reportage to a confused and concerned public. A survey reported in the British Journal of General Practice asking the source of parental information about the measles mumps and rubella issue, established television and tabloid newspapers as the major source of their information (Pareek & Pattison, 2000) and possibly their confusion too! Similar confusion is associated with topics such as climate change and genetically modified crops, fuelled considerably by speculations presented as proven facts by the media, thus giving rise to confusion and distrust of the underlying scientific claims. Such misinformation extends into the most respected sources, for example the BBC, which has recently had its integrity questioned by allegations of bias in its science coverage (Fox, 2010; Khan, 2010). This and other instances of loose reporting and erroneous speculation is prompting a demand for an increased responsibility and rigour from all media sources in their interpretation of socio-scientific issues. These examples highlight the problem and present instances where science education for citizenship could certainly result in a more informed public better equipped to make personal judgements and enquiries about these complex issues.

The Survey Approach

Education for sustainable development and global citizenship is embedded within every subject all educational sectors and at all levels throughout Wales whereas; in France this is optional and reliant on each practitioner for inclusion into the curriculum. This presented a good opportunity to understand the effectiveness of such embedded approaches as used in Wales. The survey discussed here was undertaken to compare responses to key issues of education for sustainable development and global citizenship and science education between students attending Paul Duez Lycee, Cambrai in Northern France and University of Wales, Newport in South Wales. This was a qualitative study with no control group and the subjects of the survey were not randomly selected. The sample group consisted of students in the age range 16-20 in secondary education in south Wales and higher education courses at the University of Wales, Newport in the academic year 2009/2010.
(n=104) and also Paul Duez Lycee, Northern France (n=130). The group was chosen on the basis of their engagement in a multi-disciplinary educational programme and the age groups and backgrounds represented. Respondents were asked about the importance of science to themselves and society (see Appendix 1). The full survey was extensive in its enquiry (available from Ronald.johnston@newport.ac.uk) however, only those questions relevant to this discussion are presented here. A 4-point Likert scale (ranging from very negative to very positive) was used in order to estimate the intensity of the respondent’s point of view. In this instance on the 4-point scale the lowest two values (1.0 and 2.0) represent negative responses, whilst the highest two values (3.0 and 4.0) were taken as positive responses. With reference to the three direct questions used in the survey, it was made clear to respondents that an affirmative response would be indicated by Likert scores 4 & 5 and a negative response would be indicated by Likert scores 1 & 2. The ambiguity and controversial rigour of Likert analyses is discussed elsewhere (Johnston, 2009) and on these grounds I have preferred the use of descriptive analyses in this current study. However, a more rigorous sampling design to investigate hypotheses generated by this survey is planned for the coming year.

The Results & Points for Further Consideration

An interesting starting point for reviewing the results of this survey relates to students’ preferred sources of information on education for sustainable development and global citizenship and socio-scientific issues. Figure 1 shows that in this sample,
Welsh respondents (68%) refer less to television preferring educational / professional sources, whereas in France (51%) television is clearly the preferred choice. There may be many reasons for this, however this begs the question: Is this related to the requirement to embed education for sustainable development and global citizenship within each subject at all levels in Welsh education in contrast to France where this is not a requirement? What requires further exploration is: Does this lead to a more informed position on such these issues?

Figure 2 and Appendix 1 provide responses to specific questions relevant to this discussion. Some interesting contrasts appear here which may indicate the positive effects of embedding subject specific education for sustainable development and citizenship and science education. Some questions prompted similar responses, with others there was a clear difference of opinion – these differences are discussed below.

A clear difference of opinion exists between sample groups about how effective their education has been in preparing them for understanding the complexities of environmental issues. Welsh students (46.8%) agreed that their education had been effective in this compared with 28.5% agreement from French students. Regarding whose responsibility it is to address environmental problems, there is a

Figure 2
Response to specific issues in environmental, citizenship, and science education.
clear difference of opinion: 80.5% French students agreed that “environmental problems should be left to the experts” whereas, only 31.9% in Wales agreed with this. One can ask in this case: Is this an indication that compulsory embedded education for sustainable development and global citizenship in Wales is promoting a greater sense of environmental responsibility?

In considering the target groups for such educational initiatives there is again a noticeable difference of opinion: only 14.7% French students agreed that environmental education of children plays an important role in protecting our environment whereas in Wales, 75.4% students were in favour of this. There is a similar response in considering adults as a target group for education for sustainable development and citizenship with 27.9% agreement from French students in contrast to 71.9% in favour of adult education for sustainable development and global citizenship in Wales.

Regarding the overall importance of science in education for sustainable development and global citizenship French students (72.6%) agree strongly that science has an essential role to play whereas, there is not as strong an agreement from the Welsh response (47.9%). However, French students feel less well disposed to learning science – 50% agreeing that it is hard to learn and that they have no interest in it. Both groups appear to have reservations about this and I think this a key area to address since it is perhaps the approach to teaching science in context that might reduce these negative responses.

French students (11.3%) are less willing to leave (socio) scientific issues to their politicians to resolve whereas in Wales there appears to be a little more faith in political leadership. Nevertheless, neither group seems in a hurry to trust scientific issues solely to their politicians Wales (32.6%). Finally, there seems less appetite for education for sustainable development and global citizenship as a compulsory component of education in the French response than is the case in Wales, although both groups show less enthusiasm for this than might have been expected. The underlying reason for this begs further investigation.

**Conclusions**

Most people are generally aware of the impacts of socio-scientific issues and development related problems but frequently do not have the scientific basis to appreciate their origin or identify the appropriate actions to take towards their resolution. It would seem from the foregoing that education for sustainable development and global citizenship contributes to greater understanding of these issues and is most effective when subject oriented and embedded within subject-specific teaching. To enable such education to be truly effective it should associate socio-scientific issues with key concepts in science. Students (as members of the public) need not achieve a career level understanding of science but the aim should be to provide key concepts in science sufficient to form a basic scientific literacy. The embedded nature of education for sustainable development merits further discussion and more widespread trialling. The premise here is that it should relate to the subjects being studied and the career pathways being followed rather than be presented as an abstract which it would be ‘useful’ or ‘nice’ to be aware of. From this starting point judgements may be made allowing fuller participation in decision making processes relevant to the students involved thus fulfilling the goals of active citizenship whether it be local national or global.

**References**


**Biography**

Ronald Johnston (Ph.D. BSc., PGCe ) teaches Biology, Chemistry, & Environmental Studies on undergraduate and post-graduate courses at the University of Wales, Newport, UK and Environmental Studies in Northern France. His research in the fields of Environmental Science and Biogeography includes the plant/soil relationships of the heather moorland of the Berwyn Mountains in Mid Wales and vegetation succession on derelict land in Wales and Scotland. He is also researching the continuing environmental impacts of war on the landscape of the WW1 Verdun battlefield. The importance of environmental education across all age groups and levels of study has become an increasingly important element of this research in recent years.
Appendix

**Responses to specific issues of environmental and citizenship education.**

<table>
<thead>
<tr>
<th>Question</th>
<th>France 16-20 % agreement</th>
<th>UK 16-20 % agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>So far I feel that my education has prepared me well for understanding the complexity of environmental issues.</td>
<td>71.5 28.5</td>
<td>53.2 46.8</td>
</tr>
<tr>
<td>Do you feel that environmental education of children plays an important role in protecting our environment?</td>
<td>85.3 14.7</td>
<td>24.6 75.4</td>
</tr>
<tr>
<td>Do you feel that environmental education of adults plays an important role in protecting our environment?</td>
<td>72.1 27.9</td>
<td>28.1 71.9</td>
</tr>
<tr>
<td>Environmental problems should be left to the experts.</td>
<td>19.5 80.5</td>
<td>68.1 31.9</td>
</tr>
<tr>
<td>Science is important for environmental education.</td>
<td>27.4 72.6</td>
<td>52.1 47.9</td>
</tr>
<tr>
<td>Science is a difficult subject to learn and doesn't interest me.</td>
<td>50.0 50.0</td>
<td>75.0 25.0</td>
</tr>
<tr>
<td>Should environmental education be compulsory?</td>
<td>68.2 31.8</td>
<td>50.5 49.5</td>
</tr>
<tr>
<td>The problems associated with scientific issues should be left for politicians to solve.</td>
<td>88.7 11.3</td>
<td>67.4 32.6</td>
</tr>
</tbody>
</table>
Avatars: Usefulness in Collaborative Online Learning Environments

Lesley Wilton
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Tonya Noël
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Digital technologies that enhance computer-mediated communications are provoking change in the way educators interact with learners. As online course offerings expand and enrollment numbers increase, the challenges of effective online learning call for innovation and creativity. It is beneficial to introduce activities which establish trust and engagement in online learning communities. This paper describes the positive effects of an avatar activity that engaged the authors and their peers during two graduate-level collaborative online classes.

Introduction

Digital technologies, particularly those which support computer-mediated communications, are changing the way educators interact with their students. According to a recent Sloan Consortium report, more than a quarter of students take at least one online course and enrollments are estimated to be growing 17% per year in the United States (Allen & Seaman, 2010). As enrollment in online courses increases, the pairing of technology and pedagogy calls for unprecedented and transformative innovation. Online undergraduate and graduate courses were first available in the mid-1980s and, although online education has come a long way, research into effective online instructional practices is ongoing (Downes, 2005; Garrison, 2004; Harasim, 2000). This unique digital age calls for creativity in exploring effective tools to enhance student learning.

There are three interaction models instructors may use, or combine and use, when designing online courses: student-student, student-teacher, or student-content. Anderson’s equivalency theorem (2003, 2010) suggests that meaningful educational experiences can occur as long as one of the three
interactions is at a high level and that the student-
student model is most appropriate for collabora-
tive environments. In order to enhance collabora-
tion and idea sharing among peers in environments
where face-to-face encounters are unlikely, the need
for trust in peer relationships and a connection to
a course community must be established (Krejins,
Kirschner, & Jochems, 2003; Murphy & Cifuentes,
2001; Smith, 2008). An activity to facilitate these
interactions should be structured into the course
design. This is especially true because online learn-
ers, especially novice online learners, may not bring
these skills with them and can feel overwhelmed
in new digital learning environments (Kehrwald,
2008). Creating an activity that can facilitate stu-
dent-student trust and connection in the commu-
nity is an important component of a well-designed
online course.

Prompt for This Paper

This paper describes our positive experiences during
avatar activities that engaged us and our peers as
students in two separate collaborative online graduate-
level courses. Although we both had previous online
learning experiences, neither of us had physically met
any of our online peers from the classes in which the
activities occurred. During both courses, we found
the trust and community-building activities to be
beneficial to our learning.

An examination of the literature revealed a
number of studies about avatar use in collaborative
virtual environments, such as Second Life (Yee,
Bailenson, Urbanek, Chang, & Merget, 2007; Yee,
Bailenson, & Ducheneaut, 2009); however, a search
for studies on the direct benefits of avatar use in
online educational environments yielded little. An
initial exploration into the effects of avatar use in
online learning environments was the objective of
this investigation.

Avatar Activity

In virtual environments, avatars are users’ visual
representations of themselves. They tend to be
digitally created and may or may not appear human.
avatars, it has been suggested, “can promote co-
presence by providing an easily identifiable presence
while engaging in online activities and discussions”
(Harms, Niederhauser, Davis, Roblyer and Gilbert,
2010, p. 80). We were involved in our avatar activity
as both facilitators and participants. We presented
the class with a list of character creator websites,
encouraged everyone to create self-representative
images, and assisted our peers in uploading their
images to our online discussion forum. Amidst the
regular course-specific discussions that occurred
that week, we also instructed the class to comment
on each other’s images. The following websites were
provided for the creation of student avatars:

- South Park Studio – http://www.sp-studio.de/
  charactercreators/lego
- Spore Creature Creator – http://spore2d.com
- Picasso Head Creator – http://www.
mrpicassohead.com/create.html
- Madmen Yourself – http://www.amctv.com/
  originals/madmen/madmenyourself/
  com/theherofactory/
  deviantart.com/art/Super-Character-Creator-
  Female-66610994
  com/art/Super-Character-Creator-
  Male-67189399
- Sonic Creator – http://devbook.com/
  charactercreators/sonic/
simpsonsmovie.com/main.html

The avatar discussions facilitated opportunities
to share personal information and engage in
conversations about common interests. The posted
representations were detailed and varied. Most of the
character creator programs also provided options to
include artifacts that represented personal preferences
Avatars: Usefulness in Collaborative Online Learning Environments

and interests such as animals, hobbies, environmental settings, gadgets, and clothing. For example, Figure 1 displays avatars and artifacts created using South Park Studio. Our activity was well received and high levels of participation occurred throughout the week.

Social Presence Benefits

In online classrooms, relationships exist between social presence and student satisfaction, as well as online interactions and the quality and quantity of learning (Lowenthal, 2009). Interestingly, the quantity or frequency is not as important as the quality of interactions (Lowenthal, 2009). Social presence can be explained as students’ perceptions of being in, and belonging in, an online course (Picciano, 2002, in Lowenthal, 2009). In the case of the avatar activity, we perceived that social presence was enhanced by introducing ourselves through meaningful personal characteristics. We shared tidbits of our lives beyond the classroom and enjoyed the opportunity to play together as a class.

Following the activity, in addition to seeing names on our course management system, every student was also identifiable by a unique visual representation. These visuals provided us with constant reminders of the interests and personalities of peers accessible to us only through our computer screens. Many online educators use a Week 1 “Introduce Yourself” discussion forum to allow students to share information about themselves and their interests (Bonk, Wisher, & Lee, 2003). This activity took the sharing one step further.

As Kerhwald (2008) explains, social presence research can be analysed through two lenses: the Media Richness View and the Relational View. Daft and Lengel’s Media Richness Theory (1986) examines the effectiveness of media to convey face-to-face characteristics such as video communications. The relational view sees the communication as dependent on the participants and therefore dynamic (Kerhwald, 2008). The avatar activity both increased the use of media found within our course and helped us to relate to each other as participants, as engagement was personalized.

Figure 1
Sample Avatars
Online Trust and Connectedness Benefits

For many students, it is uncomfortable to rely on peers for academic success. Students may wonder if their individuality will be compromised and if their fellow group members have the abilities, integrities, and concerns for benevolence required to safely enhance both group and individual successes (Smith, 2008). Ability and integrity-related issues may become moot through program or course admission procedures; however, concerns for group benevolence are harder to relieve. Concerns over others’ commitments to group benevolence may decrease considerably when group members trust and feel connected to each other (Murphy & Cifuentes, 2001; Osterman, 2000). Online student interactions can benefit from personal sharing exercises intended to create social connections. A study undertaken by Dennen (2001), for example, concluded that effective online moderators include personal anecdotes and icebreaking activities (Bonk et al., 2003). Activities designed to facilitate these personal interactions in non-threatening ways are key to the success of online learning.

Developing communities, however, is easier said than done. Activities designed to allow students to introduce and share personal information during the first week of the course is a good way to start building communities. Yet, the information shared by peers at this early stage of the course is likely to be surface level information; students do not necessarily enter a course assuming that their peers’ abilities, integrity, and commitment to benevolent gestures are worthy of their trust or conducive to establishing connections.

In addition to introductory discussion boards, commonplace in online learning, there are many other interactive technologies which could be implemented to support student-student interactions. The problem, however, is that social interactions do not naturally occur simply because the infrastructure exists which makes it possible. There is a tendency for students to focus their interactions on improving cognitive processes, while “social interventions aimed at socio-emotional processes are ignored, neglected or forgotten” (Krejins et al., 2003, p. 336).

The avatar activity encouraged student-student interactions by drawing upon personal experiences and interests and specifically dedicating small amounts of time to peer socializing. Kehrwald (2008) posits that these types of experiences characterize social-relational constructs and create opportunities for “trust, respect, rapport, and empathy” (p. 98). By creating opportunities for students to create social-relational constructs in online learning environments, personal risks are minimized because students choose which experiences they wish to share and look for common interests upon which to base their sense of belonging.

The avatar activity built online trust and a sense of belonging for both authors. As avatars appeared during the activity, it was interesting and engaging for us to view our peers’ representations of themselves, and intriguing to look for commonalities in artefacts of interest. We were better able to identify our peers during the rest of the course and believe that the avatar representations allowed us to build confidence in further collaborative efforts.

Conclusions and Next Steps

In this challenging digital age, the pairing of fast-changing technology and pedagogy provokes educators to explore creative teaching by engaging effective new methods. Recognition of the importance of social presence, and the building of trust and a sense of belonging in online course design, can positively affect the quality of students’ learning experiences. Social presence can be supported by both the increased use of media and students’ participation. Online trust and connection do not happen by chance, but rather require careful course design. Although other processes to promote social presence might be equally effective, introducing an online avatar activity is simply one of many tasks that appear to enrich students’ learning experiences by building trust in an online community. We found this activity useful and believe it enhanced our learning experiences. Further studies that involve the systematic collection of student feedback and differences in effectiveness across various student demographics are recommended.
References


Biographies

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Digital Enlightenment: 
The Myth of the Disappearing Teacher

David Longman & Kerie Green
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This paper argues that the emerging post-print digital culture of knowledge creation and dissemination in higher education is even more demanding of effective and committed teaching than hitherto. This may run counter to a widespread view that the digital environment reduces the need for a strong culture of teaching, to be replaced by an educational culture of independent, self-sufficient learners. However, evidence for the precariousness of this outlook is provided by many recent reports in the United Kingdom that have illustrated how the assumptions of a ‘digital natives’ perspective on students and academics are largely inaccurate. While acknowledging the phenomenal expansion of the cultural horizon that has been afforded to students and academics in the post-print digital environment of university learning, the crucial role of the academic in the creative use of digital technology in teaching should not be underestimated, or higher education may be rendered incapable of supporting effective learning. To substantiate this viewpoint the paper presents preliminary data from a small-scale pilot survey of the take-up of information and communication technology (ICT) for teaching in our own School of Education.

Introduction

In this paper, the authors discuss issues that may promote or hinder innovations in teaching and learning with information and communication technology (ICT) in higher education. While the innovation process may seem problematic for many, we take a more positive stance compared with the conclusions of many reports and commentators where the deficits in the capability and pedagogical practices of lecturers are often emphasised more than their strengths or fitness for purpose.

It is difficult to see how the engagement and creativity of future generations of students can be fully realized without building our teaching on the digital tools of thought and communication in which we are now immersed. Higher education lecturers and learning support staff cannot sidestep the
application of ICT to pedagogical goals. There are parallels here to earlier generations of scholars who have in fact ‘solved’ these problems before in response to, among other things, new technological forms of communication that were becoming available to them (see Longman, 2010).

Michael Wesch (2009) presents an inspiring vision of how, by building on the culturally acquired digital skills and knowledge of his students, a more dynamic, creative and student-centred style of learning can result:

The new media environment can be disruptive to our current teaching methods and philosophies. As we increasingly move toward an environment of instant and infinite information, it becomes less important for students to know, memorize, or recall information, and more important for them to be able to find, sort, analyze, share, discuss, critique, and create information and knowledge. They need to move from being simply knowledgeable to being knowledge-able.

Wesch (2009) actively embraces the newly emerging digital economy of learning that brings with it not merely a set of new tools to facilitate this new style of learning but also “new ways of relating to one another that entail disruptive changes in economic, social, and political structures.” This is a significant challenge to established pedagogical practices in higher education.

Formulated initially by Marc Prensky (2001), the digital natives/digital immigrants debate has provoked much discussion about the perceived discontinuities and consequent inappropriateness of an education system where established teaching practices are ever more mismatched to the fundamentally different mindset of each new post-World Wide Web generation of students. Fortunately, this debate has become less sharply drawn as more balance and perspective has entered into it and the ‘moral panic’ has subsided (Bennett, Maton, & Kervin, 2008). The Centre for Information Behaviour and the Evaluation of Research (CIBER) at University College London (2008) argue on the basis of evidence that the notion of ‘digital natives’ or a ‘Google Generation’ is overstated. In real terms, most young people and a significant number of academics are still working at a very basic level of information retrieval and interpretation. A more recent committee of inquiry in the United Kingdom (UK) agrees (Committee of Inquiry into the Changing Learner Experience or CLEX). Although young people entering higher education may have quite evolved expectations about the use of digital networks for a variety of personal and social purposes, these do not necessarily transfer to the kind of learning behaviour still expected at university (CLEX, 2009).

The debate has also moved towards describing challenges to the institutional integrity of universities, based as they are on ‘pre-digital’ organizational and delivery models. Bradwell (2009) echoes the viewpoint of CLEX:

The skills that students lack when they arrive at University are much the same as those that students have always needed to develop: the capacity to filter and analyse sources and to assess the validity and authority of material. The normalising of social networking in everyday life has not translated directly into better skills in a learning context. (p. 55)

Bradwell (2009) develops the case that universities must be aware of and respond to the challenges thrown up by the dislocation of learning from physical places that networking makes possible. Universities are fast becoming ‘edgeless,’ their function increasingly separated from their geographical location (while there are many precedents for such edgelessness Bradwell argues that it is becoming more mainstream). Of course, accreditation and the conferral of awards will continue to drive the business of higher education but in order to survive as an ‘edgeless university’ it must embrace networking in all its forms. Open
Courseware (see MIT 2010; OU, 2010) is one example of how higher education can respond in a direct way but, more importantly, the very idea of a university as a store of knowledge is challenged by the diversification of the World Wide Web. The challenge to universities and to academics is how to respond actively and positively to the perceived weaknesses in the formation of students’ critical thinking through digital means. More than ever students are reliant on the guidance and expertise provided by academics for selecting, filtering, and interpreting this wealth of freely accessible data, information, and sources (for a more radical view of higher education without universities, see Kamenetz, 2010).

However, Crook (2010) identifies an interesting aspect of this debate that highlights a further tension in the UK context. This he calls the “myth of the disappearing teacher and the autonomous learner” which derives from a description of the ‘new pedagogy’ representing the new kinds of expectations that are placed on higher education. Teaching and learning is increasingly expected to serve such ends as constructivist styles of learning, collaborative learning, widening participation, personalised learning, lifelong learning, and valuing the student as a ‘customer’ whose engagement is measured in terms of satisfaction rather than challenge. Within this framework of expectations, Crook (2010) argues, the perceived role of the teacher shifts more towards a ‘guide on the side’ and is in danger of becoming subordinate to the ‘autonomous learner.’

What use do Lecturers Make of ICT?

In spite of the many examples of excellent and innovative practice that integrate digital resources and that show what can be done (such as the approach of Wesch, 2009) the evidence for extensive and routine high order usage of ICT by higher education lecturers is generally disappointing. The results of the 2009 Faculty Survey of Student Engagement (FSSE) at Indiana University (2010) reveal that while over 70% of lecturers in the survey use course-management systems such as Blackboard or Moodle other more direct uses of technology for teaching are much less common (Times Higher Education, 2010).

We undertook a preliminary investigation into ICT use in teaching in our own School of Education with a small pilot survey and follow-up interviews with colleagues in order to expand on the survey responses. Our results are consistent with the FSSE findings, revealing a similarly mixed picture of ICT usage with an emphasis on course management but also a range of emerging practices that make more direct use of ICT to engage students (Table 1).

The results from this brief questionnaire suggest a generally strong or positive attitude toward ICT within teaching but with a marked emphasis on the management of teaching by producing teaching resources or supporting the administration of teaching (Q1 and Q4). The data are more mixed for colleagues’ expectations of students’ direct use of ICT to support their learning in contact sessions or for directed study (Q2 and Q3). Direct facilitated use of ICT in contact sessions is not very common although there is a slightly greater expectation that students will make use of ICT in their directed study. Q5 and Q6 reveal an interesting contrast that awaits further probing. Perhaps our academic colleagues underestimate the impact of ICT on their practice (Q5), although a clear majority report changes to the content of their teaching (Q6).

Eleven interviews were conducted, with participants selected based on their availability for interview. It became clear during the interviews that lying behind Q5 and Q6 is an evolutionary rather than a transformative change. For 10 out of 11 respondents the use of ICT for teaching was no more than a supplement to the “explanatory method,” an interesting phrase used by one respondent to depict the typical teaching method employed in much higher education teaching. The use of presentation software (PowerPoint), web sites (used but not made) or the University’s course management system (Moodle) were almost the only direct uses of ICT in teaching, although all respondents agreed that the routine use of such common tools as wordprocessing and spreadsheets are a vital part of a student’s learning toolkit. However, the expectation that students will use such tools as part of their learning is tacit rather
than explicitly planned.

In only a few cases did we find ICT beginning to be used in more sophisticated ways for teaching and learning. Examples include a collaborative video project developed and successfully carried out as a means to enhance student engagement during course induction (Williams, 2010) or the use of Moodle to support part-time students on professional training courses particularly with effective structured learning activities for directed study. In another example, Second Life was used as a tool for presenting and engaging student participation on the topic of ‘cyber-religions.’

While our interviews provided a limited repertoire of application by lecturers and little evidence of deep pedagogical change, they did reveal a healthy critical stance towards ICT and the pedagogical issues arising from its use. In particular, there was considerable emphasis on the active role of the lecturer in encouraging students to undertake and extend their learning. For example, one effect of widening participation is that lecturers must work with a more diverse student body, many of whom are less ‘ready’ for learning at a university level. For example, reading for academic purposes was put forward by eight respondents as a key weakness among students. Thus, while ICT can facilitate access to content, teachers still need to provide strong direction to students who lack the tradition or culture of reading.

Critical reading is just one aspect of the issue of learning in higher education where greater independence in learning is a routine expectation. Not only do many students lack the motivation to work independently, but they also lack sufficient critical skills to filter and evaluate academic content. As reported in CIBER’s research (2008) and by our own respondents, students are not adept at finding material for themselves. The process can seem daunting and they also tend to trust the outputs from their searching and related activities without even a cursory evaluation of reliability. This lack of criticality can lead to such problems as retrieving content that appears sound but, in the words of one respondent,

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<td>1. Do you use IT as a resource to support your teaching in contact sessions?</td>
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<td>2. Do your students use IT as a tool or resource during a contact session?</td>
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<td>3. Do you expect IT to be used by students for directed study tasks arising from contact sessions?</td>
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<td>4. Do you use IT as a resource to support your teaching in contact sessions?</td>
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<td>5. Do you believe that your use of IT has changed how you teach?</td>
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<td>6. Have you modified your curriculum to take account of the needs of increasingly IT literate students?</td>
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is the “BNP in disguise.” Many students also exhibit an over-confidence in their ICT skills especially when challenged to apply them in new ways. Some respondents pointed out that lecturers may also be overconfident and insufficiently critical of their own higher order capability with ICT.

It would seem that students are certainly not driving change through their heightened expectations or acquired usage of ICT. On the contrary, our respondents were clear that students still need the guidance, direction, and role models provided by lecturers in order to ensure that they move beyond the passive consumption of data and information. However, while lecturers perceive and value the qualities of ICT and the advantages that it confers, the development of pedagogical practices to integrate these properties can be quite severely constrained by the wider institutional contexts in which learning and teaching take place (such as, for example, an overemphasis on course management systems rather than pedagogy).

Conclusion

Our interviews suggest that lecturers do adopt a positive but critical stance towards ICT for teaching and learning, even if their use of ICT remains limited. These findings suggest, however, that they are aware of and thus more likely to respond to the teaching and learning challenges that have been identified in the literature. Although take-up may be slower than some policy makers may like, in the long run this may lead to a stronger, more considered form of pedagogy.

Thus we conclude that while the rhetoric of the ‘new pedagogy’ (Crook, 2010) appears to disrupt the teacher’s role by placing greater emphasis on the idea of the autonomous learner, our data indicate that our fellow academics do not see it this way – the teacher’s role remains central to the fulfilling engagement of students in their learning.

Students were not concerned how they are taught (e.g. through lectures, seminars, or through a blended learning approach) so long as the instruction was good. This then raises the question of what is good practice in learning and teaching in different modalities. (Franklin & van Harmelin, 2007)

References


Crook, C. (2010). Technology and practices of study in higher education. Presentation at Centre for Excellence in Learning and Teaching, University of Wales, Newport.

Franklin T. & van Harmelin M. (2007). Web 2.0

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1 The BNP is the British National Party, a racist-fascist political group that like almost all such groups has a developed web presence and therefore can appear in search-engine results.


Biographies

David Longman is a Senior Lecturer in Information and Communication Technology and Education in the Newport School of Education at the University of Wales, Newport. His areas of interest are pedagogies and digital media, learning through computation, and the changing role of organised education in globalised society.

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Developing a New Activity: STUDENT APPROVED

Julie Smit, Dora Cavallo-Medved, & Kirsten Poling
University of Windsor

Do you have an idea for a new activity or laboratory exercise that you would like to incorporate into your course but feel unsure as to how it will be received by your students? This was our concern when developing first-year biology labs for a biology majors’ course at University of Windsor. Through a Centred on Learning Innovation Fund (CLIF) grant at our institution, we were able to form new and revised laboratory exercises, incorporating on-line, active, and reflective components. But, would the students like the labs? Which labs should be replaced? Using student surveys and a ‘trial’ lab, we were able to collect information about the new lab, as well as the old labs. It was a revelation to witness the enthusiasm and the appreciation first-year students had for being involved in the development of the labs. The goal of this essay is to identify the benefits and costs of incorporating a new activity into a course, as well as describing the process that we developed, which includes student input as an important component in the development of the activity.

Introduction

The implementation of a class activity can transform a classroom environment from a passive experience to one that is interactive, while still reinforcing student learning of relevant, and perhaps complex, subject areas. Active learning can take many forms, from a short in-class exercise, like minute papers and clicker questions, to a complete course activity, like problem-based learning and laboratory exercises (Cameron, 1999; Crawford, 2007). Independent of the type of activity implemented, allowing students to take part in their own learning provides the opportunity for a deeper learning experience (Biggs, 2003).

Developing a new activity and incorporating it into a course and/or classroom requires time commitments by the instructor in determining areas of weakness and creating effective methods to improve the learning experience. In addition, instructors must be prepared to accept a loss of classroom control associated with the move from a teacher-centred to a student-centred environment. Indeed, common concerns associated with adding a novel activity to a course include difficulties relating to organizational and technical issues (e.g. in-class time commitment,
new technology), as well as risks associated with student acceptance of a new learning experience (i.e. potential student anxiety, lack of interest). We experienced these same concerns when developing new laboratory activities for a first-year biology course. Personal communication with students, instructors, and laboratory personnel indicated that some of the laboratory exercises in the course were outdated and required improvement, so it was our aim to develop new exercises that students would find engaging and interesting while also improving comprehension of relevant course material.

The process we developed in our study focused on providing undergraduate students with opportunities to give their perceptions of current and newly developed lab activities through the use of surveys. Feedback has been identified as an important component for improvement of both undergraduate student learning (Chickering & Gamson, 1987) and instructor teaching practices (Piccinin, 2006). In this case, we used the feedback from polled students before, during, and after implementing newly designed lab exercises so that we could be confident that the improvements to the laboratory sessions were aligned with the students' concerns and interests.

In this essay, we identify the advantages of implementing a new activity and areas of concern associated with this course of action, describe the process we used to develop and incorporate new laboratory activities into the first-year biology course, and discuss the applicability of this process to other situations. To this end, we have outlined the different phases of this new process for laboratory development, describing how student responses were used to assist in defining, shaping, and creating new laboratory exercises.

Ranking of Laboratory Sessions

As a first step to developing new lab exercises, it was necessary to identify laboratory sessions that students perceived as providing either a positive or negative experience. Although we were skeptical about student willingness to complete the 2008 survey, especially one containing both ranking (using a Likert-scale with ‘really disliked, disliked, OK, liked, and liked a lot’ as the five ranks) and written portions, we were pleasantly surprised to find that of the 58% of the 258 students who completed the survey, 75% (217) provided written comments. We learned from both the rankings and student comments that students were particularly dissatisfied with two (of six) laboratory sessions, using words such as ‘boring,’ ‘tedious,’ and ‘repetitive’ to describe these labs. They requested more ‘hands-on’ labs, use of videos and/or demonstrations, and exercises that were not repeats of secondary school laboratory exercises. Based on these results, we identified one laboratory session for complete revision and two laboratory sessions that required additional hands-on activities.

Developing and Experiencing the New ‘First Lab’

Just as the first lecture of a course sets the stage for all future lectures, the first laboratory session will have the same effect on future laboratory expectations. For this reason, we decided to assign the newly developed laboratory session as the introductory lab session of the course, ensuring a welcoming laboratory experience. Thus, we decided to develop laboratory activities for this new session that included an interactive web-based pre-lab component, a hands-on in-lab component (composed of various stations each with different activities), and a written component that required student interaction (in pairs/groups). Once the new laboratory activities were developed to form a laboratory session, volunteer students from the first-year undergraduate biology course were recruited to perform a practice-run of this new session. Since these students had just completed the course, they were able to make a direct comparison between the current, less favorable laboratory session with the newly designed version. These volunteers were required to complete all components of the new laboratory session (pre-lab exercises, in-lab exercises, and assignments), as well as an in-lab survey, to record their experiences. The enthusiasm these students had for the project was apparent by...
the willingness of 36 of the 40 interested students to take part in the practice laboratory session even though it occurred approximately five weeks after the completion of course exams.

The positive results from the practice laboratory survey indicated that volunteers felt that the newly developed laboratory session provided a very positive learning environment. Overall, volunteers indicated that they found the group of new activities a great improvement over the ‘old’ laboratory activities, with 43% providing positive reviews of the pre-lab section (liking or really liking) and 70% providing positive reviews of the in-lab components. Other feedback included comments about instructions and procedures that required clarification and improvement.

Surveying & Incorporating the New ‘First Lab’ into the Course

Based on the survey responses and in-lab student-student and student-faculty interactions during the practice laboratory session, changes were made to some of the laboratory exercises before incorporating them into the first-year biology course in the Fall 2009 term. These changes included removing one of the in-lab exercises due to time constraints and making minor changes to some of the lab protocols.

Students who completed the laboratory sessions in Fall 2009, which incorporated changes to a total of three laboratory sessions, were asked to complete a survey (similar to the Fall 2008

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**Figure 1**

Levels of improvement for each of the weekly first year biology course laboratory experiences, based on a 5 level Likert ranking score. Arrows indicate the exercises that were modified from the previous year.
survey above), providing their perceptions of their laboratory experience during the semester. Relative to the previous year, students polled (232) indicated an improvement in all of the laboratory sessions that had undergone changes, with the greatest level of improvement in the newly developed (first) laboratory session (see Figure 1), increasing more than 0.6 on the Likert scale. It should be noted that laboratory sessions that were not changed showed little difference in ranking relative to the previous year’s survey, indicating that the positive increase in student satisfaction ranking with the new laboratory activities is not an artifact.

Final Comments

Our experience from this study indicates that undergraduate students appear to have an interest in being involved in the development of courses. We greatly appreciated the written comments on the survey forms as they were very informative, providing both positive and negative responses to the laboratory exercises as well as suggestions for further development of laboratory activities. The group of students who volunteered to participate in the practice laboratory session appeared to enjoy the experience. Some of them contacted us to indicate that they would be very interested in volunteering for any future studies in this area. One volunteer contacted us with the following message: I just wanted to let you know that I really enjoyed being a part of the enhancement of the first year biology lab! I really think it’s a great way to give the students an opportunity to work along with their professor.

As a result of this process we developed, we were able to incorporate new laboratory activities into the first-year biology course with confidence that organizational and technical issues had been addressed and that students would find the laboratory activities interesting. It is our plan to continue to include undergraduate students in the development of biology laboratory activities. Our ongoing research into student-centred approaches to the development of laboratory exercises involves having undergraduate students create a laboratory exercise themselves, with guidance and supervision. Moreover, this process can be further explored and used when incorporating many different types of activities in lectures, laboratories, or distance courses. This will provide opportunities for engaging undergraduate students in course development, permitting them to be involved in their own learning.

References


Biographies

Julie Smit is a Science Teaching and Learning Specialist in the Department of Biological Sciences at the University of Windsor. Her interests focus on improving student learning in both lecture and laboratory environments, primarily through the incorporation of active-learning techniques and technology.

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Kirsten Poling is a Science Teaching and Learning Specialist in the Department of Biological Sciences at the University of Windsor. Her research interests lie in developing new techniques for engaging students in their academic pursuits and getting students to take responsibility for their performance in their coursework. In addition to the current work in using a student-centred approach for developing biology laboratory exercises, she has also conducted research using Tablet PC computers to enhance student engagement and to explore whether technology in the biology-specific classroom can enhance learning and retention of information, as well as increase interactions between students groups and the professor.
Academics who engage in collegial socialization can benefit in a variety of ways. The challenge, however, is creating a culture which inspires, within a voluntary model, academics to participate in such activities. Teaching development programs have tended to focus on teaching competencies and problem areas through offerings of workshops. It has been widely acknowledged that ‘workshops don’t work’ when working with academics to enhance teaching development. Further, it is usually expected those academics in need of improving their teaching will attend the learning activities offered by teaching centers on their own time. However, expecting academics to attend professional development activities on their time is not a reasonable assumption. For a voluntary model of teaching enrichment to work, creating a culture to support teaching is vital. In this paper we describe an activity, which we named ‘pedagogical provocations,’ in an attempt to engage academics in collegial socialization about teaching and learning through provocative collegial dialogue.

Introduction: Pedagogical Provocations

There is much talk about how the academy cares little about teaching (Christensen-Hughes & Mighty, 2010). There is, however, evidence revealing that the majority of academics actually care deeply about teaching, would like to participate in learning opportunities, and want to be connected with colleagues in achieving excellence in teaching (Kanuka, Heller, Jugdev, & West, 2008). This research is consistent with Palmer’s (1999) assertion that collegial socialization is an essential aspect of teaching excellence. It is also consistent with Gosling’s (2001) research, which revealed academics want to engage in sincere discussion about teaching; moreover, it is during these discussions that understandings about teaching and learning are developed. According to Palmer (1999), without collegial socialization a privatization or individualization of work evolves which “creates more than individual pain; it creates institutional incompetence as well. By privatizing teaching, we make it next to impossible for the academy to
become more adept at reaching its mission” (p. 1). The outcome of privatized teaching is that the performance becomes more conservative and few stray from their comfort zones in regard to what is ‘tried and true’ – even when it does not work.

In an attempt to create collegial socialization, we developed ‘pedagogical provocations.’ Pedagogical provocations is a series of symposia aimed to foster collegial dialogue among faculty members through themed sessions, each of which has a provocative topic. The Centre for Teaching and Learning at the University of Alberta began the symposium series by celebrating instructors’ commitments to teaching and learning, followed by facilitating collegial dialogue about provocative topics on teaching and learning across the University. Current and ongoing issues on several central committees inspired the topics for the symposia. Past topics have included, for example, learning spaces, graduate supervision, teaching-research nexus, student motivation and engagement, technology, citizenship, and how to use failure to move forward. Each session had a moderator and a panel that included a senior administrator (e.g., vice provost or associate vice president), faculty member, graduate student, and undergraduate student. The panel was comprised in this manner to ensure there were presentations from diverse perspectives. Each panel member was provided with a one- or two-page overview of the research on the topic and 3-5 questions of which they were asked to provide a 5-10 minute response. After the panel responded to the questions, the audience was then given an opportunity to present questions to the panel members. The symposia were held the third Thursday of every month. Between 20-40 faculty members attended every month.

Over several sessions we made an interesting observation: those attending the sessions were not the same each month; rather, those attending came based on their interest on the topic. Perhaps of even greater interest was the dynamic and engaging dialogue between and among the audience and panel that occurred with every issue. We believe the dynamic and engaging dialogue was due to the effectiveness of the moderator. Specifically, the moderator asked pointed and provocative questions about the issue, as well as ensured a safe space was provided for the participants (both the audience and panel member) so they could express their views in a manner that was open, honest and respectful. The result was collegial discussions across disciplines, which not only resulted in collegial socialization, but a sense of belongingness.

A Sense of Belongingness

There seems to be a widespread belief that the academy cares little about teaching (see for example, Christensen Hughes & Mighty, 2010). Such explanations include time restraints for teaching and research, lack of collegial relationships, little or no feedback, lack of recognition and/or reward, unrealistic expectations, and insufficient resources (Sorcinelli, 1994). Austin (2002; see also Greyling & Rhodes, 2004) depicts a picture of academic work where faculty members must confront increasingly complex changes that have a tremendous impact on the work and lives of those entering the academy. Examples of increasing pressures include:

Public scepticism and demands for accountability, fiscal constraint, the rise of information society and new technologies, the increasing diversity of students, new educational institutions, the increasing emphasis on learning over teaching, the emergence of postmodern ways of knowing, and dramatic shifts in the nature of faculty appointments. (Austin, 2002, p. 123)

As importantly, faculty have also expressed feelings of disconnectedness and loneliness (Cox, 1997; Johnsrud, 1994), as well as those of being perceived as a neglected resource, often detached from other departmental colleagues (Boice, 1992). Research into what new faculty members really want has revealed that a sense of community is of primary importance. Humans, as Maslow (1943) has argued, need to have a sense of belongingness, commonly referred to as community. Rice, Sorcinelli, and Austin (2000) have observed that:
Many early-career faculty and graduate students who aspire to join the faculty hold dear a vision of a “culture of collegiality”…they want to pursue their work in communities where collaboration is respected and encouraged, where friendships develop between colleagues within and across departments, and where there is time and opportunity for interaction to talk about ideas, one’s work, and the institution. (p. 13)

Prior research has illustrated a desire by faculty to be part of a community and have a sense of belongingness as they enter into academe (Kanuka & Marini, 2006). Following is a quote from this study:

When I was offered, and accepted, this position my family and I were very excited about moving here. I was really looking forward to working with other academics in my field and making new friends. … I have made no new friends. Everyone does their own thing in my faculty, which is hard for me because I am a very social person. I am wondering if I have made a serious blunder in my choice of career.

Boyle (1996) has maintained further those institution-wide programs that provide support and resources (such as, for example, collegial dialogues) are required for academics to achieve a sense of belonging. A sense of belonging, in turn, is required for academics to research their full potential, or as Maslow (1943) argued, ‘self-actualize.’ Cochran-Smith (2004) has, similarly, argued that we need to move beyond solitary reflective practice and engage in such activities as collegial dialogue about critical issues. With ongoing dialogue, whereby the practices and issues are examined by many, the results are more of a ‘super-reflection’ – which helps to improve teaching and reshape the university culture and practices. Clearly, fostering collegial dialogue is important for a variety of reasons.

Collegial Dialogue

Fostering a collegial dialogue among faculty members is a way in which the aforementioned perceptions of neglect and detachment may be addressed. The perceptions of neglect and detachment are supported by Schoenfeld and Magnan (1992), who maintain that many university departments apply a form of Social Darwinism, that is “Let’s throw the new kids off the end of the pier and see whether they can swim or not. We didn’t get any survival advice, why should they?” [sic] (p. 7). On the upside, research by Fouche (2006) showed that feelings of isolation can be significantly decreased when there is regular contact and collaboration amongst colleagues. The most effective contact activities are those that revolve around the provision of regular training and continuous administrative support. Elsewhere, Wheeler (2004; see also Lockwood & Latchem 2004; Schrum & Ohler 2005) noted that, while continuous learning opportunities provide teaching staff in institutions of higher education with essential information on new methods, technologies, and applications, it also provides opportunities to have contact with, and collaboration among, colleagues in ways that support identification with the institution while at the same time defraying feelings of isolation. Hence, there is sufficient evidence to suggest the provision of continuous learning opportunities can provide collegial socialisation and institutional identification.

More recently, results from prior research show that most academics do, in fact, care deeply about their work, would like to participate in continuous learning opportunities, and want to be connected with like-minded colleagues in the development of innovative interactions that support excellence in instruction and the scholarship of teaching (Kanuka, Jugdev & Heller, 2008). Prior research has shown that if left unattended, academics experience a sense of isolation that eventually progresses toward exasperation, disillusionment, and eventual alienation (Eib & Miller, 2006; Smith & Smith, 1993).
Précis

Even without the research data, most of us at an intuitive level would not disagree there are benefits of collegial socialisation. The challenge is creating a culture which inspires, within a voluntary model, academics to participate in such activities. Teaching development programs have tended to focus on teaching competencies and problem areas through offerings of workshops. It is usually expected those academics in need of improving their teaching will attend the learning activities offered by teaching centres on their own time. However, as Kinuthia (2005) points out, “expecting faculty to attend training on their time means that only those who are truly motivated and have an interest will pursue the training” (p. 198). For a voluntary model of teaching enrichment to work, creating a culture to support teaching is vital (Harrison, 2002). However, many higher education institutions have created a culture that supports research and publishing, resulting in uninspiring participation rates for teaching growth activities.

The context of a given institution will shape the effort to create an environment where academics are motivated to participate in dialogues related to teaching. These discussions, especially on provocative topics, are best served through connecting with all levels of the campus-wide community (senior administrators, faculty members, graduate students, and undergraduate students) and recognizing the diverse roles these stakeholders fulfill in the conversation. Yet the task of inspiring academics to join in a collegial dialogue forum about teaching and learning is one that is challenging for institutions of higher education; it requires creative responses. Despite this, collegial inquiring into our teaching is an activity that enriches the academic community.

In closing, research is needed to determine whether collegial dialogue can create a culture that supports excellence in teaching, while fostering connectedness between and among faculty members, and the institution – and whether this is, as we advocate, vital to continuous innovation and improvement in teaching.

References


Eib, B.J. & Miller, P. (2006). Faculty development as community building. *International Review of Research in Open and Distance Learning, 7*(2).

Fouche, I. (2006). A multi-island situation without the ocean: Tutor’s perceptions about working in isolation from colleagues. *International Review of Research in Open and Distance Learning, 7*(2).


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